BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

BOARD OF DIRECTORS' REGULAR MEETING

September 15, 2004

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

Questions About an Agenda Item	The name, telephone number and e-mail of the appropriate staff person to contact for additional information or to resolve concerns is listed for each agenda item.
Meeting Procedures	The public meeting of the Air District Board of Directors begins at 9:45 a.m. The Board of Directors generally will consider items in the order listed on the agenda. However, any item may be considered in any order. After action on any agenda item not requiring a public hearing, the Board may reconsider or amend the item at any time during the meeting.

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

WEDNESDAY
SEPTEMBER 15, 2004
9:45 A.M.

BOARD ROOM
7TH FLOOR

CALL TO ORDER

Opening Comments — Scott Haggerty, Chairperson
Roll Call — Clerk of the Boards
Pledge of Allegiance
Commendation/Proclamations
Swearing in of New Board Member

PUBLIC COMMENT PERIOD

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

CONSENT CALENDAR (ITEMS 1 – 5)

Staff/Phone (415) 749-

1. Minutes of July 21, 2004 — **M. Romaidis/4965** mromaidis@baaqmd.gov

2. Communications — **J. Broadbent/5052** jbroadbent@baaqmd.gov

   Information only

3. Report of the Advisory Council — **E. Blake/4962** eblake@igc.org

4. Monthly Activity Report — **P. Hess/4971** phess@baaqmd.gov

   Report of Division Activities for the month of July and August, 2004

5. District Personnel on Out-of-State Business Travel — **J. Broadbent/5052** jbroadbent@baaqmd.gov

COMMITTEE REPORTS AND RECOMMENDATIONS

6. Report of the **Budget and Finance Committee** Meeting of August 4, 2004

CHAIR: J. MILLER **J. Broadbent/5052**
jbroadbent@baaqmd.gov

Action(s): ***The Committee recommends approval of the following:***

A) Notice of proposed amendments to Administrative Code Section 3.6(c), Division II, Administrative Policies and Purchasing Procedures to authorize the Executive Officer/APCO to approve refunds in excess of $50,000. Each refund in excess of $50,000.00 will be reported to the Board of Directors under consent calendar; and

B) Proposed Amendments to Fiscal Year 2004/2005 General Fund Budget to Property Tax Revenue and corresponding expenditure accounts in the amount of $1,592,000.

7. Report of the **Public Outreach Committee** Meeting of September 13, 2004

CHAIR: J. MILLER **J. Broadbent/5052**
jbroadbent@baaqmd.gov

PUBLIC HEARING

8. Public Hearing to Consider Approval of Proposed Amendments to District Regulation 8, Rule 8: Wastewater (Oil - Water Separators), and Proposed Amendment to Section 101 of Regulation 8, Rule 18: Equipment Leaks

J. Roggenkamp/4646
jroggenkamp@baaqmd.gov

The proposed amendments to Regulation 8, Rule 8: Wastewater (Oil - Water Separators) will reduce volatile organic compound (VOC) emissions from wastewater collection systems at refineries by requiring controls on process drains, manholes, junction boxes, sumps and lift stations. The amendments will also require an inspection and maintenance program to maintain controls. An amendment to Section 101 of Regulation 8, Rule 18: Equipment Leaks would make this rule consistent with the requirements in Regulation 8, Rule 8.

PRESENTATION

9. Report on Air District's Enhanced Outreach for 2004 Ozone Strategy **J. Roggenkamp/4646**
jroggenkamp@baaqmd.gov

Staff will give the Board a presentation on the Air District's enhanced outreach efforts for the 2004 Ozone strategy.

OTHER BUSINESS

10. Report of the Executive Officer/APCO

11. Chairperson's Report

CLOSED SESSION

12. Conference with Legal Counsel

Existing Litigation:

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

1. ***Communities for a Better Environment v. Bay Area AQMD, Dow Chemical Company, Real Party in Interest,*** *San Francisco County Superior Court, Case No. CPF-04-503883*

2. ***New United Motors Manufacturing Inc. v. Bay Area AQMD, et al.,*** *Alameda County Superior Court, Case No. RGO 04-140445*

3. ***Our Children's Earth Foundation v. United States Environmental Protection Agency, et al.****, United States Court of Appeals for the Ninth Circuit, Case No. 04-73032*

4. ***Communities for a Better Environment v. Bay Area AQMD, Mirant Potrero LLC, Real Party in Interest****, San Francisco Superior Court, Case No. CPF-04-504516*

OPEN SESSION

13. Board Members' Comments

Any member of the Board, or its staff, on his or her own initiative or in response to questions posed by the public, may: ask a question for clarification, make a brief announcement or report on his or her own activities, provide a reference to staff regarding factual information, request staff to report back at a subsequent meeting concerning any matter or take action to direct staff to place a matter of business on a future agenda. (Gov't Code § 54954.2)

14. Place of Next Meeting - 9:45 a.m., Wednesday, October 6, 2004 -939 Ellis Street, San Francisco, CA 94109

15. Adjournment

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

(415) 749-4965
FAX: (415) 928-8560
BAAQMD homepage:
www.baaqmd.gov

- To submit written comments on an agenda item in advance of the meeting.
- To request, in advance of the meeting, to be placed on the list to testify on an agenda item.
- To request special accommodations for those persons with disabilities notification to the Clerk's Office should be given at least 3 working days prior to the date of the meeting, so that arrangements can be made accordingly.

AGENDA: 1

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Memorandum

To: Chairperson Haggerty and Members of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 7, 2004

Re: Board of Directors' Draft Meeting Minutes

RECOMMENDED ACTION:

Approve attached draft minutes of the Board of Directors meeting of July 21, 2004.

DISCUSSION

Attached for your review and approval are the draft minutes of the July 21, 2004 Board of Directors' meeting.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

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

Draft Minutes: Board of Directors Regular Meeting – July 21, 2004

Call To Order

Opening Comments:		Chairperson Scott Haggerty called the meeting to order at 9:51 a.m.
Roll Call:	Present:	Scott Haggerty, Chair, Harold Brown, Roberta Cooper, Mark DeSaulnier, Erin Garner, Jerry Hill, Erling Horn, Patrick Kwok, Jake McGoldrick (9:51 a.m.), Julia Miller, Mark Ross, Pam Torliatt, Marland Townsend, Gayle Uilkema, Shelia Young, Brad Wagenknecht.
	Absent:	Chris Daly, Liz Kniss, Nate Miley, John Silva, Tim Smith.
Pledge of Allegiance:		Sean Haggerty led the Board in the Pledge of Allegiance.

Public Comment Period: There were none.

Commendations/Proclamations: Clean Air Champion Awards 2004.

Since 1992, the Air District, in conjunction with the American Lung Association, RIDES for Bay Area Commuters, KCBS Radio 74, Alice 97.3, LIVE 105 and the U.S. Environmental Protection Agency (EPA) have co-sponsored the Clean Air Champions Awards to honor Bay Area citizens and organizations for their exemplary efforts to improve air quality. Six champions were honored this year.

The Board of Directors recognized the winners of the 2004 Bay Area Clean Air Champions. The awards were presented as follows: Directors McGoldrick, Brown, Haggerty, presented plaques to John Holtzclaw, James Callahan, Cynthia and Kelly Witwicki, and Colleen Zak, respectively. The other award winner, Rose Taber, was unable to attend today's meeting.

Certificates of Achievements in Leadership were also presented to Chairperson Haggerty and Director Miller for their civic and personal commitments to clean air.

Consent Calendar (Items 1 – 10)

1. Minutes of June 16, 2004

2. Communications. Correspondence addressed to the Board of Directors

3. Report of the Advisory Council – There was no report.

4. Monthly Activity Report – Report of Division Activities for the month of June, 2004

5. District Personnel on Out-of-State Business Travel

6. Quarterly Report of Air Resources Board Representative, Honorable Mark DeSaulnier

7. Quarterly Report of the Clerk of the Boards

8. Consider Approval of Contract in Excess of $70,000 for Professional Services

The Board of Directors considered authorizing the Executive Officer/APCO to amend the contract with ENVIRON International Corporation to provide additional technical assistance for the District's photochemical modeling program. The amount of this contract amendment is not to exceed $135,000. This expense was approved in Program 603 of the FY 2004/2005 budget.

9. Authorize the Executive Officer/APCO to enter into an agreement with Livermore Amador Valley Transit Authority for free transit on Spare the Air days

The Board of Directors considered the proposal of the Livermore Amador Valley Transit Authority (LAVTA) to undertake a project to offer free transit on Spare the Air days during the 2004 summertime season. The proposal includes funding from the Air District of $71,230 with a $30,450 match by LAVTA. Funding for this program would come from the Professional Services Account in Program 104 of the approved FY 2004/2005 budget.

10. Set Public Hearing for September 15, 2004, to Consider Approval of Proposed Amendments to District Regulation 8, Rule 8: Wastewater (Oil – Water Separators), and Proposed Amendment to Section 101 of Regulation 8, Rule 18: Equipment Leaks

The proposed amendments to Regulation 8, Rule 8: Wastewater (Oil - Water Separators) are the result of Further Study Measure FS- 9 in the 2001 Ozone Attainment Plan. The amendments will reduce volatile organic compound (VOC) emissions from wastewater collection systems at refineries by requiring controls on process drains, manholes, junction boxes, sumps and lift stations that leak in excess of 500 ppm concentration. The amendments would also require an inspection and maintenance program to maintain controls. An amendment to Section 101 of Regulation 8, Rule 18: Equipment Leaks would make this rule consistent with the new requirements in Regulation 8, Rule 8.

Board Action: Director Wagenknecht moved approval of the Consent Calendar Items 1 through 10; seconded by Director Townsend; carried unanimously without objection.

COMMITTEE REPORTS AND RECOMMENDATIONS

11. Report of the Executive Committee Meeting of June 30, 2004

Chairperson Haggerty presented the report and stated that the Committee met on Wednesday, June 30, 2004 and received and filed the Report of the Hearing Board.

Staff presented a status report on the Bay Area 2004 Ozone Strategy and reviewed the state and national Ozone Planning requirements, the District's proposed Control Measures, associated public outreach and next steps, which include the public release of a draft Plan and EIR August 2004 and a public hearing before the Board on the Plan in November 2004.

Staff also presented an update on the District's financial and production systems and reviewed the old and new systems, the purpose of the production system, and the current status. Staff also reviewed the production system implementation method and steps.

The Committee received a presentation by staff on the use of Small Claims Court for Enforcement Cases. Staff discussed the considerations for settlements, the advantages and disadvantages, the types of Small Claims Court cases, and statistics showing awards and settlements in the amount of $20,604.38 collected over the last year.

The Committee met in Closed Session to conduct a performance evaluation of the District Counsel. A report on the Committee's Closed Session discussions will be provided today in Closed Session with the full Board.

The next meeting of the Executive Committee is scheduled for 9:30 a.m., Wednesday, September 29, 2004.

Board Action: Chairperson Haggerty moved approval of the Committee report; seconded by Director Hill; carried unanimously without objection:

12. Report of the Mobile Source Committee Meeting of July 8, 2004.

Action(s): The Committee recommends the Board approve the following:

A) Guidelines for the fiscal year 2004-2005 Vehicle Incentive Program (VIP) and the allocation of $500,000 in Transportation Fund for Clean Air funds to the VIP;

B) Changes to the Vehicle Buy Back (VBB) Program, namely: a) inclusion of light-duty vehicle models 1982 to 1985 as eligible for the VBB Program, and 2) increase of the price paid for the purchase of each eligible vehicle from $500 to $650; and

C) *Fiscal year 2004-2005 expenditure programs for the Transportation Fund for Clean Air County Program Managers.*

Director Young stated that the Committee met on Thursday, July 8, 2004. Staff presented reports on the following three items and the Committee recommends the Board approve the actions under each item:

1) Vehicle Incentive Program (VIP) for Fiscal Year 2004/2005
    - Allocate $500,000 in Transportation Fund for Clean Air (TFCA) Regional funds for the fiscal year 2004/05 VIP cycle.
    - Approval of the VIP guidelines.
2) Vehicle Buy Back (VBB) Program: Fiscal Year 2003/04 report and changes for Fiscal Year 2004/05
    - Approve the expansion of the model year to include 1982 through 1985
    - Approve an increase in the amount paid per vehicle to $650.

Staff was requested to provide information to the Committee on the following: 1) working with car dealers to enhance the communication of the program, 2) an overview of the marketing for the VBB program, and 3) the feasibility of expanding the program similar to that which is administered by the Bureau of Automotive Repair (BAR).

3) The TFCA County Program Manager Expenditure Programs for Fiscal Year 2004/05.

- Approve 55 County Program Manager projects for Fiscal Year 2004/05.

The Committee requested that staff provide a more detailed description of each of the projects listed and to review what discretion the Air District has over the county program managers. The Committee also recommended that the Air District staff work more closely with the Program Managers. The Committee will be reviewing the Policies and Guidelines for the program at a future meeting.

The August 12, 2004 meeting of the Committee has been cancelled. The next meeting of the Committee is scheduled for 9:30 a.m., Thursday, September 9, 2004.

Board Action: Director Young moved approval of the Committee report and recommendations; seconded by Director Townsend; carried unanimously without objection.

Other Business

13. Report of the Executive Officer/APCO. Mr. Broadbent reported on the following:

- A video on the health effects of smog has been produced and released by the California Air Resources Board. A copy was provided to each Board member.
- A District air monitor has been installed in the Bayview Hunters Point neighborhood and is now operative.
- A District press release will be issued on facility compliance rates in the Bay Area based on source tests conducted by District staff. The results indicate a compliance rate of 97%.
- Community meetings on the District's Ozone Plan will be held in the fall. Staff will be presenting the enhanced public outreach program at the next Board meeting.
- An enhanced Spare the Air campaign is under way and will include free morning commutes on Spare the Air days. So far this year, however, no Spare the Air days have been forecasted, and throughout California, ozone levels have been comparatively low.

14. Chairperson's Report. Chairperson Haggerty stated he had nothing to report.

CLOSED SESSION (THE BOARD ADJOURNED TO CLOSED SESSION AT 10:15 A.M.)

15. Report of the Executive Committee Meeting of June 30, 2004 Public Employee performance Evaluation.

Pursuant to Government Code Sections 54957 and 54954.5(e), a performance evaluation was conducted of District Counsel.

OPEN SESSION (THE BOARD RECONVENED TO OPEN SESSION AT 10:42 A.M.)

DETERMINATION AND DISCUSSION

16. Consideration of Amendment to the Terms and Conditions of Employment Agreement for District Counsel

The Board considered approval of an amendment to the terms and conditions of employment agreement for District Counsel, Brian Bunger.

Mr. Broadbent reported that in Closed Session the Board considered a draft of an amended contract with District Counsel Brian Bunger.

Board Action: Mr. Townsend moved approval of the Amendment to the Terms and Conditions of Employment Agreement for District Counsel; seconded by Director Miller; carried unanimously without objection.

17. Board Members' Comments.

Director Miller commended District Counsel Bunger for his teamwork with staff and other regulatory agencies.

Director Horn observed that the Clean Air Champion Awards were noteworthy this year for the inclusion of young people. Chairperson Haggerty added that the fruit of the District's influence is to obtain the cooperation and efforts of citizens of all ages in the clean air process. The District is achieving this goal and regaining its preeminence among air districts.

18. Place of Next Meeting – The Board meetings scheduled for August 4, 2004, August 18, 2004 and September 1, 2004 have been canceled. The next regularly scheduled Board meeting is at 9:45 a.m., Wednesday, September 15, 2004 – 939 Ellis Street, San Francisco, CA 94109.

19. Adjournment. The meeting was adjourned at 10:45 a.m.

James N. Corazza
Deputy Clerk of the Boards

AGENDA NO. 3

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Haggerty and Members of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: August 27, 2004

Re: Report of the Advisory Council

RECOMMENDED ACTION:

Receive and file.

DISCUSSION:

Attached for your review are the minutes of the following Advisory Council meetings:

a) Technical Committee of June 3, 2004
b) Air Quality Planning Committee of June 15 2004
c) Executive Committee of July 14, 2004
d) Regular Meeting of July 14, 2004

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: James N. Corazza

AGENDA NO. 3a

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

APPROVED MINUTES

Advisory Council Technical Committee
9:30 a.m., Tuesday, June 3, 2004

1. **Call to Order – Roll Call.** 9:36 a.m. Quorum present: Louise Bedsworth, Ph.D., Chairperson, Sam Altshuler, P.E., Robert Bornstein, Ph.D., William Hanna (9:44 a.m.), Stan Hayes, John Holtzclaw, Ph.D., Norman A. Lapera, Jr.

   Also Present: Harold Brazil (9:40 a.m.).

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

3. **Approval of Joint Technical & Air Quality Planning Minutes of April 6, 2004.** Mr. Lapera requested the following correction on the bottom of page two under his comments, last sentence, 11,000 miles of trails should be 1,100 miles of trails. Mr. Lapera moved approval of the minutes; seconded by Dr. Holtzclaw; carried unanimously.

4. **Presentation on EMFAC 2002.** Amir Fanai, Senior Air Quality Engineer, Planning Division, presented "EMFAC and San Francisco Bay Area Ozone Planning. Mr. Fanai provided a brief history of EMFAC and noted the following:

   - In 1987 a Van Nuys Tunnel Study showed that EMFAC7D underestimated CO and Reactive Organic Gases (ROG) emissions for California On-Road Motor Vehicles by factors of 2-3.
   - For Photochemical Modeling in 1991, Bay Area ROG emissions for 1989 from EMFAC7EP were scaled up by 90% to improve the photochemical model performance
   - EMFAC7G (1995) underestimated 1990 emissions for the Bay Area by 40% for ROG relative to Fuel Based Inventory that came out at the time.
   - The current version, EMFAC2002 (April 2003), shows better agreement with Fuel Based Inventory for Year 2000 but discrepancies still exist.

   Mr. Fanai's presentation included the following topics:

   EMFAC2002 FEATURES:
   Inventories for 1970 to 2040 can be projected provided that travel emission inventory data are available. Weekend emissions are not estimated because of lack of data. The categories include:
   - 13 vehicle classes
   - 45 model years within a calendar year
   - 69 geographic areas
   - 24 hourly periods
   - 12 months

- 3 seasons for planning
- 7 pollutants (HC/CO/NOx/PM/CO2/Lead/Sox)
- 7 processes that include running exhaust, start emissions, idle emissions, running losses, hot soak, diurnal emissions and resting losses.

CO2 and Methane have been added for Green House gases, and PM2.5 added for new ambient standards.

VEHICLE CLASSES:
With regard to vehicle classes in EMFAC, Heavy Duty trucks have been divided into light, medium and heavy-duty classifications to better track NOx emissions. Other classifications include Passenger Car, Line-Haul Vehicle, Urban Bus, Motorcycle, School Bus and Motor Home.

ON ROAD MOTOR VEHICLE EMISSIONS FOR SUMMER 2000:
ROG emissions total 207 tons per day, of which heavy duty diesel trucks contribute 3%. The Vehicle Mile Travel (VMT) from this class of vehicles is 3-4% of total Bay Area VMT. In the Bay Area 96-97% of VMT are attributable to gasoline vehicles, which produce 97% of ROG emissions. Diesel vehicles do not have a large impact on ROG emissions. ROG emissions are not weighted for reactivity.

NOx emissions are 351 tons per day, of which 41% are from heavy-duty diesel trucks (including buses and motor homes). Despite the low VMT by heavy-duty trucks, over 40% of NOx emissions are from heavy-duty trucks, most of which run on diesel.

BAY AREA SUMMER 2000 EMISSIONS (ROG: 505 TONS/DAY; NOx: 630 TONS/DAY):
On-road motor vehicles are responsible for 41% of the total ROG inventory. Traditionally biogenic emissions are not included. On-road motor vehicles are responsible for 56% of NOx in the Bay Area. Overall, 25% of NOx in the Bay Area are from heavy-duty diesel trucks. Three to four percent of VMT, produce 25% of NOx emissions. The fuel-based inventory provides an independent estimate of on-road motor-vehicle emissions.

EMFAC2002 VS. FUEL-BASED INVENTORY – ROG EMISSIONS (TONS/DAY) SUMMER 2000:
A fuel based inventory helps to assess accuracy of EMFAC projections. The Central California Ozone Study (CCOS) domain is in San Joaquin, San Francisco, and Sacramento, and the fuel based inventory (related to work of former Advisory Council Member Rob Harley of UC Berkeley) shows higher ROG emissions than what EMFAC projects.

EMFAC2002 VS. FUEL-BASED INVENTORY – NOx EMISSIONS SUMMER 2000:
The model does a good job for Sacramento and San Francisco, though emissions for the Bay Area appear to be slightly overestimated. The greatest discrepancy is in the San Joaquin Valley – approximately 35%. When the numbers came out, staff did a simple scaling and ran the photochemical model, and the model did not show changes in ozone. Staff was working on meteorological data at the time and will repeat this work again when finished with the met data. Fuel sales data suggest that diesel sales have increased since 1990, and the model is not capturing this for the San Joaquin Valley area. The California Air Resources Board (CARB) is looking into this as well.

The District has been very proactive in wanting to improve emissions inventory for on-road motor vehicles and it is apparent that for ROG there has been a change of nearly 100% from an old version of

the model. Emissions have increased for every new version of the model and the District tries to obtain the best inventory possible at all times.

CHANGES IN BAY AREA ON-ROAD MOTOR VEHICLE EMISSIONS ESTIMATES FOR YEAR 2000:

Dr. Holtzclaw noted that there are two things at issue: (1) whether or not the District is properly estimating the emissions of the vehicles that are out there now, and (2) whether or not the projections are accurate regarding how rapidly the emissions will decrease in the future due to the assumptions of fleet turnover, cleanliness of cars and vehicle mix in the future.

Dr. Bornstein stated that the fuel emission surveys are based on how much fuel is sold. People drive differently on Super Highways. They may buy their gasoline in one place and travel out of that area; therefore, the emissions from that sale would not be reported in the location it was sold. He inquired if this issue was built into Dr. Rob Harley's study. He was of the opinion that urban counties versus Super Highway counties could, perhaps, be treated differently since the fuel-based approach is giving higher values of emissions and ignoring the drive-through, which may be one of the reasons for the problem. He suggested that, perhaps, staff could look into this.

BAY AREA ON-ROAD MOTOR VEHICLES 1990-2000 EMISSION REDUCTIONS: EMFAC2002 VS. FUEL-BASED INVENTORY - 1990 and 2000:

The EMFAC2002 emission reduction for the Bay Area is more optimistic than fuel based inventory. EMFAC 2002 tends to overestimate NOx. Mr. Fanai pointed out that when projections are made in 1990 for the year 2000, there are some assumptions being made about changes of VMT and speed, congestion and high speed travel, and vehicle deterioration. If a mistake is made in predicting the emissions for 1985 vehicles in the year 2000, then that will be reflected. The 2000 fleet has less of the older vehicles in it so that the margin of error becomes less; and then as one projects into the future for the year 2020, most of the vehicles are high tech and, therefore, there is a much better chance of predicting their emissions 20 years from now than when predictions were made in 1985 for the 1975 vehicles.

Dr. Holtzclaw expressed a concern that when he reviewed the Clean Air Plans for the past years and then looked at the projections for the future, they all showed a strong reduction in emissions for the future which have not yet materialized; but for the present year, the emissions were still high. He felt that it was important to address this issue. In response, Mr. Fanai pointed out that there is definitely a downward trend in emissions that can be quantified.

POSSIBLE SOURCES OF UNDERESTIMATION AND PLANNED IMPROVEMENTS:

Mr. Fanai pointed out that there would be extensive remote sensing within the next 12 months by CARB and the Bureau of Automotive Repair (BAR) to improve fleet characterization with regard to old vehicles and high emitting vehicles. The benefits of the Inspection and Maintenance Program (Smog Check) may be over estimated within the model, and that is why this program is being re-evaluated every two or three years. One of the evaluation reports has been released recently and is currently being reviewed. CARB continues to do In-Use Vehicle Testing and hopes that this will also improve the new version of EMFAC that is planned for Spring 2005.

Another possible source of underestimation could be the underestimation of congestion and high speed travel. EMFAC does not have emission rates for vehicles going over 65 miles per hour because the data for how much of the VMT is done at those speeds is unavailable. Also, there has not been extensive testing done at higher speeds. One can only make estimates of what that might be.

Regarding underestimation of heavy-duty truck travel that affects NOx emissions, ARB is looking into this for the San Joaquin Valley. They are also analyzing hourly variation of truck travel (peak vs. off-peak hours). Dr. Bornstein inquired if trucks coming in from Mexico, which are not under U.S. emission standards, are included; and how many of these trucks make it into the Bay Area. Mr. Fanai stated that the figures do include vehicles from out of state. Dr. Holtzclaw stated that he was under the impression that most trucking companies now use GIS equipment to determine truck location and wondered if ARB had access to such information. He suggested that staff look into this.

POSSIBLE SOURCES OF UNDERESTIMATION AND RELEVANT CONTROL PROGRAMS:
CARB's Smog Check program directs high emitters to Test-Only Stations and the Repair Assistance Program from BAR is also still in effect. The possible elimination of the 30-year Rolling Exemption is the subject of current legislation. The evaluation of the Smog Check Program will make sure that there is a good handle on emissions. Vehicle Buy-Back and Smoking Vehicle Programs are also still in effect.

For the Underestimation of Congestion and/or High Speed Travel, the Transportation Fund for Clean Air and Spare the Air Programs help towards this. Bay Area emissions will continue to decline according to the inventory and the prediction is that there will be fewer emissions in the year 2006 compared to 2000.

Mr. Hayes stated that not all ROG is equal. For example, formaldehyde accelerates the photochemical process. Recent toxicity data suggests a strong link between formaldehyde and certain types of cancers and leukemia. Therefore, it might be useful to look at some of these other species for more than just ozone planning.

Dr. Holtzclaw asked if any data is available on vehicles traveling at high speed. Mr. Fanai responded that ARB does not have test data for vehicles traveling at speeds over 65 mph.

Dr. Bornstein inquired if there are any economic data in the emission estimates and whether or not any attempt has been made to include economic factors in episode modeling to adjust the emissions. Harold Brazil, Advisory Council Member, and a staff member of Metropolitan Transportation Commission (MTC), stated that MTC, periodically, has to do a conforming analysis on its transportation improvement program and regional transportation plan. One of the regulations that they have to follow, when doing this analysis, is to use the latest planning assumptions. Therefore, a lot of the inventories that the Air District has and what has been submitted by MTC, in the past, for the State Implementation Plan (SIP) and for photochemical modeling work include the previous version of the socio-economic forecast, which are projections of the year 2000 that the Association of Bay Area Governments (ABAG) developed. However, to do the conforming analysis MTC had to use projections for the year 2003 and that data reflected the dot com bust. Therefore, one of the differences that will be seen when the speed distribution data is put into the EMFAC model, is a speed-up of the speeds, basically because congestion goes down when the number of jobs decline. Hence, there is a subtle reduction in the inventories and there is a slight increase in NOx emissions.

David Souten, ENVIRON, commented on some of the charts presented by Mr. Fanai. He stated that in the case of air pollution, the Bay Area is both politically and physically connected to the San Joaquin Valley and Sacramento areas. The charts presented were focused on the accuracy of the emissions in the entire Bay Area. However, the accuracy of the emission inventories is also important for San

Joaquin Valley and Sacramento because there are air quality considerations that cross over the air pollution control district boundaries that may affect regulation development in the Bay Area.

Peter Hess, Deputy Air Pollution Control Officer, Gary Kendall, Director of Technical Services, and Fanai responded to Committee members' questions and comments, as follows:

a) ROG emissions are not weighted for reactivity. Based on a study that Alan Gertler of DRI did a few years ago regarding VOC emissions from diesel versus VOC emissions from gasoline-powered vehicles, while the emission rates are different for grams per gallon or grams per mile, when the speciation profiles for each of the two sets of emissions are analyzed and a reactivity weighted analysis is conducted, it turns out that they are very similar. They do not emit the same grams per mile or grams per gallon, but if a gram of VOC emission is analyzed and then one looks at all the different compounds that comprise those emissions and then apply the reactivity weighting factors, it turns out that they are very similar. (Altshuler)

b) The fuel-based inventory is related to the work conducted by Dr. Rob Harley. The latest work was done specifically for the CCOS study. (Altshuler)

c) Fuel-based inventory is not aggregated by vehicle type. Only gasoline and diesel are aggregated. It seems that diesel emissions may be underestimated. Fuel sales have been increasing much more rapidly than gasoline sales; therefore, it is possible that at least for the San Joaquin Valley the emissions are not captured due to the higher sales. (Altshuler)

d) Emissions for 2000 from the EMFAC7EP, 7F, 7G EMFAC2000 and EMFAC2002 were presented. These are the emission estimates that came out of the model at the time. The Bay Area Air District is one of the few districts that actually referred to the underestimation of the motor vehicle emissions in its plan, and the District was hoping that the emissions estimates would improve. (Holtzclaw)

e) The differences between EMFAC2002 and the fuel-based inventories, both for ROG and NOx, are within the margin of error. (Hayes)

f) Mr. Fanai stated that he was unaware of any recent work that addressed the issue of compiling a list of weak points or assumptions for each of the methodologies. (Bornstein)

g) Dr. Bornstein inquired if the District had developed any simulations using both emission inventories to see which one produces a better ozone field, and whether or not Dr. Harley's emission inventory had been checked for this. He also stated that Dr. Harley's emission inventory is being used in a study at Lawrence Berkeley Laboratory, and that the Livermore ozone peak was well simulated. He suggested that it would be good to know the results of Dr. Harley's simulations and to find out if they are pleased with the results. Mr. Fanai stated that he did not have a conclusive answer on this issue and that he would follow up with Dr. Harley regarding the results of his study.

h) The information about the number of vehicles on the road was obtained from the Department of Motor Vehicles (DMV). Dr. Bornstein indicated that there are a lot of unregistered vehicles in California, and probably many of them are old vehicles because there are many poor people who cannot afford insurance and registration. Therefore, it is possible that the number of high emission vehicles is underestimated because they may not include estimates of unregistered

vehicles. Mr. Fanai clarified that EMFAC does allow for unregistered vehicles. The DMV registrations include some unregistered vehicles. The reasons for the change from EMFAC2000 to EMFAC2002 were based on the fact that ARB was criticized because it was overestimating the number of unregistered vehicles. (Bornstein)

i) Mr. Altshuler stated that when an engine manufacturer certifies a diesel engine, it is done on a grams/brake/horsepower hour basis, and this is different from grams/mile. He wanted to know what the current ratio is assumed in this conversion. Mr. Fanai stated that he would obtain the conversion ratio numbers for Mr. Altshuler.

j) Mr. Fanai said that he was not aware of NO2 emission calculations being included in EMFAC for the future, but was of the opinion that ARB is open to suggestions like that, such as the addition of methane and CO2, and that he would recommend NO2 to them, if so desired. (Altshuler)

k) Mr. Hayes stated that each time one goes through the planning process, there are major changes in the inventory, and gradually over time, the changes get smaller. He wondered if staff had a sense of how close the District is with the estimates, and the actuality of numbers, as shown in the final chart of this presentation.

Mr. Fanai stated that he is optimistic that emission estimates are improving and will continue to improve. As the older vehicles decrease in the system, the estimates will improve, and it will be easier to know what the true emissions might be. Because of the Enhanced Smog Check Program, it is predicted that by the year 2006 there will be additional reductions – 14 tons of NOx and 10 tons of ROG. These numbers are currently built into the model, and into the emission projections for the year 2006.

l) Mr. Altshuler inquired from Mr. Hess whether he had read a report recently regarding a potential change in ozone formation as a result of dieselization of passenger vehicles. There is a potential that the Europeans are leading that charge and there has been some modeling done to assess what would happen if the U.S. had more diesel vehicles like Europeans. They looked at the increase in NOx and NO2 and thought that that would increase the ozone.

Mr. Hess stated that he had seen the report. This report describes the penetration of diesel vehicles into the passenger car fleet. To draw conclusions for the Bay Area based upon a national report is indicative and gives the District a heads-up. Large quantities of passenger vehicles are coming into the Bay Area from the Sacramento area, and especially the San Joaquin Valley, on a daily basis. Many of the automobiles that are being used in the choice of the commute are not the best-kept ones. They are the "commute" vehicles. The District needs to look at the emissions that are coming from these vehicles into the Bay Area from Tracy, Manteca and Stockton. He felt that in the future these might be diesel passenger vehicles. Staff is working closely with both the San Joaquin Valley and the Sacramento districts in regard to controlling the emissions from heavy-duty diesel trucks and actively looking at various different control strategies for the heavy-duty diesel truck fleets.

Mr. Hess reminded the Committee that the Technical Committee, as well as the full Advisory Council, provided the District with very good ideas regarding the Smog Check Program and they are before the Inspection & Maintenance Review Committee (I&M). Once the I&M

Review Committee looks at the existing program, Dick Wiser, Chair of the I&M Review Committee, will unveil the Council's suggestions on I&M improvement.

m) Mr. Hanna noted that BAR had projected that it would cost $8 to $10 more per Enhanced Smog Check, but he is seeing $30 differences in the Napa area.

5. NOx Controls and Ozone Formation.

Dr. Saffet Tanrikulu, Research & Modeling Manager, presented the "NOx Control As They Relate to Ozone Formation in the Bay Area." Mr. Hess stated that the presentation had interesting insights, both for the Bay Area ozone and transport, and welcomed the Committee's input on this topic. Dr. Tanrikulu addressed the following topics:

- Ozone and PM2.5 chemistry
- NOx controls as they relate to ozone formation in the Bay Area
- NOx transport to neighboring districts
- NOx-PM2.5 relation in the Bay Area

OZONE CHEMISTRY (Page Nos. 3 & 4 of Presentation):

NO2 splits under the sunlight to produce NO + O. Then O reacts with O2 to produce O3. O3 reacts with NO to produce NO2 and O2. At the end of this reaction there is neither net gain nor loss for ozone. However, in the presence of hydrocarbons, HO2 and RO2 radicals are produced. These will convert NO to NO2, without losing ozone; thus, ozone concentrations will increase.

Dr. Tanrikulu pointed out the following:

a) The reaction rate for the last two equations, as shown on the chart on Page No. 4, is about 400 times faster than the reaction rate of the third reaction (ozone + NO). However, the conversion rate of NO to NO2 depends on the reaction rate as well as the concentration of the species. Since ozone concentration is much higher than HO2 and RO2 concentrations under normal conditions, NO is converted to NO2 about four times faster through the reaction of ozone + NO.

b) NO2 splits into NO + O to produce ozone, and NO is again converted to NO2; in the Central California Ozone Study Emissions Inventory, NO is converted to NO2 2.6 times before NO2 becomes something else, so this cycle goes around about 2.6 times. This is a lot lower compared to the cycle that is observed by Professor Harvey Jeffries over Houston, which is about 4 to 4.5 times, and over Atlanta, which is about 6 times. This implies that hydrocarbons in the Central California Ozone Study domain are less reactive compared to those in Texas and Georgia. One other possibility is that the reactivity of hydrocarbons may be underestimated in California because photochemical models underestimate ozone there.

c) Scientists have been looking at the conversion rate among the last three reactions and there are various methods to see which reaction is going to convert NO to NO2 faster. There are a number of research papers available on this issue and the most common way of looking at the comparison is the VOC/NOx ratio. If the VOC/NOx ratio is less than 6.5, the area is considered to be rich in NOx, and if the ratio is higher than 6.5 then the area is rich in hydrocarbons. This means that if one is in the region where the VOC/NOx ratio is less than

6.5, ozone + NO is going to be more effective, which will not increase ozone concentration; if, however, one is in an area rich with hydrocarbons, then HO2 + NO and RO2 + NO will be important. If the VOC/NOx ratio is over 11 or 12 then that means that there is usually insufficient NOx in the environment to produce ozone.

d) During the daytime, NO2 combines with OH to produce nitric acid. This is a daytime reaction because OH is produced during the daytime. At night, NO2 combines with ozone to produce nitric acid as well. Nitric acid will react with ammonia, producing ammonium nitrate, which is PM2.5. About 30% to 40% of PM2.5 concentrations in the Bay Area are produced through this reaction. There are several main sources that produce ammonia such as feedlots, catalytic converters on cars, natural decay of vegetation and wildlife. NOx is the main source for nitric acid.

VOC/NOx 2000 (Page No. 6 of Presentation):
Dr. Tanrikulu showed VOC/NOx ratio from four stations: Bethel Island, Patterson Pass, Sunol and San Jose. The table shows measurements from midnight to 3 a.m., 5 a.m. to 8 a.m., Noon to 3 p.m., and 4 p.m. to 7 p.m. The morning hours from 5 a.m. to 8 a.m., indicates that the VOC/NOx ratio was less than 6.5, except for Bethel Island. During Noon to 3 p.m., the ratio increases, mostly due to additional biogenic VOC emissions, which are a function of temperature – as the temperature increases, there are more biogenic emissions.

EKMA DIAGRAM (Page No. 7 of Presentation):
This graphic is based upon modeling sensitivity simulations that were conducted in 1989 with 1989 emission inventory, and projected to the year 2000. Based upon the 2000 emissions inventory, there were 648 tons of NOx and 554 tons of VOC emissions. This produced about 139 ppb of ozone in Livermore. The federal standard is 124 ppb. If hydrocarbon emissions are reduced about 15%, they will reduce ozone to 124 ppb. Also, the diagram shows that when NOx is reduced by about 40%, it is likely that ozone concentrations will increase in Livermore. The diagram also points out that if NOx is reduced in the Bay Area by 2.6 tons per day, VOCs need to be reduced by about 1 ton per day in order to avoid ozone disbenefit. The Bay Area's emissions currently are a lot different than they were in 1989 because there were more reactive hydrocarbons in 1989. If the EKMA Diagram is created using today's emissions inventory, the disbenefit is expected to be smaller.

The model indicates that there may be a potential disbenefit if only NOx is reduced. Dr. Tanrikulu made some estimates to motor vehicle emissions, for example, if 2.6 tons of NOx are reduced from motor vehicle emissions, then VOCs are automatically reduced by about 2.1 tons. Therefore, reducing motor vehicle emissions will not lead to disbenefit in ozone concentrations. The natural hydrocarbons are not included in the EKMA Diagram because they are not considered controllable.

NUMBER OF OZONE EXCEEDANCES (1991-2003) (page No. 8 of Presentation):
This table shows ozone exceedances from 1991 to 2003 for days of the week, for the 1-hour and 8-hour standards. During Saturday, Sunday and Monday, the number of ozone exceedances is higher than weekdays. During the weekends, emissions are lower compared to weekdays because most of the heavy-duty utility trucks are not operating during the weekends and, probably, NOx is reduced more than VOC during the weekend. This is also supporting evidence for model results on the potential disbenefit of reducing NOx alone.

Dr. Bornstein pointed out that assuming that these differences are statistically significant, there are two things that stand out from this table: (1) that Monday is a continuation of the weekend, and so it is better to look at it from Tuesday to Monday. The fact that Monday is a continuation of Saturday and Sunday, implies a time lag. If it were just proportional to the emissions, Monday would not be the same or a continuation of Saturday or Sunday. There is some sort of time lag in which the exceedances, on a given day, have something to do with the emissions on the previous days; (2) Friday also stands out. Therefore, Mondays and Fridays show how they are related to a time lag, which is connected to the weekend.

Mr. Hess pointed out that during the summer season, a lot of people travel on Fridays, which causes the traffic pattern to change considerably. Fridays, in the summer time, are almost a weekend. Additionally, on Sunday evenings, there is very heavy traffic returning to the Bay Area. Dr. Bornstein commented that the Sunday evening returning traffic would not affect the Sunday afternoon ozone, but if the precursors stay around, then Mondays might be affected.

MEAN NOx Or NOy IN TWO 5-DAY SUMMER PERIODS, 2000 (Page No. 9 of Presentation):
This graph shows the NOx and Ozone measurements made near the surface levels at the following stations: San Francisco (SFA), Livermore (LVR1), Concord (CCD), Pittsburg (PBG), Vallejo (VJO), Bethel Island (BTI), Lamby Road (LAMB), Patterson Pass (PATP), Davis (DVS), Sacramento, 13th Street (S13), Stockton (SOH), Tracy (TPP), Modesto (M14), Fresno Drummond Street (FSD) and Fresno First Street (FSF).

The model suggests that, for the Bay Area, it is going to be more beneficial if both VOCs and NOx are reduced for ozone. If NOx reductions are slow in the Bay Area, it will not impact ozone in the Sacramento and San Joaquin Valley. The chart shows two measurements taken during the summer periods, July 10-14 (low ozone concentration period) and July 28-August 1 (moderate ozone concentration period). The difference between NOx and NOy are displayed at Bethel Island – NOx is about 20% to 25% less than NOy. In order to compare LAMB and PATP where only NOy measurements were made, against other stations, it is assumed that the numbers will be 20% or 25%. These stations were selected along the transport corridors, from the Bay Area to Sacramento and San Joaquin Valley.

In the Livermore and Concord areas there are about 27 to 32 ppb NOx concentrations. If the rate of reduction in the NOx concentrations from Concord to LAMB and Livermore to PATP continues from LAMB to Sacramento and PATP to Fresno, transport from the Bay Area to Sacramento and San Joaquin Valley will be at a minimum level.

Another point that Dr. Tanrikulu made with this graph is that if NOx concentrations are compared between high or moderate ozone days, and low ozone days, the NOx concentrations are a lot higher because there was a lower inversion layer during the high ozone period. Mr. Hess stated that motor vehicle emissions are at a tail-pipe level, which is under the boundary level emitted at a very hot temperature. This results in a mixture of VOC and NOx.

Committee members opined that this graph addresses some of the issues that the Committee has been struggling with in the past, and felt that the information it relayed was very useful.

MEAN OF DAILY MAX OZONE IN TWO 5-DAY SUMMER PERIODS, 2000 (Page No. 10 of Presentation):

This graph shows the ozone concentrations from the two 5-day periods. However, it is incomplete and staff is still waiting for information from ARB for Lamby Road and Patterson Pass in order to complete it.

PM2.5 JULY-AUGUST, DEC-JAN AVERAGES FOR BAY AREA SITES, 1999-2003 (Page Nos. 11 and 12 of Presentation):
Staff studied the average PM2.5 concentrations over the Bay Area stations during the summer and winter periods. Measurements of PM2.5 concentrations started in 1999 in the Bay Area, and this graph shows the results from 1999-2003. In 2002, PM2.5 concentrations were the highest. Also, the average PM2.5 concentrations are very close to each other at these stations, even though the stations are widely distributed throughout the Bay Area. PM2.5 concentrations are low during the summer periods. During the winter periods the concentrations are significantly different among the stations – about 15 to 25 mg/m3.

NOx DECEMBER-JANUARY AVERAGE FOR BA PM SITES (Page No. 13 of Presentation):
NOx is one of the precursors of PM2.5 concentrations. San Jose, for example, has the highest NOx concentrations compared to the other stations, and Bethel Island has low NOx concentrations compared to the other stations. The issue of how NOx is impacting the formation of PM2.5 still requires a lot of research and staff is working to understand how NOx control may affect PM2.5 concentrations.

(PM10) NO3 DECEMBER-JANUARY AVERAGE FOR BA PM SITES, 1999-2004 (Page No. 14 of Presentation):
This graph shows the amount of NOx that is converted to nitrate. It does not necessarily show that there are high concentrations of PM2.5 where there are high concentrations of NOx. Therefore, it is unclear from the figures as to how much NOx reduction will benefit PM2.5 concentrations immediately. Dr. Tanrikulu explained that there is additional research to be done to better understand the relation between NOx and PM2.5.

Mr. Kendall explained that the chart shows only a component of PM10, whereas the previous one shows the total of PM2.5. Because the District has the attainment for the national standard in the Bay Area, samples are taken only once every six days, whereas for the PM2.5 there are much more frequent samplings taken every day during the winter at several of the sites, so there is a greater chance of capturing them.

CAMx LAYER 1, O3 DISTRIBUTION (Page No. 15 of Presentation):
This diagram is based on ongoing modeling work. Staff is working with ENVIRON to simulate two episodes – one of them is the July 11 and 12, 1999 episode, and the other one is the July 30-August 2, 2000 episode. This diagram shows the model results from the July 12, 1999 episode, at 4 p.m. There is a higher O3 concentration area at the east side of the 680 corridor, towards south of Mt. Diablo, which has about 150 ppb of ozone, and at the same time there were about 146 ppb and 156 ppb of ozone observed in Livermore and in Concord, respectively. This indicates that the model is doing a very reasonable job, except that it is missing the high concentration at Concord.

CAMx LAYER 1, EFFECT OF 15% NOx REDUCTION ON O3 (Page No. 16 of Presentation):
For purposes of this presentation, staff reduced only the NOx in the emissions inventory and conducted another simulation. When the difference between the two simulations, in terms of ozone, were analyzed to see whether there was any ozone disbenefit, it showed that the ozone disbenefit was about 4 ppb. The difference between the previous chart and this one, shows ozone

disbenefit to the west side, the maximum produced by the model. Therefore, it is not necessarily true that there is ozone disbenefit where there is maximum ozone concentration. Another point is that if one looks at the downwind areas within the Bay Area, there are ozone benefit areas; one of them is in Alameda County and south of Livermore, and the other location is south of San Jose. There is a benefit of about 6 ppb of ozone by only reducing NOx.

Mr. Hayes inquired as to how there could be a balance between reductions of 4 ppb against a 4 ppb increase some place else. He stated that this issue has been a problem for some time and that he has worked on it with the Environmental Protection Agency (EPA) earlier, when they tried to link together exposure and health risk models that looked at people's actual exposure to what they might be and what the health consequences of that would be. It is helpful to those who live in the vicinity of the peak where one can see a reduction, and the ozone levels are higher there than elsewhere; but if an increase occurs on a lower base elsewhere, that also has health consequences, and the way to trade this off is to look at a net change in aggregate health risk. The tools are around to do this and he suggested that staff consider some simple ways to aggregate each of these grid cells; otherwise there is no resolution as to what the net choice might be. Mr. Hess commented that staff is working on this issue continuously and that it is important to run various scenarios by looking into the future. By only looking at the 2006 runs there will be a different epicenter; or instead of having high ozone levels in Concord using 2006 numbers and this episode, there might be no exceedances in that one area. There will be a change in the hydrocarbons/NOx ratios and even further changes in the future.

Dr. Bornstein commented that the health standard is based on an assumption that there are no health impacts if they are below the bright line; therefore, it is true that some people will breathe slightly more polluted air. As long as that does not push them over the bright line, in theory, there are no health impacts. He also commented that there would still be a violation under these conditions. Dr. Tanrikulu explained that since the District is in attainment for the 1-hour standard, EPA is allowing the maximum of three exceedances in three consecutive years. On July 11 and 12, 1999 there were exceedances in both the Sacramento and San Joaquin Valley areas. Since this is the first simulation of this episode, staff is still researching and studying this issue.

Mr. Hess pointed out that since CARB will be transitioning to the 8-hour standard, he assumed that they will be doing away with the 1-hour ozone standard. He feels that the focus should be on the 8-hour standard in the future because the EPA will be transitioning from the 1-hour federal ozone standard in June 2005. Therefore, the Committee should be thinking into the 8-hour, with very different control strategies. There are many different meteorological scenarios that cause ozone exceedances and there will be a transitioning from an exceedance-based standard (namely, the 1-hour federal) to a value-based standard for the 8-hour federal ozone standard.

6. Discussion of Possible Committee Input on Cumulative Risk Assessment.

Chairperson Bedsworth reminded the Committee that this item was discussed last at the full Advisory Council meeting, and wanted to know if members had any additional comments to make on this item.

Mr. Hayes stated that he had requested this item be placed on the agenda. The Cumulative Risk issue is a very important one and he is aware that the Public Health Committee has been looking at the issue for the last few months. In addition to this, there is the Toxics New Source Review project that is moving forward and ready for adoption in the next few months. Mr. Hayes commented that it seems that there are similar issues in today's presentations, that have to do with

emission inventory of air toxics, and it would make sense that those technical issues be explored. Cumulative Risk is a way of putting into perspective the various policy choices that the District has, and which sources might be viewed most effectively and quickly with regard to public health. In order to come to a good decision about that, Mr. Hayes felt that it is important to understand what people's cumulative risk might be and to what one might attribute it to. The risk that an average Bay Area resident faces comes more from the time they spend in traffic at the Bay Bridge – an exposure to diesel particulate from trucks idling while they sit there. It is important to know if the risks are because of some industrial facility that is down the street, particularly if it's the result of a cumulative effect from multiple sources that individually are so small that they might not be linked to them. Therefore, there are a lot of reasons as to why the Committee might want to look at Cumulative Risk.

In summary, he stated that there are many technical issues that deal with the emission inventory, and the measurement of air toxics in the air. It would be worthwhile to know what the trends might be, what the design and configuration of the monitoring network ought to be and to start looking at what tools might be useful in performing Cumulative Risk assessments. This project is new for the Technical Committee to research and study, although emission inventories and monitoring data are items that this Committee has routinely looked at for ozone and PM10. It is a logical extension to also look at air toxics. Tools available for Cumulative Risk have certain inherent capabilities and limitations, and a discussion of those would be beneficial. Mr. Hayes recommended that this item, especially the scientific and technical issues associated with Cumulative Risk, be brought before this Committee in the near future for further discussions.

Dr. Holtsclaw suggested that the Committee might also want to consider all of the individual risks that currently have standards and establish a total Cumulative Risk that the Committee would not want to exceed. Mr. Althuler commented that the entire subject of Cumulative Risk is a very extensive one; it includes the individual pollutants, combination of pollutants, additive effects of exposure, acute versus chronic exposure problems, etc., and he was of the opinion that since this topic is so important it is something that the Technical Committee cannot avoid being involved in the discussions and adding some value to it.

Chairperson Bedsworth asked the members if they would like to wait and discuss this topic further when there is some additional information, specific to the Bay Area, received from the pilot study that the District is embarking on in the next fiscal year; or whether they would like to proceed sooner. Dr. Bornstein requested the District for its input as to what its plans and goals are, and how they are going to proceed so that the Committee might provide some input that could help guide the District in its planning stages.

Messrs. Hess and Kendall stated that the District staff is scheduled to make a presentation to the full Advisory Council at its meeting on July 15 on the Cumulative Risk Reduction Program. The Technical Committee members could, at that time, become aware of the District's plans. Mr. Hess stated that the District welcomed comments and input from any of the Council members to help guide them in this matter.

Mr. Hayes stated that there is a lot that the Committee can begin to do, such as, understanding the levels of toxics in the air, and the monitoring trends. He would be happy to wait and find out the outcome of the discussions from the July 15 meeting, and it would be helpful if staff can provide some input in this area.

7. **Committee Members' Comments:**
Dr. Holtsclaw suggested that since the Committee has not yet completed its work with EMFAC, that Mathew Barth from U.C. Riverside be invited back for another presentation to the Committee. His laboratory is conducting research by subjecting off-road cars to different speeds and cold starts, taking them through the different cycles and calculating the emissions from them. When he made his presentation to the Committee five or six years ago, he had not come to any final conclusions. It might be useful to know the results of his recent research findings. He would be able to provide some insight and input into EMFAC. This will give the Committee a better understanding of motor vehicle emissions in the future, the influence of both newer cars and trucks and different speed and travel/speed profiles.

Chairperson Bedsworth asked the members whether they would like to have the presentation from Mr. Barth before the Committee tries to pull together all of its thoughts for the District on the ozone planning process, or whether the members would like to study EMFAC in more depth as a separate issue. Dr. Holtzclaw felt that it could probably be done afterwards. Dr. Bornstein commented that it is an on-going process, and that the Committee can summarize its current understanding and then after it receives more information, it can provide another summary some months down the road. Dr. Bornstein felt that its an important topic and that if the Committee has not done a summary recently, then this is a good opportunity to point out the progress that has been made and highlight some of the areas that can be worked on further.

Mr. Altshuler proposed that perhaps staff should contact Mr. Barth to find out the status of his research and then make a recommendation to the Committee as to whether it is appropriate to invite him to make another presentation. Parallel to this, Rob Harley is a lot closer in proximity, and he may have a little bit more to offer. Since the Committee has to stay in touch and follow up with Dr. Harley on other issues, staff could contact him for this also. Dr. Bornstein suggested Mark Jacobsen also as a possible name and, perhaps conducting some sort of a mini workshop by bringing together people who are on the cutting edge of dealing with the topic of emissions. By doing this, the Committee could come to a resolution so that it can state in the submission to EPA that the Committee is aware of all the differences, has made its selections based on the best that is available, and have references to people who can back that up. Mr. Altshuler agreed with Dr. Bornstein's comments.

8. **Time and Place of Next Meeting.** 1:30 p.m., Wednesday, August 4, 2004, 939 Ellis Street, San Francisco, California.

9. **Adjournment.** 12 Noon.

Neel Advani
Deputy Clerk of the Boards

AGENDA NO. 3b

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

APPROVED MINUTES

Advisory Council
Air Quality Planning Committee Meeting
9:00 a.m., Tuesday, June 15, 2004

1. **Call to Order – Roll Call.** 9:40 a.m. Quorum Present: Harold Brazil, Chairperson, Irvin Dawid, Fred Glueck, John Holtzclaw, Ph.D., Kraig Kurucz, Kevin Shanahan. Absent: Emily Drennen.

2. **Public Comment Period.** There were none.

3. **Approval of April 6, 2004 Minutes of the Joint Meeting of the Air Quality Planning and Technical Committees.**
   Mr. Dawid requested that at the top of Page 3, item (f) $2 million should be changed to $2.5 million; insert the word "Regional Measure 2 (RM2)" between the words "anticipated" and "funding". The first sentence of item (f) should be changed to read as follows: City Car Share Program received $2.5 million in anticipated RM2 funding. City Car Share Programs will be included in the Local Land Use Planning and Development TCM. This funding is not specified in TCM15.

   On Page 4, item (u), add the word "Regional" before the word "Parking", and add "by the Air District" after the word "administered".

   Mr. Glueck moved approval of the April 6, 2004 minutes, as amended; seconded by Mr. Shanahan; carried unanimously.

4. **District's Ozone Control Strategy.**
   Staff provided an update on control measure development for the District's 2004 Ozone Strategy. Henry Hilken, Air Quality Planning Manager, commenced the presentation with an introduction and stated that Joseph Steinberger, Senior Environmental Planner, and Dan Belik, Rules Development Manager, will present some of the elements of the 2004 Ozone Strategy.

   Mr. Hilken noted that a couple of significant events occurred since the discussions at the last Joint Meeting of the Technical and Planning Committees held April 6, 2004: (1) On April 1, 2004 the Environmental Protection Agency (EPA) made a final finding of attainment for the 1-hour national ozone standard. Based on monitoring data from 2001, 2002 and 2003, the Bay Area has attained the national 1-hour ozone standard. This does not mean that the Bay Area has been redesignated as an attainment area; there will be a redesignation process and a maintenance plan that must be developed in order to be officially redesignated as an attainment area. As part of that action, EPA also approved the relevant elements from the 2001 Ozone Attainment Plan. (2) On April 15, 2004, U.S. EPA deemed the Bay Area to be a non-attainment area for the national 8-hour ozone standard. The national 8-hour ozone standard is considered to be more health protective than the 1-hour standard, therefore, EPA is shifting over from the 1-hour standard to the 8-hour standard. The first

half of the implementation guidelines are available and the second half are expected in the Summer, 2004. The 1-hour standard will be revoked in June 2005. Bay Area is a marginal nonattainment area, which is basically the cleanest of any of the nonattainment areas for the 8-hour standard. The 1-hour exceedances are usually seen in Livermore, but San Martin in the South Bay has been a problem site for the 8-hour standard. The District will not have to provide an extensive attainment plan as a marginal area, but will have to provide EPA with certain elements, such as an emissions inventory, and a demonstration that the permitting program meets the applicable requirements. For the California Clean Air Act, the District is required to update the State Clean Air Plan every three years and the District has done that in 1991, 1994, 1997, and 2000. For the state standard, the District must show continued progress towards the state 1-hour ozone standard and address transport mitigation requirements.

Mr. Hilken noted that another element of the 2004 Ozone Strategy is the redesignation request and maintenance plan and the District is combining them into one single ozone attainment document. The national element will be the formal request to EPA to redesignate the District as an attainment area for the 1-hour standard, and a maintenance plan will show continued attainment of that standard.

Other elements of the Ozone Strategy that will apply to the national planning requirements that are not required at this point are: (1) the interagency consultation procedures and (2) Transportation Control Measure (TCM) substitution process. These are elements that the Metropolitan Transportation Commission (MTC) has proposed for making some minor revisions to the interagency consultation procedures with respect to transportation conformity, and processes for future possible substitutions of TCMs in the State Implementation Plan (SIP). These can be done at any time but since the District is going through the SIP process currently, MTC and the Air District agreed that this is a logical time to include these items in the SIP submittal to ARB and EPA. Since the District is a marginal nonattainment area for the 8-hour standard, the District does not have to submit an attainment plan. The main document that must be submitted at this point in time is an emission inventory.

Mr. Hilken described the various types of Control Measures proposed in the 2004 Ozone Strategy:

- **Stationary source measures** – that are implemented through revisions and amendments to District Rules for various stationary and commercial sources like oil refineries
- **Mobile source measures** – which seek to reduce emissions from motor vehicles by the incentive programs to get more clean fuel vehicles on the roads
- **Transportation control measures** – which are aimed at reducing motor vehicle use, vehicle trips and vehicle miles traveled; for example, car pooling, transit, bike pedestrian type programs.
- **Further study measures** – these are not part of the formal control strategy yet, but are preliminary evaluations that meet some of the evaluation criteria. During the planning period staff will be reviewing these measures further to see if they are technologically feasible and cost effective. Many of the further study measures from the 2001 Ozone Attainment Plan are being developed by the District as rules, such as the stationary source measures – the refinery waste water rule that will be brought to the Board of Directors for adoption shortly, and some of the other refinery measures that will also be adopted as rules.

Mr. Hilken explained that staff explored a wide range of potential control measures over a year ago and evaluated them for technical feasibility, cost effectiveness and significant emission reductions. Staff selected a limited number of control measures that met the criteria for inclusion in the draft of the Ozone Strategy. Various agencies and stakeholders provided input to staff during the evaluation process.

Mr. Hilken explained the following Draft Transportation Control Measures (TCMs):

- Voluntary employer based trip reduction programs
- Local and area-wide bus service
- Regional rail service
- Interregional rail service
- Access to ferries and rail
- Ferry Service
- Carpool/express bus lanes on freeways
- Bicycle access and facilities
- Youth transportation (includes clean fuel school buses)
- Freeway traffic management
- Arterial management
- Transit use incentives
- Carpool/vanpool services
- Local land use planning and development strategies
- Public education/intermittent controls
- Demonstration projects (includes clean air vehicles)
- Transportation pricing reform
- Pedestrian access and facilities
- Traffic calming

Mr. Hilken informed the Committee that staff worked closely with MTC on these measures. Since 1991 there have been a wide range of TCMs in the state Clean Air Plan and the national Ozone Plan.

Mr. Steinberger explained three Mobile Source Measures:

Diesel Equipment Idling Ordinance: The District would develop a model ordinance and encourage local government agencies to adopt and enforce it. This ordinance would limit heavy-duty diesel equipment (heavy-duty trucks, buses and construction equipment) to idling no more than five minutes. Predominantly this would effect their operations at warehouses, distribution centers, port terminals, truck stops and rest areas. Much of this equipment already has the potential to have their engines turned off after five minutes of idling because they have computers installed in most of the modern heavy-duty on-road vehicles. The other equipment would require operators to manually turn them off after five minutes. There is a savings of $1,600 in fuel costs and $2,000 in maintenance costs to the operators; additionally, there would be a reduction in NOx emissions, toxic air contaminants and particulate matter.

Green Contracting Ordinance: The District would draft a model ordinance for local government agencies to adopt and implement. When local government agencies contract with private

contractors, this ordinance would encourage them to give the private contractors some preferential considerations if they operate low emission fleets, use alternative fuels, encourage ride-sharing at their businesses and respond to Spare the Air Days by taking recommended action to reduce pollution.

Low Emission Vehicle Incentives: This measure encourages the use of low emission vehicles through the Transportation Fund for Clean Air (TFCA) program, Carl Moyer program and other grant programs that the District operates. In the enabling legislation for the TFCA program, there are certain eligible categories, and to fund those it is necessary that they also be included in a Clean Air Plan to attain the federal and/or state standards. Therefore, the District is incorporating this measure into an attainment plan so that the funding can continue. Mr. Steinberger explained that all the above measures are providing incentives for cleaner burning engines, fuels and/or exhaust treatment devices, for both on-road and off-road equipment of all weight classes.

Mr. Belik provided information on the following Stationary Source Measures and Further Study Measures:

STATIONARY SOURCE MEASURES:

Industrial – Commercial Processes

- Auto Refinishing
- Graphic Arts Operations
- High Emitting Spray Booths
- Polyester Resin Operations
- Wood Products Coating

Combustion Processes

- Boilers Rated Between 5 and 10 MM BTU/hr
- Large Water Heaters and Small Boilers
- Stationary Gas Turbines

Petroleum Products Production and Distribution

- Flares
- Gasoline Bulk Terminals and Plants
- Marine Loading Operations
- Organic Liquid Storage Tanks
- Pressure Relief Devices
- Wastewater Systems

FURTHER STUDY MEASURES:
Staff identified a number of measures that require further study to determine whether they are viable. Staff will analyze the further study measures for cost-effectiveness, technical feasibility and other factors to determine whether they are feasible for future air quality strategies. Potential further study measures include the following:

STATIONARY SOURCE FURTHER STUDY MEASURES:

Industrial – Commercial Processes

- Adhesives and Sealants
- Architectural Coatings
- Commercial Charbroilers
- Composting Operations
- Food Product Manufacturing and Processing
- Livestock Waste
- Limitations on Solvents Based On Relative Reactivity
- Solvent Cleaning and Degreasing

Petroleum Products Production and Distribution

- Emissions From Cooling Towers
- Refinery Wastewater Treatment Systems
- Vacuum Trucks
- Valves and Flanges
- Wastewater From Coke-Cutting Operations

Combustion Processes

- BackUp Diesel Generators / Cumulative Risk
- NOx Reductions From Glass Melting Furnaces
- Stationary Internal Combustion Engines

Mr. Belik explained that a number of these projects are on-going; some of these have already been adopted in the South Coast or the San Joaquin Valley, particularly regulations affecting commercial charboilers, composting operations and livestock waste. Field staff has noted that some of the dairies in Sonoma County seem to be in compliance with one of the compliance options that has already been adopted in the South Coast rules. Staff has had extensive discussions with other air districts and the California Air Resources Board (CARB) on a couple of other further study measures, particularly Adhesives and Sealants and Solvent Cleaning and Degreasing. Staff is looking into the issue of reconciling inventories. A lot of adhesives are used in architectural applications and because these are not permitted sources, it is difficult to obtain the necessary information in the same way that information is obtained from every permitted facility each year. Therefore, staff has had to use adjusted industry data for the Bay Area.

Regarding the Glass Melting Furnaces further study measure, Mr. Belik noted that since the sole remaining gas-fired glass melting plant in the Bay Area is complying with strict Best Available Control Technology (BACT) limits already, this may not need to be a further study measure since it is already being implemented.

Mr. Belik also provided information on the following Further Study Measures for Mobile and Transportation Sources:

MOBILE SOURCE FURTHER STUDY MEASURES

- Encourage Use of Biodiesel Fuel
- Mitigation Fee Program for Federal Sources

TRANSPORTATION CONTROL MEASURES

- Indirect Source Mitigation Program
- Free Transit on Spare the Air Days

Mr. Belik discussed the following next steps for the development and final adoption of the Draft 2004 Ozone Strategy:

- Continue developing draft control measures and further study measures
- Prepare draft 2004 Ozone Strategy by July 2004
- Prepare draft environmental impact report
- Public review and comment during latter part of the Summer, 2004
- Prepare final 2004 Ozone Strategy and EIR
- Board adoption in the Fall, 2004

Staff will consider extensive public input, and conduct further analysis, as necessary, in order to develop the proposed control measures and further study measures for inclusion in the Draft 2004 Ozone Strategy. The Draft 2004 Ozone Strategy will be available for public review in Summer, 2004.

Messrs. Belik, Hilken and Steinberger responded to Committee members' questions and comments as follows:

a) Mr. Glueck inquired if the District has any jurisdiction over foreign ships and issues with regard to marine loading. Mr. Belik stated that the District adopted a marine loading regulation in 1989 that reduced emissions by very large amounts. This regulation was very controversial at that time and jurisdiction was an issue when the original rule was adopted.
The District had reviewed the legal jurisdiction carefully and there were some questions raised about regulations regarding "housekeeping emissions" - purging marine tank vessels out in the Bay. The District believes that it is on very firm legal ground and that it does have regulatory authority to regulate emissions. However, there are several things that the District cannot regulate such as safety issues.

b) Mr. Glueck inquired whether any studies have been done to determine if there is more benefit with the reduction in idling time versus the constant start-ups and shut down. Mr. Steinberger responded that there could be some disbenefit if vehicles were frequently turned on and off, but if turned off for longer periods, the benefits outweigh the disbenefits. Mr. Steinberger has not seen any research on it; he would look into this to find out some additional definitive answers. Mr. Shanahan offered to help the District gather data on this issue.

c) Several members wondered as to why five minutes for the idling time was selected versus it being one minute. Mr. Steinberger explained that local areas in many different states have adopted these measures, and the Air Resources Board (ARB) is also currently working on a

similar measure. The ARB informed Mr. Steinberger that the five-minute idling allows for recommended manufacturer cool down times.

Mr. Steinberger stated that the District is only developing a model Diesel Equipment Idling Ordinance and Green Contracting Ordinance, and that local government agencies can rewrite the ordinances prior to adoption. The implementation might be the same as a local traffic ordinance. Mr. Shanahan opined that the various agencies would probably rely upon the District for the science of this study so that they feel that they are on solid ground as they move forward with this matter. The District might have the potential of providing useful data to do a more beneficial program with a tighter idling time limit.

d) Mr. Hilken explained how the District's process works in developing control measures. He stated that presently these are only control measure descriptions, and if and when the Board of Directors adopts the Ozone Strategy, there is then a second step where the staff will conduct a more extensive and detailed study on them; additionally, technical work groups will meet and workshops will be conducted to develop the details. This process will be followed for the Mobile Source Measures when additional data would be collected on some of the questions raised by the Committee today. Staff would certainly want to look at any data or information that Committee members might have to contribute in the development process of the measures.

Based on Mr. Hilken's explanation of the process, Mr. Glueck felt that the Committee members' questions and concerns could be addressed at the appropriate time during the development process of the control measures.

e) In response to an inquiry from Mr. Kurucz, Mr. Steinberger stated that there is currently one regulation for buses at schools to turn off their engines as soon as they arrive at the school, and they cannot start them up more than one minute before they depart. He was not aware of the specific details of other measures that were adopted in other parts of the country.

Mr. Dawid stated that diesel hybrids (heavy-duty), as opposed to gas hybrids, are not really low emission vehicles, and therefore, inquired as to how these could be categorized as Mobile Control Measures since low emission vehicle incentives come under this category of control measures. He wondered if the diesel hybrids could obtain a special designation as a mobile source control measure since he would like to see some incentives given to them. While pending legislation AB2628 rewards hybrid owners by allowing them to use the HOV lanes, hybrids provide a greater benefit in stop-and-go city traffic where there is a lot of idling. He feels that a mobile source measure could take advantage of the hybrid idling issue as well as its low emission vehicle status. Mr. Hilken responded that staff could certainly look into this to see what the emission reductions are from hybrid vehicles.

Mr. Dawid presented to staff, for their review, a copy of a letter dated May 25, 2004 from Governor Schwarzenegger on the recent campaign of "Flex Your Power…at the Pump" which requests all agencies to adopt fuel-efficient operations.

g) Mr. Shanahan inquired if it was possible for the District to measure the benefit in air quality when free transit on BART is provided to the public on the five Spare the Air weekdays. Mr. Hilken stated that monitoring the program for its cost effectiveness will be an important point. Part of the funds that MTC is providing will go towards paying BART for that service; for marketing the program to get the word out to the public that free transit is available; and for

monitoring it by counting the ridership on those Spare the Air Days when free BART fares were provided. Mr. Hilken explained that people have to get to the BART station on their own. The transit bus fares are not part of the free part of the program. Last year, LAVTA provided free transit on Spare the Air days and they are, once again, offering it this year. Mr. Hilken pointed out that there have been a couple of similar programs in previous years that have been reflected in TCM16. Additionally, there are further study measures for free transit on Spare the Air days that could have a broader application, depending on their cost effectiveness. Free transit is a good incentive that could increase ridership; however, it can also be very expensive. These types of demonstration programs will provide a lot of information on their cost effectiveness and to determine whether they deserve broader applications.

Mr. Dawid wanted to know if this is under a further study measure. Mr. Hilken stated that the District has done free transit on Spare the Air Day programs on VTA, LAVTA and BART. A certain amount of free transit on Spare the Air is in TCM16. However, the further study measure is looking at a broader application for it. Mr. Dawid recommended that he would like the Air District to consider broadening that further study measure to include disincentives as well as incentives.

h) Dr. Holtzclaw inquired if CARB has come up with a regulation requiring reflashing of the older engines. Mr. Steinberger responded that CARB was considering a regulation to have engines reflashed to reduce NOx emission but operators could have their engines reflashed if they were required to comply with a model ordinance for idling. These would be two separate requirements.

i) Dr. Holtzclaw wanted to know the status on back-up diesel generators. Mr. Belik explained that this Further Study Measure actually relates to the study and design of cumulative impact analysis that was brought up in the context of back-up diesel generators. It studies cumulative impacts in certain communities, and the District is moving forward in attempting to do that. There is a proposal to include funds in the District's budget to do some monitoring in certain communities and to move this project forward. It will evolve into planning and a rule development cycle at some point in time.

j) Mr. Glueck inquired if staff was aware of any national studies that have been conducted with regard to the effects of free transit ridership. Mr. Hilken stated that he is not aware of any such studies and not much data is available. It would be one of the things that staff would have to research in a further study measure. Other regions have offered free transit, to some extent, on their version of Spare the Air days. The monitoring is not quite as sophisticated as the program itself, and very often monitoring is not funded. Mr. Dawid pointed out that Caltrain offered free train service during the last two weekends, and it was very popular. A program such as this should be monitored to find out the ridership.

k) Mr. Kuruz noted that the pricing requirements were still listed in the control measures. He questioned whether those worked, and whether the District was able to access any data that indicated that there was a decrease in gasoline sales; also, if the prices are increased, what might be the reduction in consumption. In comparing today's prices to those of a year ago, might provide information on purchase patterns and their effectiveness. Mr. Hilken stated that this issue came up at the last Ozone Working Group, and MTC had responded that, as high as the gas prices are, they are very inelastic; people are generally willing to pay that extra cost, but logically there has to be some cut off point. Dr. Holtzclaw suggested that it might be more

effective in getting people to use more fuel-efficient cars in the long term. Mr. Dawid stated that there is already an indication that the waiting list for hybrid car purchases is up to a year.

l) Mr. Kurucz asked what the difference was between the further study measure for stationary internal combustion engines and back-up diesel generators. Mr. Belik explained that there are some control proposals and other Districts have some for stationary internal combustion engines. They typically tend to be of a much greater size - the types of engines used in water districts and landfills that are fired by methane gas. There are a lot of stationary internal combustion engines that do not run all the time; for example, in the Central Valley there are agricultural pumps that do not run constantly. In this district there are a few prime pumps that run all the time. There is also some work done by the Air Resources Board as a toxics control measure; they adopt Air Toxic Control Measures (ATCM) that become effective statewide. Hence, for diesel particulate matter they have adopted an ATCM for spark-fired engines and they are also working on one for compression-fired engines. These may be drivers, to an extent, that the further regulation may not really be necessary. Basically, back-up diesel generators, generally, are smaller.

Mr. Kurucz stated that he was aware that ARB was working on some of these measures. However, with respect to back-up generators and ozone, he wanted to know if staff had any data on the amount of pounds per day. Mr. Belik responded that he did not have good data available. One of the problems in areas such as this is creating the inventory. The District does not require permits on small back-up generators, even though it requires them on some of the larger ones. There are many small back-up generators in use, many owned by cities and counties; some are used very infrequently and for many of them the emissions are less than one pound per day. Therefore, trying to create an inventory for any kind of intermittent source is difficult.

Mr. Shanahan stated that in his business they had looked at the emergency stand-by generators; the other internal combustion engines that they deal with are water pumps. On the standby generators, in terms of ozone, it is more of a particulate matter health issue; if one of those is located near a school, for example, there is the issue of particulate matter, and the NOx component is a non-issue because it is so small. Mr. Kurucz inquired that if this was not included as an ozone strategy, and yet was still adopted, would that preclude the District from taking credit for the emission reductions of the NOx component. Mr. Belik stated that the District could take the credit.

m) Chairperson Brazil requested staff to describe the indirect source mitigation program. Mr. Hilken explained that there a lot of programs in TCM15 to promote Smart Growth that have more land use development near transit and in town centers, but this further study measure looks at a permitting or a fee program such as what San Joaquin Valley Unified Air Pollution Control District is looking at. San Joaquin has had some workshops on a proposed regulation to impose fees on land use development, and using those fees to buy mitigation programs, such as transit improvements and non-mobile mitigation strategies like agricultural pumps. The Air District and most other districts in the State are going to watch very closely what San Joaquin Valley eventually does, to see if there might be a need for similar programs in this district.

n) Mr. Dawid wanted to know if San Joaquin Valley differentiates between an inner city development and a green field development. Mr. Hilken stated that they have proposed setting the fees in such a manner that would encourage smarter development patterns. Mr. Dawid

opined that many no-growth advocates felt that there should be a differentiation between the different types of growth. Dr. Holtzclaw opined that the various fees will ultimately add up to an incomplete carbon tax rather than just passing a carbon tax to begin with, and giving an incentive right at the beginning for being more fuel-efficient.

o) In response to Mr. Shanahan's inquiry as to whether large employers were targeted by providing tickets to their employees for the free transit on BART during the five Spare the Air days program, Mr. Hilken explained that this is something that staff would look at in a further study measure – whether it should be offered throughout the entire region or targeted to certain corridors. This is a first step and this program will provide additional useful information for fine-tuning it for the future.

p) Mr. Dawid expressed his concerns regarding the heavy emphasis that is put on TCM4 (Improve Regional Rail Service), TCM5 (Improve Access to Rail and Ferries) and TCM6 (Improve Inter-Regional Rail Service); meanwhile buses are all lumped together into one TCM called Local and Area-wide Bus Service. If there is an interest to make a shift in mobile patterns, then buses must start commanding more than they are being viewed in the current Ozone Strategy. Mr. Dawid noted that San Joaquin has a subscription bus service that is very competitive with ACE, and is very effective. He suggested that the District start differentiating the different types of buses and reflect this by giving equal consideration in TCMs to buses.

Dr. Holzclaw stated that he felt that this had been already done to some extent. TCM5 indirectly refers primarily to buses. Mr. Hilken stated that the regional express bus program is included in TCM3.

Chairperson Brazil stated that he would refer all the comments received at today's meeting to the full Advisory Council, along with the strategy document.

5. Update on Networkcar Remote Emissions Demonstration Project.

Ryan Glancy, Marketing Manager, Networkcar, San Diego, California, provided the Committee with an update on the results of the Networkcar demonstration project of remote emissions monitoring devices in taxi cab, paratransit and other specialty fleets.

He covered the following topics in his presentation:

<u>Who is Networkcar?</u>

- Founded in 1999 and located in San Diego, California
- Owned by the Reynolds and Reynolds Company since December 2002
- Leading provider of wireless telematics solutions for:
    - Consumers
    - Fleets
    - Remote Air Quality Programs

<u>Remote Emissions Program History:</u>

- 5 year program is funded by a Carl Moyer clean air grant through ARB – Emission Reduction Credit Program
- Program is currently in its second year
- Program to monitor and reduce NOx in 1000 paratransit vehicles was launched in 2002

Program Goals:

- Explore the viability of remote emissions – monitoring as an emissions reduction method
- Main focus is on the reduction of NOx
- Program also reduces hydrocarbons (HC) and carbon monoxide (CO) emissions at no additional cost

How the Program Works – Technology:

- Networkcar dynamically measures and reports the status of a vehicle's emission system to effectively control oxides of nitrogen (NOx), hydrocarbons (HC), and carbon monoxide (CO)
- The device transmits this data over a conventional wireless network to an Internet-based computer system

How the Program Works – Benefits:

- Failing vehicles that would otherwise continue to drive in a heavily polluting condition are dynamically detected and reported
- Without this monitoring, non-compliant taxicabs can drive unchecked while emitting excess NOx into the environment; these levels persist even though the vehicle appears to function properly
- With the proposed system in place, polluting vehicles are quickly identified and repaired to reduce the amount of excess pollutants

Why Monitor Vehicles in the Clean Fleets Program?

- On-going CARB program with taxicab fleets
- Taxicabs drive average of 58,000 miles/year
- Taxicabs fail visual I/M emissions tests 28% of the time for being non-conforming
- Problems with tampering with MIL light are seen 9% of the time in visual inspections

Clean Fleets Program:

CARB performed laboratory testing to determine the levels of NOx reductions when the check engine light is on in the vehicle and then after post-repair. Based on their testing, it showed that there is a reduction of half a gram per mile of NOx by bringing that vehicle back into compliance.

Mr. Glancy explained that the two predecessors to this program are high mileage vehicles and a high likelihood that they go out of compliance very quickly.

Emissions Credit Reduction Program Status:

- Only available technology to monitor real-time diagnostic, emissions, and Diagnostic Trouble Codes (DTC) data
- Currently deployed and operational in over 1,000 vehicles in California (Carl Moyer Grant)
- Currently 830 vehicles in Los Angeles; 120 vehicles in Oakland at the Oakland Airport
- Failing vehicles are flagged in real time
- 14 days allocated to repair vehicle
- Program is voluntary; Networkcar does not "police". Follow-up and enforcement is not part of the company's goals within the program
- Data can be analyzed to detect fraud (e.g. unplugged unit)

Grant Award:
Networkcar was awarded a grant for $1,625,000 to deploy remote emissions-monitoring devices on 1,000 taxicabs for a period of five years. On an annual basis, in the first two years, there was a reduction of 46 tons of NOx, resulting in 92 tons to date. During a five-year period, 50 tons of NOx are reduced on an annual basis, resulting in a total of 250 tons. The reason that it scales up is because the higher mileage vehicles tend to have more problems and go out of compliance on a larger scale.

Program Savings To Date:
Mr. Glancy reported that 62 tons of NOx were reduced to date, during a period of two years. It is projected that by the end of the five-year period of the program, a total of 155 tons of NOx will be reduced. Together with other incentive-based measures, the Moyer Program has the potential to reduce NOx emissions, and can do so cost effectively for between $5,000 and $12,000 per ton. By comparison, controls on stationary sources cost between $10,000 and $20,000 per ton. The technology is very affordable and there are ways to bring the cost down considerably in the future.

Mr. Glancy further explained that the taxicabs in Oakland are higher mileage taxicabs. In Los Angeles the paratransit vehicles were included in the sample set of vehicles; therefore, there is a lower annual mileage on those vehicles. To date, the program is also seeing an average annual mileage of about 42,000 for the 1,000 taxicabs. Mr. Glancy stated that most of the data presented today are on an aggregate basis, and that they are compiling more data for Oakland. This information will be published in the next quarterly report for CARB due next week.

Mr. Glancy reported that Networkcar pays for a pre-repair smog check to obtain real data that can be correlated to the CARB laboratory tests for the half a gram of NOx per mile. A very small percentage of the cabs are actually getting the pre-repair smog check. The idea is to get the cab repaired because the goal of the program is to reduce NOx. The cab company has to pay for their own repairs and Networkcar then pays for a post-smog repair. This data is then used to correlate it back to the modeled numbers that CARB had done in their laboratory. They have had a difficult time collecting repair data costs. The technology automatically detects when the vehicle comes back into repair, the presence of the DTC going away, the trouble code associated with the problem; the MIL light going off and the check engine light going off. This indicates that the vehicle is back into compliance.

Mr. Dawid inquired if any taxicabs around the country had switched to hybrids. He understood that in New York they are switching to hybrids; the major incentive to do this is not air quality but fuel-savings. Because of the heavy stop-and-go traffic, unlike this program, there is a real incentive for the cab owners and fleet owners that are trying to switch to the hybrids. Mr. Glancy stated that he was not aware of any information on this. Mr. Dawid requested that this information be included in the packet for the Committee's next meeting in August 2004.

Mr. Shanahan inquired if cab companies were deriving any value from the Global Positioning System (GPS) system and whether they had a more effective way to dispatch their fleet. Mr. Glancy explained that this grant was rolled out pre-GPS technology integrated into Networkcar's technology. These are only diagnostic units and do not contain a GPS location-related modular piece. There is a large return on investment for the fleets regarding the use of the GPS data, the diagnostics, and the air quality-related return on investment. There might be a way to combine these to provide incentives for fleets to purchase the product if they propose to keep those vehicles within compliance. Mr. Shanahan stated that if these could be combined with some incentives,

then the cost per ton could be reduced significantly. Mr. Glancy reported that the Bureau of Automotive Repairs (BAR) has a continuous testing pilot program which is more of a consumer-related program where they allow the fleets to enroll their vehicles in those programs and this allows the fleet to be exempt from the annual smog check that they are required to do, as long as they keep the vehicle within compliance. The BAR program is very similar to this type of program. The only incentive for the fleet is the $60 to $70 for the smog check; there is a larger related benefit on the air quality and the NOx reductions.

Before and After Emissions Data:
Mr. Glancy presented a table that showed data from some of the 1,000 cabs in the program along with the percentage of improvement on each of the particulates – NO, HC and CO. He also presented the laboratory testing data from CARB. The table indicates that the Before and After data received to date correlates with the Proposed Model data.

Assumptions Made for the Calculations:
- Analyze each DTC and the corresponding number of days MIL is "On" (when vehicle is out of compliance)
- Assume that without Networkcar program, vehicle would drive on average for six months with MIL "On"
- Assume average "before and after" emissions data based on CARB laboratory testing
- Use average "before and after" emissions data to calculate total NOx reduction

Differences in Proposal vs Program to Date:
Mr. Glancy explained the proposed versus program to date data. At the assumed 70,000 annual mileages for vehicles in the program, 102 tons of NOx would have been reduced to date at a cost of $6,373. Based on the data received from Oakland, they are seeing an average of 56,000 annual mileage for the Oakland cabs. This would reduce the cost per ton significantly. During the last six months there has been a reduction of 2.5 tons of NOx specific to the 120 cabs in Oakland. Non-compliant vehicles are repaired within 30 days.

Average Days Before Repair:
There is a lot of variance based upon the actual cab company and how they are voluntarily reacting to this program. Some cab companies remain in the program for 30 days; others remain for approximately three months. There is a three months' savings on the NOx versus the five months of savings. If the ratio can be reduced to 30 days, there will be a higher correlation with the cost per ton and the reduction in NOx on these vehicles.

Program Enforcement:
- Networkcar's technology quickly identifies and monitors out of compliance vehicles
- Goal is to quickly identify non-compliance and to persuade prompt repair of vehicle
- The main program issue to date has been the enforcement of the quick repair of identified polluting vehicles. Networkcar does not police
- Bay Area program launched in October 2003 at Oakland Airport

Specifics of the Bay Area Program:
- In October 2003 all of the taxis operating at the Oakland Airport, 42 companies in all, were enrolled in the ERCP facilitated by Networkcar
- Each company is monitored for safety and proper functioning by the Oakland City Police

- The vehicles that are operating at the airport with a MIL light on for 30 or more days are subject to having their Medallion (City and Airport taxi operating certification) revoked by the Oakland Police Department until the vehicle is operating in adequate condition
- The Port of Oakland authorizes revocation of the taxi operating privileges at the airport when each taxi is non-compliant
- Roughly five or more notices are issued every week to violating taxis
- Currently there have been taxi companies repairing their vehicles, yet the smog check information has not been returned as frequent
- The goal of the pilot at Oakland airport is to quantify a substantial reduction in emissions from high mileage vehicles and possibly expand into the taxis operating in the City of Oakland

Summary:

- Remote Emissions-Monitoring can return significant NOx reductions
- Cost per ton saved directly correlates to annual mileage of the vehicle and time of repair
- Technology is cost effective for NOx reduction
- Enforcement at Oakland Airport is reducing repair time

The cost per unit is $500, including labor, and $15 per month for the service.

Mr. Kurucz inquired if there was any information available on the enforcement activity that is actually being done by the officers. Mr. Glancy stated that he did not have any data available on this.

Mr. Glueck inquired about the reliability of the monitoring equipment. Mr. Glancy responded that it is very good. The satellite-based piece is GPS-related technology. Regarding the transmission of the data, a terrestrial network is used; it is a data-only network and it does not compete with voice traffic. There is also a feature called store and forward within the unit. If the vehicle drives into intermittent cellular coverage, it stores the information when it comes back and transmits that information back when it is out of coverage.

Mr. Glueck requested information on Networkcar's diesel applications.

Recommendations:

Mr. Glancy recommended the Committee: a) help educate stationary sources in the district on the availability of this mobile source technology, and b) implement an enforcement rule to persuade timely vehicle repairs identified by this technology within the district.

6. Committee Member Comments/Other Business.

Mr. Dawid stated that, at the Committee's August meeting, he would like to receive a report from Tom Addison, Advanced Projects Advisor, on the bills pending in legislation, specifically on the status of Senate Bill 849 and the reasons as to why the Association of Bay Area Governments (ABAG) opposed it. Mr. Dawid briefly provided an overview of SB 849 to the Committee. He felt that it was very important for the Advisory Council to understand the greater concept of regional planning in the Bay Area. He was concerned that ABAG objected to the Air District's incorporation into the Joint Policy Committee, and would like to have a better understanding of why they objected to the Air District's participation.

7. **Time and Place of Next Meeting**. 9:30 a.m., Tuesday, August 3, 2004, 939 Ellis Street, San Francisco, CA 94109.

8. **Adjournment.** 11:45 a.m.

Neel Advani
Deputy Clerk of the Boards

AGENDA NO. 3d

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

DRAFT MINUTES

Advisory Council Regular Meeting
10:00 a.m., Wednesday, July 14, 2004

CALL TO ORDER Chairperson Blake called the meeting to order at 10:09 a.m.

Opening Comments There were none.

Roll Call Present: Elinor Blake, Chairperson, Sam Altshuler, P.E., Diane Bailey, Louise Bedsworth, Ph.D., Sanjiv Bhandari, Jeffrey Bramlett, Harold Brazil, Irvin Dawid, Emily Drennen, Fred Glueck, John Holtzclaw, Ph.D., Kraig Kurucz, Norman A. Lapera, Jr., Kevin Shanahan, Victor Torreano, Linda Weiner.

Absent: Robert Bornstein, Ph.D., William Hanna, Stan Hayes, Brian Zamora.

PUBLIC COMMENT PERIOD There were no public comments.

CONSENT CALENDAR

1. **Approval of Minutes of March 10, 2004.** Dr. Holtzclaw requested that in the sixth bullet on page three "to" be added prior to "explicate." Mr. Altshuler moved approval of the minutes as corrected; seconded by Dr. Holtzclaw; carried unanimously. Mr. Altshuler added that although the speaker on indoor air quality may have referred to a "little smog factory within the home" the statement is incorrect from a technical and scientific point of view and sends the wrong message.

COMMITTEE REPORTS

2. **Report of the Air Quality Planning Committee Meeting of June 15, 2004.** Mr. Brazil stated the Committee has been reviewing the District's Ozone Control Strategy development. The Committee has not yet adopted recommendations but will meet on Tuesday, August 3 at 1:30 p.m. to discuss and develop them for subsequent submittal to the Advisory Council on September 8.

3. **Report of the Public Health Committee Meeting of May 12, 2004.** Ms. Weiner stated the Committee discussed the District's Toxics New Source Review program, for which the final rule-making has been postponed. The Committee also discussed the Community Air Risk Evaluation (CARE) program and adopted some recommendations that will be presented to the Council today. The next meeting of the Committee is scheduled for Monday, August 9 at 1:30 p.m.

4. **Report of the Technical Committee Meeting of June 3, 2004.** Dr. Bedsworth stated the Committee received staff presentations on nitrogen oxide (NOx) controls and the state's Emission Factor (EMFAC) 2002 model. The Committee will adopt recommendations on the District's Ozone Control Strategy on August 4 at 1:30 p.m. Thereafter, it will then address alternate fuels.

5. **Report of the Executive Committee Meeting of July 14, 2004.** Chairperson Blake stated the Committee met this morning and the Committee Chairs have reported on what was discussed. On September 8 the Council will recommendations for staff on the 2004 Ozone Strategy, which will be reviewed by the Governing Board in November. Public meetings on the document will be held throughout the Bay Area in the fall. The full Council will receive a presentation in November on the Smog Check II program on which the council made recommendations last year.

PRESENTATIONS

6. **Community Air Risk Evaluation (CARE).** Scott Lutz, Air Quality Engineering Manager, stated that for the next fiscal year the Board recently approved approximately $500,000 in funding for this program, which includes a new atmospheric modeler position. The District has purchased some additional monitoring and analytical equipment, and will contract with professional services for analysis of filter media. The District will reallocate existing resources as well. The program will establish diesel PM exposure trends, analyze risk from toxic air contaminants on a community basis, derive risk reduction strategies and obtain input from and outreach to the communities.

   Reviewing the history of ambient monitoring by the District and the California Air Resources Board (CARB) for toxic air contaminants in the Bay Area since 1985, Mr. Lutz noted that the risk attributable to ambient toxics has dropped from 315 in a million in 1994 to 173 in a million in 2001, excluding diesel particulate matter (PM). CARB has estimated average statewide risk attributable to diesel PM dropped from 900 in a million in 1990 to 540 in a million in 2000. Such risk reductions are attributable to new vehicle emission standards, clean diesel fuel and reformulated gasoline, toxics new source review, and airborne toxic control measures applied to dry cleaning facilities and chrome plating operations.

   The technical foundation of the CARE program will focus on the sampling and measurement of PM samples. Carbon 14 dating will be used to analyze the samples, which will be factored for temporal and seasonal variation and speciated for elemental and organic carbon constituents. Mr. Lutz noted estimates are that 75% of the ambient air risk is from diesel PM and, when combined with other mobile source toxics, the ambient air risk from diesel PM is about 90%.

   The District is analyzing PM filter media from the 21 toxic air contaminant monitoring stations in the network. Equipment that distinguishes elemental from organic carbon is being installed in the District's chemistry laboratory. Data for all toxics emissions from mobile, point and area sources will be inputted into a one square kilometer gridded map for the entire Bay Area. The state's mobile source emission factor model, as well as a model from Caltrans, will be utilized in conducting air dispersion modeling for purposes of preparing a risk assessment. Based on areas of concern identified in the gridded map, a pilot cumulative risk assessment for stationary sources will be conducted in a selected area. Carbon emission inventory trends will be compared with ambient measurements, incorporating all current and future effective control measures and their impact on current ambient carbon levels. Staff will subsequently develop and implement area specific risk reduction measures for targeted areas, both in incentive-based and regulation-based programs.

   Items on the legislative and regulatory horizon include low sulfur diesel fuel, heavy-duty diesel exhaust emission standards, the toxics new source review, and new or modified rules to reduce toxic emissions from area sources such as dry cleaners, gas stations, chrome plating. The District is also seeking authority to regulate heavy-duty diesel fleets as well as trains.

In reply to questions from Council members, the following responses were provided by District staff members Jack Broadbent, Executive Officer/APCO, Peter Hess, Deputy APCO, Gary Kendall, Technical Division Director, and Mr. Lutz:

- The CARE program will help identify the drivers of air toxic risk and help the District to determine where resources should be applied to obtain the greatest air toxic risk reduction.
- With regard to chemical markers for fuel additives and lube oil, the analysis will include all sources of carbon and allocate them either to the elemental or organic categories.
- In assessing data from other regional or local air toxics studies or programs, the District plans to coordinate with the county and state health departments.
- The CARE program focuses primarily on the risk from breathing ambient air and will not take into account the larger variety of factors deriving from personal lifestyle choices.
- The impact of heavy-duty diesel truck traffic across the California/Mexican border is best dealt with by seeking to cooperate with the federal Environmental Protection Agency and CARB.
- The CARE emissions estimates and analysis will be done broadly on grid for the entire Bay Area based on sampling data and modeling. The more focused risk assessment will be limited to a specific one kilometer region. There will be a Bay Area wide characterization of risk including stationary sources and mobile sources but the specific area cumulative risk analysis will be assessed based on a variety of different factors including the compaction of sources and will account for detailed meteorological data and terrain features on a block-by-block basis.
- The characterization of risk for the public will be in the context of a programmatic tool for best estimates and other risks, which will guide funding, regulation, rule-making.
- Low sulfur diesel fuel, which will further reduce emissions of diesel PM from newer engines and abatement equipment on older engines is becoming increasingly available. As of 2007, all diesel fuel will have to conform with low sulfur requirements. The transition to this type of fuel is comparable with the transition from leaded to unleaded gasoline a number of years ago.

Ms. Weiner stated that the Public Health Committee reviewed the CARE program and recommends that (1) before the data is gathered, in initial planning phase, staff meet with interested stakeholders to help develop data evaluation, criteria for community involvement, definition of disproportionately impacted communities; (2) a member of the Public Health Committee be included on the project steering committee; (3) that a District public outreach staff person with specific qualifications be assigned to this project.

In discussion, the Council members offered the following observations:

- greater attention might be given to the outreach component of the CARE program, comparable, perhaps to the level of preparation for the technical side. (Bedsworth)
- in terms of the emissions inventory, emissions from solvents and paints, and PM emissions from road dust, may be more significant than previously thought. (Bedsworth) Mr. Lutz replied that there is an emission inventory group working on the project and it will be consulted on this.
- the Technical Committee should examine the pros and cons of biodiesel fuel. (Shanahan) Dr. Bedsworth replied that the topic of alternate fuels has been assigned to the Technical Committee and that biodiesel can be included in the review process.

- the CARE project would benefit from greater public outreach right now, while assembling an advisory committee. (Blake) Mr. Broadbent replied that the District will hire a Community Relations Manager who will report to the Executive Officer and handle this task. Mr. Hess noted that Mr. Broadbent has spoken about CARE with Bay Area editorial review boards.
- perhaps the new Community Relations Manager could be entitled "Health Effects Officer" as in the South Coast AQMD. (Altshuler) Mr. Broadbent replied that the functions of the latter position are somewhat different from those envisioned for the Community Relations Manager.

7. **Air & Waste Management Association (A&WMA) Annual Exhibition & Meeting.** Chairperson Blake deferred this item to the September 8 Advisory Council Regular meeting.

OTHER BUSINESS

8. **Report of the Executive Officer/APCO.** Mr. Broadbent stated:

   The District's Spare the Air program is under way. Using federal Congestion Management Air Quality funds there will be free morning commutes in the Bay Area on Spare the Air days. There are also plans to wrap a BART train to advertise the Spare the Air program.

   District staff discussed fuel cell technology with a number of stakeholders last Friday and received many excellent suggestions.

   The state's budget has not yet been finalized. Staff will provide recommendations to the Governing Board once the reduction in property tax revenue is known. The District has adopted its budget for FY 04-05 and felt it important to have it in place apart from the state budget situation.

9. **Report of Advisory Council Chair.** Chairperson Blake stated she met with Mr. Broadbent last week and discussed the issue of indoor air quality.

10. **Council Member Comments/Other Business.** Mr. Dawid inquired if the District will be included in the Joint Policy Committee (SB 849) with the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG). Mr. Broadbent responded that there are a number of proposals for representation on this Committee, including one that would add the Bay Conservation & Development Commission and the Regional Water Quality Control Board.

    In reply to Mr. Shanahan, Mr. Broadbent replied that there are proposals to increase funding for the Carl Moyer program by modifying the Smog Check program and adding a fee of $1 per tire for disposal purposes.

    Ms. Weiner complimented staff on a first-rate Spare the Air media campaign.

11. **Time and Place of Next Meeting.** 10:00 a.m., Wednesday, September 8, 2004, 939 Ellis Street, San Francisco, CA 94109.

12. **Adjournment.** The meeting was adjourned at 12:00 noon.

James N. Corazza
Deputy Clerk of the Boards

BAY AREA AIR QUALITY MANAGEMENT DISTRICT **AGENDA: 4**

Memorandum

To: Chairperson Haggerty and Members
of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 15, 2004

Re: Report of Division Activities for the month of July2004

RECOMMENDED ACTION:

Receive and file.

Reviewed by: Peter Hess

ADMINISTRATIVE SERVICES DIVISION – W. TANAKA, DIRECTOR

After a parallel test of the J D Edwards ERP in June, the financial operations of the District for FY 2004/2005 went live on July 1, 2004. The migration to the new system went well with very few surprises or glitches. Staff will continue working with the Mitchell Humphrey system as they close out FY 2003/2004.

Staff worked on budget revisions during the last few days of the month after the State Legislature and Governor reached an agreement on the budget. The proposed reductions would result in a loss of approximately $1,592,000 in property tax revenue. The Governor was expected to sign the budget by the end of the month.

During the month, the final 2 Prius Hybrid vehicles were delivered to the District. Due to very high demand, the delivery, expected in the Spring of 2004 was delayed until July. With the delivery, the total number of hybrid vehicles is now 23. In addition, the District has 2 Electric vehicles and 18 Compressed Natural Gas (CNG) vehicles in it's alternative fuel fleet.

Phase I compliance work on the building alarm system is about 30% complete. Phase III work on the HVAC upgrades will begin next month.

The Business Manager, Jean Nicolas, retired after 33 years of dedicated service to the District. Her professional expertise, friendly demeanor, and friendship to those she worked with will be greatly missed.

COMPLIANCE & ENFORCEMENT DIVISION – K. WEE, DIRECTOR

On July 4, 2004 Tesoro Refinery located in Avon, east of Martinez, had a boiler tube rupture in the #5 CO Boiler associated with the Fluid Coker Unit. A large grey/black plume was emitted from the boiler stack for several days. District staff observed and recorded the

excessive visible emissions. The District received 12 complaints over the two-day event. By 4:30 am on July 6th, the Fluid Coker Unit gas was successfully re-routed to the #6 Boiler and the excessive visible emissions ceased. On the evening of July 10th, Tesoro had completed repairs to the boiler and resumed normal operation. On July 9, inspection staff documented a public nuisance at Darling International, a rendering plant in San Francisco. Ten complaints were received and all were confirmed. The rendering plant was in compliance with all permit conditions and its abatement equipment was operating under normal conditions.

Staff attended a public meeting in Richmond on July 6, 2004 to address local resident's and business owner's concerns over the hazardous waste site remediation project located on the former Zeneca Corporation property in Richmond. The meeting was attended by several public environmental agencies (including, RWQCB, DTSC, CCC Env. Health, & City of Richmond). RWQCB is the lead agency and is responsible for the development and oversight of the remediation plan. The property is currently a vacant lot. The District received 18 complaints on sources in the Milpitas area. Nine complaints were garbage/landfill odor related, 1 complaint was referred to the San Jose Code Enforcement, and 5 alleged the BFI landfill. One complaint was confirmed to the San Jose/Santa Clara Water Pollution Control plant. The other 17 complaints were unconfirmed. Staff met with representatives of the City of Milpitas and San Jose Code Enforcement on July 21 to discuss ongoing odor mitigation in Milpitas and presented the complaint history, showing a continued decline in the number of complaints for the area through June. The APL marine terminal at the Port of Oakland has been experiencing heavier than normal container traffic and long truck lines waiting to get into the terminal. Also, the Port of Oakland is experiencing a shortage of experienced union clerks that assist in the processing of cargo containers. The result of these two events is that the APL Terminal is experiencing a delay in processing transactions and unusually heavy truck congestion at the gate. Inspection staff has investigated numerous complaints from truckers who were not making appointments with the terminal. No violations for appointment truck waits in excess of 30 minutes were documented.

The last two Industry Compliance School classes, of three scheduled, regarding Reg. 8-16 aqueous solvent cleaning requirements were held in Concord and Sunnyvale. Throughout the classes, District staff made good contacts with equipment distributors and a repair and maintenance industry association group. Additional compliance outreach is being planned for the future. The second part of the Reg. 8-5 Storage Tanks class was held in Richmond. Emphasis was on how District Inspection staff conducts storage tank inspections and what staff is looking for to determine compliance. Thirty-five refinery staff attended from all 5 of the Bay Area refineries and 3 of the Gasoline Bulk Terminals. Questions and answers then followed with District Staff taking away several action items for additional follow-up. Staff conducted a Drycleaners Workgroup meeting, covering alternative solvents, AB2588 toxics notification requirements and a PG&E presentation on wet cleaning technology. Attendance included individual drycleaners, the Chinese Dry Cleaning Association, and the Korean Dry Cleaning Association. Staff attended the bi-monthly Green Business Coordinators meeting at ABAG in Oakland. The agenda covered updates on the new Garment Cleaning Checklist (pilot test being conducted in San Francisco), revision of the Auto Repair Checklist and an update on SB 1703, the proposal for a statewide framework for Green Business certifications. Division staff met with the Rule Development and Engineering representatives to review, clarify and propose potential changes to rules that govern wipe-cleaning operations. CARB conducted Polyester Resin Training on July 22 at the District Offices.

Staff has commented on EPA's proposal in the Federal Register to increase reporting requirements on local Districts. STAPPA ALAPCO and CAPCOA have already submitted comments to EPA stating their strong opposition to these new requirements. These groups explain the monumental burden these new requirements mandate in fiscally troubled times with no additional funding from EPA. Requirements to report include, pollutants at stack tests, every partial inspection and investigation, and the use of an EPA computer program to determine penalties for violations.

(See Attachment for Activities by County)

ENGINEERING DIVISION – B. BATEMAN, DIRECTOR

Permit Evaluation Program

A meeting was held with the Steering Committee for the upcoming Cost Recovery Study that will analyze the District's regulatory fee structure. The Committee is helping to develop a Request for Proposals for this project. The Engineering Division hosted the CAPCOA Engineering Managers Committee meeting in July. The Division also hosted a visitor from the Hong Kong Environmental Bureau who came to learn about VOC control and other related subjects.

Toxics Program

Health risk screening assessments were conducted for 55 permit applications, primarily diesel emergency generators. Community Air Risk Evaluation (CARE) Program information was presented to the Advisory Council.

INFORMATION SYSTEMS DIVISION – J. McKAY, DIRECTOR

Toolsets for Permits/Enforcement/Legal

The project to replace IRIS and Databank is proceeding with a review of available toolsets. The design methodology for replacement of IRIS and Databank will begin with identification of the large-scale functional components of the Air District Production Processes. This will enable a tool selection process focused on high-level tool sets. While this may not allow the District to accomplish all of its objectives with a single vendor offering, it will allow the opportunity to substitute purchased modules for custom code. Peter Hess directed inquiries to Air Districts around the Unites States and received substantial input on their current systems and future plans.

Web Site Development

The roadmap for the next phase of the new site is under development. Development for web based Complaint query capability is near completion.

LEGAL DIVISION – B. BUNGER, DISTRICT COUNSEL

The District Counsel's Office received 154 Violations reflected in Notices of Violation ("NOVs") for processing.

Mutual Settlement Program staff initiated settlement discussions regarding civil penalties for 55 Violations reflected in NOVs. In addition, Mutual Settlement Program staff sent 12 Final 30 Day Letters regarding civil penalties for 17 Violations reflected in NOVs. Finally,

settlement negotiations by Mutual Settlement Program staff resulted in collection of $45,825 in civil penalties for 69 Violations reflected in NOVs.

Counsel in the District Counsel's Office initiated settlement discussions regarding civil penalties for 63 Violations reflected in NOVs. Settlement negotiations by counsel in the District Counsel's Office resulted in collection of $31,500 in civil penalties for 10 Violations

PLANNING DIVISION – J. ROGGENKAMP, DIRECTOR

Staff completed analysis of Sacramento Metropolitan AQMD recommendations for BAAQMD ozone control measures. On July 29, staff met with Sacramento AQMD staff to discuss the analysis. Staff discussed the national 8-hour ozone standard and the 2004 Ozone Strategy at the California Council for Environmental and Economic Balance annual meeting. Staff also met with planning managers from northern California air districts and ARB to discuss modeling and plan development for the national 8-hour ozone standard.

Staff commented on ARB's update to the Statewide Carbon Monoxide Maintenance Plan which includes the San Francisco Bay Area. The ARB Board approved the updated CO Maintenance Plan.

Staff held a special meeting on hydrogen and fuel cell technology and projects with interested stakeholders to help identify possible future directions for the Air District.

The Board of Directors approved the following actions recommended by staff: the allocation of $7,304,732 in FY 2004/05 of Transportation Fund for Clean Air (TFCA) County Program Manager funds to 55 projects; changes for the FY04/05 Vehicle Buy Back Program; allocation of $500,000 in Transportation Fund for Clean Air (TFCA) funds to the Vehicle Incentive Program (VIP) and approval of VIP guidelines for FY 2004/05. The Vehicle Buy Back Program scrapping contractors purchased and scrapped 178 vehicles in July 2004.

PUBLIC INFORMATION & OUTREACH – T. GALVIN LEE, DIRECTOR

Cooler than normal temperatures and strong on-shore winds prevented the occurrence of any Spare the Air days during July. Thus far this summer, there have been no Spare the Air days. In addition, there have been no excesses of the federal one or eight hour standards.

The employer component of the Spare the Air program remains strong. To-date, approximately 2140 employer worksites have joined the program and will be notified of Spare the Air days. A July "Report Card" was distributed to all employers in the program. Postcards to publicize the free BART promotion were mailed to all Spare the Air employer coordinators. Staff attended six onsite employer events and several regional fairs.

Approximately 500 Spare the Air light pole banners have been installed in nineteen cities throughout the Bay Area. Cities include San Jose, San Francisco, Oakland, East Palo Alto, Redwood City, San Ramon, and Santa Rosa. During he month of July, the 2004 Clean Air Champions were presented to the Board of Directors. Coverage of the event ran in several media outlets.

During July approximately 4084 smoking vehicles were reported. Five hundred and fifty-three were reported on the website and 3531 by phone.

TECHNICAL DIVISION – G. KENDALL, DIRECTOR

Air Monitoring

All thirty-five of the continuous air monitoring network stations were in full operation during the month of July 2004. This includes a new toxics monitoring station in Mountain View, requested by the EPA, and the BayCAMP project operating in the Bayview/Hunters Point neighborhood of San Francisco. Both of these stations will operate for a minimum of one year.

Meteorology

There were no days in July when the air quality reached the Unhealthful for Sensitive Groups category (AQI > 100). Air quality reached the Moderate category (51-100 AQI) on one day, July 25th, when high pressure aloft intensified and the onshore flow weakened. On all other days during July the air quality was in the Good category (AQI < 51). Maximum temperatures in the Bay Area remained near normal due to a deep marine layer, which produced a persistent onshore flow.

Quality Assurance

QA staff performed start up audits of 6 newly installed Teco Sulfur Dioxide and Hydrogen Sulfide analyzers at the three Chevron Refinery GLM sites. Staff performed a final audit of the particulate analyzers at the Calpine site in Antioch. This completed two years of particulate monitoring as required by the California Energy Commission.

Air Quality

April 2004 air quality data were quality assured and entered into the EPA Air Quality System (AQS) database. Staff worked with the web master to create a new Burn Status web page on the District web page, which lists the burn status for the three District burn zones. Semi-annual calibrations were completed at the 21 District meteorological sites. An audit was performed at the Bayview/Hunters Point meteorological station. A final audit was done on the meteorological equipment at the Calpine site in Antioch. Staff provided PI&O with air quality statistics for the District's 2003 Annual Air Pollution Summary. New forecast methodologies for Stubble Burn acreage allocations were developed and sent to C & E Division.

Laboratory

In addition to the ongoing, routine analyses performed by the lab, twenty-eight air samples taken from the Caldecott Tunnel were analyzed for methane, carbon monoxide, carbon dioxide, total non-methane hydrocarbons, and speciated non-methane hydrocarbons as part of a cooperative study of motor vehicle emissions with UC Berkeley. The laboratory was audited by CARB for analysis of toxic compounds in ambient air. A new carbon analyzer was installed in the laboratory and staff began performing analyses of calibration standards, before beginning regular analysis of PM_{10} filters for organic carbon/elemental carbon. Two polyester resin samples from Marble Makers and Syn-Mar in San Francisco were analyzed for percent monomer.

Source Test

Ongoing Source Test activities included Continuous Emissions Monitoring (CEM) Field Accuracy Tests, source tests, gasoline cargo tank testing, and evaluations of tests conducted by outside contractors. The Conoco Phillips Refinery's open path monitor monthly report for the month of June was reviewed. The Source Test Section provided ongoing participation in the District's Further Studies Measures for refineries.

These facilities have received one or more Notices of Violations
Report period: July 1, 2004 – July 31, 2004

Alameda County

Status Date	Site #	Site Name	City	Reg	Regulation Title
7/7/2004	C9790	Shell of Alameda #135032	Alameda	8-7-302.2	Gasoline Dispensing Facilities
7/14/2004	C8006	Budget Rent-A-Car	Berkeley	8-7-302.3	Gasoline Dispensing Facilities
7/13/2004	A4735	Sentinel Cremation Societies Inc	Emeryville	1-523.3	Parametric Monitoring & Recordkeeping Procedures
7/29/2004	C7096	Budget Rent A Car Sys Inc - Ba	Fremont	8-7-302.3	Gasoline Dispensing Facilities
7/29/2004	Q0910	Gerardo Perez	Fremont	11-2-401	Asbestos Demolition, Renovation & Mfg.
7/13/2004	C8687	Warm Spring Gas	Fremont	8-7-302.5	Gasoline Dispensing Facilities
7/7/2004	C9803	Arco Facility #09541-BP W Coast	Hayward	8-7-308	Gasoline Dispensing Facilities
7/23/2004	A0153	PABCO Gypsum	Newark	6-301	Particulate Matter & Visible Emissions
7/6/2004	P5854	Eastmont Mall Properties	Oakland	11-2-303.6	Asbestos Demolition, Renovation & Mfg.
7/7/2004	C8981	Union 76 Station, Site #257124	Oakland	8-7-308	Gasoline Dispensing Facilities
7/14/2004	A8038	Stanfast Special Products & Services Div	Pleasanton	2-1-301	Authority to Construct; Permit to operate

Contra Costa County

Status Date	Site #	Site Name	City	Reg	Regulation Title
7/15/2004	Q1224	Aerial Control	Brentwood	5-301.1	Open Burning
7/21/2004	A0932	American Color Graphics	Pittsburg	2-1-307	Failure to Meet Permit Conditions
7/26/2004	K9374	Beneto Tank Lines	Martinez	8-33-305	Gasoline Bulk Terminals & Gasoline Delivery Vehicles
7/26/2004	A0057	BP West Coast Products, LLC	Richmond	8-33-305	Gasoline Bulk Terminals & Gasoline Delivery Vehicles
7/27/2004	A5987	Dryclean USA	Clayton	8-17-301.5	Petroleum Dry Cleaning Operations
7/27/2004	A5987	Dryclean USA	Clayton	8-17-501	Petroleum Dry Cleaning Operations
7/23/2004	Q1444	Henry DeWitt	Oakley	12-4-306	Sandblasting; Permit to operate
7/20/2004	B0863	Marshall Steel Cleaners	Lafayette	8-17-301.5	Petroleum Dry Cleaning Operations
7/19/2004	Q1326	Scott Griffiths	Clayton	5-301.1	Open Burning
7/21/2004	A4022	SFPP, L P	Concord	8-5-304	Storage of Organic Liquids
7/29/2004	A0011	Shell Martinez Refinery	Martinez	2-1-307	Failure to Meet Permit Conditions; Major Liquids; Wastewater (Oil - Water) Separators

7/21/2004	B2758	Tesoro Refining and Marketing Co	Martinez	1-523.1	Parametric Monitoring & Recordkee Procedures; Authority to construct; Permit to operate; Storage of organ liquids; Wastewater (oil-water) sep Internal Combustion Engines

Marin County

Status Date	Site #	Site Name	City	Reg	Regulation Title
7/29/2004	C9017	Bolinas Garage	Bolinas	8-7-302.1	Gasoline Dispensing Facilities
7/15/2004	A4271	Fairfax French Laundry & Cleaners	Fairfax	11-16-309.2.4	Perc & Synthetic Solvent Dry Cleani
7/2/2004	A1179	Redwood Landfill Inc	Novato	2-6-307	Failure to Meet Permit Conditions

Napa County

Status Date	Site #	Site Name	City	Reg	Regulation Title
NONE					

San Francisco County

Status Date	Site #	Site Name	City	Reg	Regulation Title
7/23/2004	B0271	Darling International	San Francisco	1-301	Public Nuisance
7/20/2004	A5607	Davis Cleaners	San Francisco	11-16-309.2.4	Perc & Synthetic Solvent Dry Cleaning Operations
7/15/2004	Q1215	Frank's Auto Body	San Francisco	8-45-501.2	Motor Vehicle & Mobile Equip Coating Operations
7/15/2004	Q1240	Jose & Sons Demolition & Hauling	San Francisco	11-2-303.8	Asbestos Demolition, Renovation & Mfg.
7/15/2004	Q1220	Juan Baltazar	San Francisco	11-2-303.8	Asbestos Demolition, Renovation & Mfg.
7/13/2004	C8313	Mission Chevron	San Francisco	8-7-302.3	Gasoline Dispensing Facilities
7/15/2004	Q1227	Tom Roca	San Francisco	11-2-303.8	Asbestos Demolition, Renovation & Mfg.

San Mateo County

Status Date	Site #	Site Name	City	Reg	Regulation Title
7/15/2004	B6011	Auto Image Inc	San Bruno	8-45-308.1	Motor Vehicle & Mobile Equip Coating Operations
7/15/2004	B6054	Avenue Auto Service	San Carlos	8-45-308.2	Motor Vehicle & Mobile Equip Coating Operations
7/14/2004	C9102	Chevron Station #9-3260	Belmont	8-7-302.3	Gasoline Dispensing Facilities

Santa Clara County

Status Date	Site #	Site Name	City	Reg	Regulation Title
7/13/2004	C9082	AGM-Gilroy	Gilroy	2-1-302	Permit to Operate
7/29/2004	C7630	Avis Rent A Car	San Jose	8-7-302.3	Gasoline Dispensing Facilities
7/7/2004	C7970	Berryessa Shell/Shell Oil Product	San Jose	8-7-302.3	Gasoline Dispensing Facilities
7/19/2004	P6399	CADECO	San Jose	8-3-301	Architectural Coatings
7/29/2004	C5224	Chevron #5700	Cupertino	8-7-302.3	Gasoline Dispensing Facilities
7/29/2004	C4255	Chevron #9-2780	San Jose	8-7-302.3	Gasoline Dispensing Facilities
7/13/2004	C7261	L & D Service Station	San Jose	8-7-302.2	Gasoline Dispensing Facilities

7/13/2004	C4475	Tosco Facility #2611213O	Sunnyvale	8-7-302.3	Gasoline Dispensing Facilities
7/27/2004	A7055	Trucks Limited Custom Painting	San Jose	8-45-501.2	Motor Vehicle & Mobile Equip Coating Operations
7/13/2004	D0385	Valero Refining Co SS#7112	San Jose	8-7-302.3	Gasoline Dispensing Facilities
7/13/2004	D0021	West San Carlos Gas	San Jose	8-7-308	Gasoline Dispensing Facilities

Solano County

Status Date	Site #	Site Name	City	Reg	Regulation Title
7/2/2004	C8800	Beacon #708	Vallejo	2-1-301	Authority to Construct; Permit to operate; Gasoline Dispensing Facility
7/14/2004	C8389	Parkway Shell	Benicia	8-7-302.3	Gasoline Dispensing Facilities
7/15/2004	B0737	Philip West Industrial Services, Inc	Benicia	8-5-306	Storage of Organic Liquids
7/29/2004	N9634	R.J. Reynolds Construction	Vallejo	11-2-303.3	Asbestos Demolition, Renovation & Mfg.
7/15/2004	A0901	Valero Benicia Asphalt Plant	Benicia	2-1-307	Failure to Meet Permit Conditions
7/27/2004	B2626	Valero Refining Company - California	Benicia	12-11-502.2	Flare Monitoring at Petroleum Refineries; Failure to meet permit conditions; Storage of organic liquids

Sonoma County

Status Date	Site #	Site Name	City	Reg	Regulation Title
7/23/2004	Q0395	Atlas Tree Surgery, Inc	Santa Rosa	6-301	Particulate Matter & Visible Emissions
7/8/2004	C4853	Chevron #0152	Petaluma	8-7-302.3	Gasoline Dispensing Facilities
7/8/2004	C8516	Chevron #8893	Rohnert Park	8-7-302.3	Gasoline Dispensing Facilities
7/27/2004	B0814	Dowling Miner Magnetics Corp	Sonoma	2-1-301	Authority to Construct; Permit to operate; Polyester Resin operations
7/8/2004	C9709	Grand Gas	Santa Rosa	8-7-302	Gasoline Dispensing Facilities
7/15/2004	B1442	New Albion Restorations	Sonoma	2-1-307	Failure to Meet Permit Conditions
7/27/2004	B6286	North Coast Redwood Designs	Santa Rosa	2-1-301	Authority to Construct; Permit to operate
7/26/2004	B6148	Sonic Net Inc	Santa Rosa	2-1-302	Permit to Operate
7/8/2004	D0427	Valero Refining Co SS#7035	Santa Rosa	8-7-302.3	Gasoline Dispensing Facilities
7/8/2004	D0409	Valero Refining Co #7249	Rohnert Park	8-7-302	Gasoline Dispensing Facilities

Outside Bay Area

Status Date	Site #	Site Name	City	Reg	Regulation Title
7/14/2004	Q1190	You Energy Source	Rancho Cordova	11-2-303.9	Asbestos Demolition, Renovation & Mfg.
7/13/2004	Q1156	Teichert Construction	Davis	6-301	Particulate Matter & Visible Emissions

July 2004 Closed NOVs with Penalties by County

Alameda				
Site Name	**Site Occurrence**	**City**	**Penalty**	**# of Violations Closed**
Warmington Homes	P6858	Alameda	$1,000	2
Allied Body & Frame Shop	A5641	Berkeley	$500	1

Allison Low	P8072	Fremont	$1,800	3
Bohm Environmental Solution	L9239	Oakland	$250	1
Container Management Service-LLC	A1965	Hayward	$2,000	4
Food & Gas Company/Valero	C9278	Oakland	$250	1
Pilemac Inc	A8927	Livermore	$350	1
Unimax Auto Craft	B2482	San Leandro	$500	2

Total Violations Closed: 15

Contra Costa

Site Name	Site Occurrence	City	Penalty	# of Violations Closed
Air Products & Chemicals, Inc	B0295	Martinez	$6,000	2
ConocoPhillips - San Francisco Refinery	A0016	Rodeo	$7,000	2
Rhodia Inc	B1661	Martinez	$2,500	1
Shell Martinez Refinery	A0011	Martinez	$4,000	1
ConocoPhillips	A0061	Richmond	$5,250	1
Container Management Service-LLC	A1396	Richmond	$5,000	1
Equilon Enterprises	C0253	Antioch	$500	1
Keep-U-Neat Cleaners	A3475	Antioch	$500	1
Lawrence DeBorba	P9790	Byron	$1,500	2
West Cleaners	A1295	Antioch	$200	2

Total Violations Closed: 14

Napa

Site Name	Site Occurrence	City	Penalty	# of Violations Closed
Burgess Cellars	P1575	Napa	$500	1
Franciscan Vineyards	P9607	Oakville	$750	1
Villa Amarosa	P9272	Calistoga	$500	1

Total Violations Closed: 3

Santa Clara

Site Name	Site Occurrence	City	Penalty	# of Violations Closed
A & M Paint & Body Shop	B3021	San Jose	$1,500	3
ABE Gasoline	C9453	San Jose	$500	1
Arseen Auto Body	B1239	San Jose	$3,275	5
Berryessa Shell/Shell Oil Product	C7970	San Jose	$250	2
Gilroy Valero	C0873	Gilroy	$250	1
Intella Interventional Systems	B3925	Sunnyvale	$850	1
Main Street Paint & Body Shop	A3560	Milpitas	$1,000	2
Mini Sport Auto Body	B2576	San Jose	$2,500	5
Oakmead Shell-Shell Oil Products	C5225	Santa Clara	$350	1
USA #103	C5804	San Jose	$500	1
USA Petroleum	C5364	Los Altos	$1,000	2
Valley Fair Market and Gas	C9705	San Jose	$550	1

Total Violations Closed: 25

San Francisco

Site Name	Site Occurrence	City	Penalty	# of Violations Closed
Frank Yuen/Mc Allister Trust	H3998	San Francisco	$11,000	2
Bode Gravel Company	B2124	San Francisco	$1,000	1
Chevron Station # 90392	C2299	San Francisco	$400	1
Doris & Billy Wong/Jennifer Peetak Wong	P9554	San Francisco	$1,800	3
Emerald City Auto Body	B0230	San Francisco	$250	1
Tosco Facility #11188	C9949	San Francisco	$250	1

Total Violations Closed: 9

San Mateo

Site Name	Site Occurrence	City	Penalty	# of Violations Closed
Dura Finish of San Mateo	A2723	San Mateo	$500	1

Total Violations Closed: 1

Solano

Site Name	Site Occurrence	City	Penalty	# of Violations Closed
Scott Lamp Co Inc	B1683	Fairfield	$1,000	1

Total Violations Closed: 1

Sonoma

Site Name	Site Occurrence	City	Penalty	# of Violations Closed
Alvan Tesconi	P9610	Santa Rosa	$500	1
Gallo Vineyards, Inc	P9157	Healdsburg	$500	1

Josh Abrams	P8658	Sebastopol	$250	1
Koller's Town & Country Cleaners	A8463	Petaluma	$750	2
Sonoma County Department of Public Works	A2254	Petaluma	$5,000	5

Total Violations Closed: 10

District Wide

Site Name	Site Occurrence	City	Penalty	# of Violations Closed
A & S Metals	P8119	Castroville	$750	1

Total Violations Closed: 1

ACRONYMS AND TERMINOLOGY

ABAG	Association of Bay Area Governments
AC	Authority to Construct issued to build a facility (permit)
AMBIENT AIR	The surrounding local air
AQI	Air Quality Index
ARB	[California] Air Resources Board
ATCM	Airborne Toxic Control Measure
BAAQMD	Bay Area Air Quality Management District
BACT	Best Available Control Technology
BANKING	Applications to deposit or withdraw emission reduction credits
BAR	[California] Bureau of Automotive Repair
BARCT	Best Available Retrofit Control Technology
BIODIESEL	A fuel or additive for diesel engines that is made from soybean oil or recycled vegetable oils and tallow. B100=100% biodiesel; B20=20% biodiesel blended with 80% conventional diesel
BTU	British Thermal Units (measure of heat output)
CAA	[Federal] Clean Air Act
CAL EPA	California Air Resources Board
CCAA	California Clean Air Act [of 1988]
CCCTA	Contra Costa County Transportation Authority
CEQA	California Environmental Quality Act
CFCs	Chlorofluorocarbons
CMA	Congestion Management Agency
CMAQ	Congestion Management Air Quality [Improvement Program]

CMP	Congestion Management Program
CNG	Compressed Natural Gas
CO	Carbon monoxide
EBTR	Employer-based trip reduction
EJ	Environmental Justice
EIR	Environmental Impact Report
EPA	[United States] Environmental Protection Agency
EV	Electric Vehicle
HC	Hydrocarbons
HOV	High-occupancy vehicle lanes (carpool lanes)
hp	Horsepower
I&M	[Motor Vehicle] Inspection & Maintenance ("Smog Check" program)
ILEV	Inherently Low Emission Vehicle
JPB	[Peninsula Corridor] Joint Powers Board
LAVTA	Livermore-Amador Valley Transit Authority (“Wheels”)
LEV	Low Emission Vehicle
LNG	Liquefied Natural Gas
MPG	Miles per gallon
MTC	Metropolitan Transportation Commission
NAAQS	National Ambient Air Quality Standards (federal standards)
NO_x	Nitrogen oxides, or oxides of nitrogen
NPOC	Non-Precursor Organic Compounds
NSR	New Source Review
O_3	Ozone
$PM_{2.5}$	Particulate matter less than 2.5 microns
PM_{10}	Particulate matter (dust) less than 10 microns
$PM_{>10}$	Particulate matter (dust) over 10 microns
POC	Precursor Organic Compounds
pphm	Parts per hundred million
ppm	Parts per million
PUC	Public Utilities Commission
RFG	Reformulated gasoline
ROG	Reactive organic gases (photochemically reactive organic compounds)
RIDES	RIDES for Bay Area Commuters
RTP	Regional Transportation Plan
RVP	Reid vapor pressure (measure of gasoline volatility)
SCAQMD	South Coast [Los Angeles area] Air Quality Management District
SIP	State Implementation Plan (prepared for *national* air quality standards)
SO_2	Sulfur Dioxide
TAC	Toxic Air Contaminant
TCM	Transportation Control Measure
TFCA	Transportation Fund for Clean Air [BAAQMD]
TIP	Transportation Improvement Program

TMA	Transportation Management Association
TOS	Traffic Operations System
tpd	tons per day
Ug/m^3	micrograms per cubit meter
ULEV	Ultra low emission vehicle
ULSD	Ultra low sulfur diesel
USC	United States Code
UV	Ultraviolet
VMT	Vehicle miles traveled (usually per *day*, in a defined area)
VTA	Santa Clara Valley Transportation Authority
ZEV	Zero Emission Vehicle

BAY AREA AIR QUALITY MANAGEMENT DISTRICT **AGENDA: 4**

Memorandum

To: Chairperson Haggerty and Members of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 15, 2004

Re: Report of Division Activities for the month of August 2004

RECOMMENDED ACTION:

Receive and file.

Reviewed by: Peter Hess

ADMINISTRATIVE SERVICES DIVISION – W. TANAKA, DIRECTOR

Staff, as reported last month, worked on budget revisions to the FY 2004/2005 budget. These revisions were presented to the Budget & Finance Committee on August 4, 2004. Also presented were proposed amendments to the District's Administrative Code Section 3.6 (c), Division II, Administrative Policies and Purchasing Procedures. The Committee will recommend to the Board of Directions that these revisions be approved.

During the month, three new Compressed Natural Gas (CNG) powered Honda Civic's were delivered to the District. The District now has 21 CNG vehicles in it's fleet.

Phase I compliance work on the building fire alarm system continues. Phase III work on the HVAC upgrades began during the month.

Renee Dupras, the District's new Business Manager, started on August 16. She replaced Jean Nicolas who retired after 33 years of dedicated service to the District.

COMPLIANCE & ENFORCEMENT DIVISION – K. WEE, DIRECTOR

APL Terminal at the Port of Oakland agreed to implement improvements to their existing system and is upgrading their system in the near future to address recent increase in truck traffic and resulting complaints about their appointment system. National Gypsum in Richmond has placed polyethylene tarps and a sprinkler system on their waste gypsum piles to address dust problems. Since covering their piles, no complaints have been received. Milpitas odor complaints increased this month to 30 (18 last month). Staff is meeting with the LEA, the facilities and the city of Milpitas to discuss this increase in activity.

Staff conducted a joint asbestos training inspection with staff from EPA, CARB and the San Joaquin APCD at San Francisco International Airport on August 12. CARB Fugitive Emission Operator Training was presented to District staff. This is training normally conducted for refinery operators and was requested by District staff for their further understanding of refinery operations/processes.

Staff conducted a presentation to the Napa County Farm Bureau to review the District's Regulation 5, Open Burning. A follow-up letter will be sent to the Bureau to cover the two identified issues. Staff also issued two press releases concerning Regulation 5: (1) announcing the end of the Double Crop Stubble burn season on August 31, 2004; (2) announcing the beginning of the fall season for Marsh Management and Stubble and Straw Burns on September 1, 2004.

Staff attended a meeting at the Silicon Valley Manufacturers' Group on Wednesday, Aug 4, to discuss ways to make compliance assurance programs more efficient through use of Environmental Management Systems. Company representatives present were from: Agilent, Hitachi, Calpine, NUMMI, and PG&E. Several opportunities to streamline communication were identified and SVMG agreed to invite their membership to host a site demonstration of an ISO 14001 certified Environmental Management System.

Staff collaborated with PI&O to update the Regulation 8, Rule 45, Motor Vehicle and Mobile Equipment Coating Operations, compliance assistance brochure. In conjunction with the updated brochure, staff developed compliance assistance tips for posting on the District's web page. These tips are intended to help small business owners comply with District regulations and is the third edition in an ongoing series. Staff met with Information Technology staff to discuss options for supporting web access to flare monitoring data. Currently, significant staff resources are spent to process flare data into a uniform format for data reduction and graphical presentation of flow and emission data.

Staff met with representatives from Waste Management and their contractor Shaw Engineering on August 25 to discuss landfill compliance issues. Waste Management believes that an exemption in the District Regulation 8, Rule 34, Section 113 allows downtime of their collection and processing equipment and is currently not reporting equipment breakdowns. Staff is investigating to determine if this interpretation of the rule is prevalent throughout the industry before any action is pursued.

(See Attachment for Activities by County)

ENGINEERING DIVISION – B. BATEMAN, DIRECTOR

Permit Evaluation Program

A meeting was held with the Steering Committee for the upcoming Cost Recovery Study that will analyze the District's regulatory fee structure. The Committee helped to develop a Request for Proposals for this project.

Final preparations were made for a large outreach effort for facilities with non-permitted engines that have lost permit exemptions. The outreach is scheduled to begin in September, and will target several thousand facilities.

The reopened refinery Title V permits were sent to EPA for review. The reopening ("Revision 1") addresses flare monitoring, compliance monitoring for Regulation 9-10, and a number of changes identified by the facilities, EPA and the public. Another reopening

("Revision 2"), in six to nine months, is expected to bring the permits up-to-date and address all issues raised by all commenters to date.

Toxics Program

The Toxics Section received 64 health risk screening assignments during August, and completed a total of 41 risk screens. The majority of these risk screens were for diesel engine emergency generators, and gas station applications. Work continued on emissions review for the next emissions inventory submittal to ARB, conversion of inventory submittal to a CEIDARS format for ARB, development of a new data form for internal combustion engines, and various tasks to incorporate new diesel particulate emission calculation factors into the District's data base.

INFORMATION SYSTEMS DIVISION – J. McKAY, DIRECTOR

Toolsets for Permits/Enforcement/Legal

The review of available toolsets is in progress. This process is supported by an update of the extensive requirement documentation that was previously developed. The design methodology for replacement of IRIS and Databank will begin with identification of the large-scale functional components of the Air District Production Processes. This will enable a tool selection process focused on high-level tool sets. While this may not allow the District to accomplish all of its objectives with a single vendor offering, it will allow the opportunity to substitute purchased modules for custom code. Peter Hess directed inquiries to Air Districts around the Unites States and received substantial input on their current systems and future plans.

Web Site Development

The roadmap for the next phase of the new site is under development. Development for web based Complaint query capability is complete and under review by users.

LEGAL DIVISION – B. BUNGER, DISTRICT COUNSEL

The District Counsel's Office received 136 Violations reflected in Notices of Violation ("NOVs") for processing.

Mutual Settlement Program staff initiated settlement discussions regarding civil penalties for 176 Violations reflected in NOVs. In addition, Mutual Settlement Program staff sent 19 Final 30 Day Letters regarding civil penalties for 23 Violations reflected in NOVs. Finally, settlement negotiations by Mutual Settlement Program staff resulted in collection of $36,400 in civil penalties for 55 Violations reflected in NOVs.

Counsel in the District Counsel's Office initiated settlement discussions regarding civil penalties for 8 Violations reflected in NOVs. Settlement negotiations by counsel in the District Counsel's Office resulted in collection of $48,625 in civil penalties for 15 Violations. In addition, in the month of August 2004, the District received funds from a settlement reached by the Santa Clara County District Attorney with InteliCoat Technologies LLC (regarding District NOVs issued for violations at the former SKC Americas facility) for civil penalties of $50,500 for 100 violations, of which the District's share is $24,495.

PLANNING DIVISION – J. ROGGENKAMP, DIRECTOR

Seven community meetings are scheduled throughout the region in late-September and early October to discuss: 1) draft control measures for the 2004 Ozone Strategy; and 2) the Community Air Risk Evaluation Program.

On August 3 and 4, staff attended the Advisory Council Air Quality Planning Committee and Technical Committee, respectively, to discuss recommendations for the 2004 Ozone Strategy. On August 11, staff participated in the Sacramento Metropolitan AQMD's Ozone Transport Mitigation meeting to discuss Sacramento's feasible measures for their ozone plan.

Staff provided public notice of proposed amendments to District Regulation 8, Rule 8: Wastewater (Oil – Water) Separators, to be heard at the Board of Directors meeting on September 15, 2004.

The Vehicle Buy Back Program scrapping contractors purchased and scrapped 192 vehicles in August 2004. A Request for Proposals issued for the expanded Vehicle Buy Back program approved by the Board of Directors, including expanded model years and increased incentive amount sets a deadline for proposals of September 9, 2004. The expanded program is expected to increase the program's scrapping rate.

Staff wrote one comment letter regarding air quality impacts of development projects and plans affecting the Bay Area: the California High Speed Train System (statewide project).

PUBLIC INFORMATION & OUTREACH – T. GALVIN LEE, DIRECTOR

Warm air aloft combined with light surface winds resulted in one Spare the Air Day on August 28th. During the month there were no excesses reported of federal standards. However, there were two state excesses that occurred on the 11th, at Bethel Island and Livermore, and on August 28th at Livermore.

The August 24th Spare the Air day secured coverage in all top-tier broadcast and radio including the San Francisco Chronicle, San Jose Mercury News, Contra Costa Times, Associated Press, San Mateo County Times, Tri-Valley Herald, and Oakland Tribune. A number of broadcast media also covered the story including KGO, KPIX, KRON, NBC11 TV, and radio stations KCBS AM and KQED FM. Over 22,000 e-alerts were sent through the Spare the air website. Summer advertising will continue into September.

In August, the Employer Outreach program continued to recruit new employers. Staff are developing a plan for recruitment of employers by industry, beginning with hospitals. The August employer report card was distributed. Staff attended 5 employer on-site events to interact with the public on air quality and Spare the Air issues.

TECHNICAL DIVISION – G. KENDALL, DIRECTOR

Air Monitoring

All thirty-five of the continuous air monitoring network stations were in full operation during the month of August 2004. Particulate monitors for $PM_{2.5}$, including six BAM (continuous $PM_{2.5}$) monitors, were in full operation at all designated stations.

Meteorology

There were no days in August when the air quality reached the Unhealthful for Sensitive Groups category (AQI > 100). Air quality stayed in the Good AQI category all month except for two days, August 11th and 28th. The Good air quality days were a result of a deep marine layer and onshore flow across the District. On August 11th, District ozone levels reached the Moderate category (92 AQI) when high pressure over the southwestern U.S. strengthened and expanded. This weakened the onshore flow and brought very warm air aloft. Two sites exceeded the state 1-hour ozone standard of 95 ppb: Livermore (113 ppb) and Bethel Island (103 ppb).

On August 28th, a Spare the Air advisory was issued as ozone levels were forecasted to approach or exceed the national 8-hour standard. A high-pressure system moved over the District from the west changing the onshore wind flow pattern to an offshore pattern. Temperatures reached 100 degrees at inland locations. Livermore recorded a 1-hour ozone State excess at 104 ppb, and an 8-hour Moderate level of 78 ppb (85 AQI).

Quality Assurance

Performance audits were conducted at the two BAM particulate samplers in San Rafael operated by Sonoma Technology in support of the San Rafael Rock Quarry Particulate Study. Staff assisted EPA in the installation phase of the EPA standard reference photometer at the EPA Lab in Richmond. Staff participated in CARB performance audits at District monitoring stations.

Air Quality

May 2004 air quality data were quality assured and entered into the EPA Air Quality System (AQS) database. An Open Burn Status page has been created and is being posted daily to the District web page. Staff audited two meteorological stations operated by Sonoma Technology Inc. in support of the San Rafael Rock Quarry Particulate Study.

Laboratory

In addition to the ongoing, routine analyses performed by the lab, the laboratory participated in an interlaboratory audit for the analysis gaseous toxic compounds in ambient air, conducted by California Air Resources Board (CARB). Twenty other laboratories also participated. One wastewater sample from G & K Services in Pittsburg was analyzed for critical organic compounds.

Source Test

Ongoing Source Test activities included Continuous Emissions Monitoring (CEM) Field Accuracy Tests, source tests, gasoline cargo tank testing, and evaluations of tests conducted by outside contractors. The ConocoPhillips Refinery's open path monitor monthly report for the month of July was reviewed. The Source Test Section provided ongoing participation in the District's Further Studies Measures for refineries.

These facilities have received one or more Notices of Violations
Report period: August 1, 2004 – August 31, 2004

Alameda County

Status Date	Site #	Site Name	City	Reg	Regulation Title
8/19/2004	C9796	ARCO Facility #00414-SHAZADA KHAN	Berkeley	8-7-302.3	Gasoline Dispensing Facilities
8/19/2004	C8006	Budget Rent-A-Car	Berkeley	8-7-301.12	Gasoline Dispensing Facilities
8/19/2004	C6992	San Pablo Mini Mart	Berkeley	8-7-302.3	Gasoline Dispensing Facilities
8/17/2004	A0151	Borden Packaging & Industrial Products	Fremont	9-7-301	NOx & CO from Industrial, Institutional, & Commercial Boilers, Steam Generators, & Process Heaters
8/17/2004	A8154	APAC International	Livermore	8-51-301.4	Adhesive & Sealant Products
8/30/2004	A0054	Hexcel Corporation	Livermore	2-6-307	Failure to Meet Permit Conditions
8/24/2004	A2066	Waste Management of Alameda Co.	Livermore	1-523.3	Parametric Monitoring & Recordkeeping Conditions
8/24/2004	A1662	Arch Mirror West	Newark	2-1-307	Failure to Meet Permit Conditions

Contra Costa County

Status Date	Site #	Site Name	City	Reg	Regulation Title
8/3/2004	Q1720	Bob Heaton	Antioch	11-2-303.3	Asbestos Demolition, Renovation & Mfg.
8/6/2004	A0173	Georgia Pacific Corporation	Antioch	6-301	Particulate Matter & Visible Emissions
8/6/2004	C9518	US Gasoline	Antioch	8-7-301.13	Gasoline Dispensing Facilities
8/11/2004	A4022	SFPP, L P	Concord	2-6-307	Failure to Meet Permit Conditions Storage of Organic Liquids
8/26/2004	A1464	Acme Fill Corporation	Martinez	8-34-301.2	Solid Waste Disposal Sites
8/11/2004	A0011	Shell Martinez Refinery	Martinez	8-5-307	Storage of Organic Liquids; Sulfur Dioxide
8/11/2004	B2758	Tesoro Refining and Marketing Co.	Martinez	1-522.6	Continuous Emission Monitoring & Record keeping Procedures; Storage of Organic Liquids; Hydrogen Sulfide
8/19/2004	C0065	Shell Gas Station	Pinole	8-7-302.3	Gasoline Dispensing Facilities
8/23/2004	A0227	Criterion Catalysts Company LP	Pittsburg	2-1-307	Failure to Meet Permit Conditions
8/19/2004	D0723	ARCO AM/PM Fueling Facility	Richmond	8-7-302.3	Gasoline Dispensing Facilities
8/19/2004	C5719	Blue Star Gasoline	Richmond	8-7-301.5	Gasoline Dispensing Facilities
8/26/2004	C1573	Central Ave Shell	Richmond	8-7-302.3	Gasoline Dispensing Facilities
8/12/2004	A0010	Chevron Products Company	Richmond	1-522.4	Continuous Emission Monitoring & Recordkeeping Procedures: NOx & CO from Boilers, Steam Generators & Process Dioxide
8/26/2004	A3696	Pacific Hard Chrome	Richmond	2-1-307	Failure to Meet Permit Conditions
8/19/2004	C8675	Richmond Gas & Food Mart	Richmond	8-7-308	Gasoline Dispensing Facilities
8/6/2004	A0016	ConocoPhillips-SanFrancisco Refinery	Rodeo	2-1-307	Failure to Meet Permit Conditions Storage of Organic Liquids

Marin County

Status Date	Site #	Site Name	City	Reg	Regulation Title
NONE					

Napa County

Status Date	Site #	Site Name	City	Reg	Regulation Title

8/23/2004	C2036	ARCO Facility #04971-MOHAMAD ALI MOKALLA	Napa	8-7-301.13	Gasoline Dispensing Facilities
8/19/2004	B6320	Rasmusen Painting	Napa	2-1-301	Authority to Construct; Permit to Construct

San Francisco County

Status Date	Site #	Site Name	City	Reg	Regulation Title
8/18/2004	B6272	Frank's Auto Body & Customizing	San Francisco	2-1-301	Authority to Construct; Permit to Operate
8/25/2004	Q1227	Tom Roca	San Francisco	11-2-303.8	Asbestos Demolition, Renovation&Mfg
8/3/2004	A0051	United Airlines, SF Maintenance Center	San Francisco	1-522.7	Continuous Emission Monitoring & Permit Conditions

San Mateo County

Status Date	Site #	Site Name	City	Reg	Regulation Title
8/18/2004	A4648	Broadway Auto Body	Burlingame	8-45-316	Motor Vehicle & Mobile Equip Coating Operations
8/18/2004	A8116	West Coast Valet Service, Inc	Burlingame	11-16-310	Perc & Synthetic Solvent Dry Cleaning Operations
8/6/2004	B1641	Cal Auto Body	Colma	8-45-308.1	Motor Vehicle & Mobile Equip Coating Operations
8/6/2004	B2593	M C Auto Body	San Bruno	8-45-308.1	Motor Vehicle & Mobile Equip Coating Operations
8/18/2004	B6272	Frank's Auto Body & Customizing	San Francisco	2-1-301	Authority to Construct: Permit to Operate
8/23/2004	Q2184	Orchard Commercial, Inc	San Mateo	2-1-301	Authority to Construct: Permit to Operate
8/18/2004	B1414	Holiday Cleaners	South San Francisco	11-16-310	Perc & Synthetic Solvent Dry Cleaning Operations
8/6/2004	A4491	Wu's Auto Center	South San Francisco	8-45-308.1	Motor Vehicle & Mobile Equip Coating Operations

Santa Clara County

Status Date	Site #	Site Name	City	Reg	Regulation Title
8/6/2004	C7980	South Bay Construction	Campbell	11-2-303.6	Asbestos Demolition, Renovation & Mfg.
8/18/2004	B6313	DVL Auto Body	Gilroy	2-1-301	Authority to Construct
8/18/2004	Q2055	Dan Gamel	Morgan Hill	8-45-308.2	Motor Vehicle & Mobile Equip Coating Operations
8/6/2004	B6192	Elegant Wood Works	Morgan Hill	2-1-301	Authority to Construct; Permit to Operate
8/6/2004	A4225	Delia's Cleaners	Mountain View	8-17-301.5	Petroleum Dry Cleaning Operations
8/24/2004	Q2216	Coast Oil Co	San Jose	8-33-305	Gasoline Bulk Terminals & Gasoline Delivery Vehicles
8/18/2004	B1670	Gas Recovery Systems, Inc	San Jose	2-6-307	Failure to Meet Permit Conditions
8/11/2004	B2655	Spectrum Industries Finishing	San Jose	8-19-501.2	Surface Coating of Misc Metal Parts &
8/23/2004	A0732	Jefferson Smurfit Corporation	Santa Clara	9-9-301.2	NOx & CO from Stationary Gas Turbin

Solano County

Status Date	Site #	Site Name	City	Reg	Regulation Title
8/6/2004	A9878	Onyx Industrial Services, Inc	Benicia	2-1-307	Failure to Meet Permit Conditions
8/30/2004	A0901	Valero Benicia Asphalt Plant	Benicia	8-5-402	Storage of Organic Liquids
8/23/2004	C6537	N & M Market (Arco)	Vallejo	8-7-302.3	Gasoline Dispensing Facilities

Sonoma County

Status Date	Site #	Site N ame	City	Reg	Regulation Title
8/11/2004	B1948	Carpenter Parmatech	Petaluma	2-1-307	Failure to Meet Permit Conditions
8/24/2004	Q2215	Stoesser-Gordon Plastics	Santa Rosa	8-16-303	Solvent Cleaning Operations

August 2004 Closed NOVs with Penalties by County

Alameda

Site Name	Site Occurrence	City	Penalty	# Violations Closed
Bluewater Environmental Services	G2645	San Leandro	$23,000	6
Dorothy Colberg	Q0087	Dublin	$2,500	5
Performance Abatement	P8310	Oakland	$500	1
Santa Rita Shell #135786	C8739	Pleasanton	$500	1
Shell of Alameda #135032	C9790	Alameda	$400	1
Simpson Company	A0454	San Leandro	$300	1
Union 76 Station, Site #257124	C8981	Oakland	$650	1
Warm Spring Gas	C8687	Fremont	$250	1
		Total Violations Closed:		**17**

Contra Costa

Site Name	Site Occurrence	City	Penalty	# Violations Closed
Abstract Drywall/Tom Snashall	P5512	San Ramon	$5,000	5
ARCO Facility #6526	D0610	Pittsburg	$500	1
Chevron Stevenson	C0733	Newark	$2,625	6
Dryclean USA	A5987	Clayton	$300	2
Equilon Pipelines	N6650	Martinez	$2,500	1

GN Henley Inc	M2070	Clayton	$1,000	1
LUNARDI'S MARKET	N1016	Walnut Creek	$1,950	1
Monument Cleaners	A7662	Concord	$250	1
Unocal #6165 --ARMSCO Inc	C9610	Pittsburg	$750	1
		Total Violations Closed:		**19**

Marin

Site Name	Site Occurrence	City	Penalty	# Violations Closed
Fairfax French Laundry & Cleaners	A4271	Fairfax	$500	1
		Total Violations Closed:		**1**

Napa

Site Name	Site Occurrence	City	Penalty	# Violations Closed
Dan Bazzoli	P9609	Calistoga	$200	1
Eve Breckenridge	P9232	Calistoga	$500	2
		Total Violations Closed:		**3**

San Francisco

Site Name	Site Occurrence	City	Penalty	# Violations Closed
AJC Autobody	A8886	San Francisco	$250	1
Dannielle Hupp	P2290	San Francisco	$2,000	1
Matt's Auto Body Inc	A9753	San Francisco	$1,500	1
Tom Roca	Q1227	San Francisco	$800	3
		Total Violations Closed:		**6**

San Mateo

Site Name	Site Occurrence	City	Penalty	# Violations Closed

Louie's Cleaners	B2020	San Mateo	$500	1
Peterson Products, Inc	A0546	Belmont	$500	1
Ryan Engineering	F4682	South San Francisco	$3,750	3
		Total Violations Closed:		**5**

Santa Clara

Site Name	Site Occurrence	City	Penalty	# Violations Closed
Arco	C3744	Palo Alto	$1,000	1
Cardinal Cogen Inc	A1629	Palo Alto	$5,000	2
Dryclean USA	A5742	San Jose	$500	1
Exact Image Printing	B5102	Sunnyvale	$3,000	2
Garcia's Iron Works	Q0091	San Jose	$250	1
InteliCoat Technologies LLC	A9248	Sunnyvale	$24,495	100
Rotten Robbie #31	C8705	Gilroy	$250	1
Shipley	P4273	Sunnyvale	$18,000	1
		Total Violations Closed:		**109**

Solano

Site Name	Site Occurrence	City	Penalty	# Violations Closed
Dept of Fish and Game	F4190	Suisun City	1500	4
		Total Violations Closed:		**4**

Sonoma

Site Name	Site Occurrence	City	Penalty	# Violations Closed
Boomer's Fabricare Ctr Inc	A5395	Santa Rosa	$250	1
Jeffrey House	P9613	Windsor	$400	1
Scott Architectural Graphics Inc	B2911	Santa Rosa	$300	1

Sonoma Rentals	F5163	Sonoma	$100	1
Valero Refining Co SS#7035	D0427	Santa Rosa	$500	1
Valero Refining Co #7249	D0409	Rohnert Park	$500	1
		Total Violations Closed:		**6**

ACRONYMS AND TERMINOLOGY

ABAG	Association of Bay Area Governments
AC	Authority to Construct issued to build a facility (permit)
AMBIENT AIR	The surrounding local air
AQI	Air Quality Index
ARB	[California] Air Resources Board
ATCM	Airborne Toxic Control Measure
BAAQMD	Bay Area Air Quality Management District
BACT	Best Available Control Technology
BANKING	Applications to deposit or withdraw emission reduction credits
BAR	[California] Bureau of Automotive Repair
BARCT	Best Available Retrofit Control Technology
BIODIESEL	A fuel or additive for diesel engines that is made from soybean oil or recycled vegetable oils and tallow. B100=100% biodiesel; B20=20% biodiesel blended with 80% conventional diesel
BTU	British Thermal Units (measure of heat output)
CAA	[Federal] Clean Air Act
CAL EPA	California Air Resources Board
CCAA	California Clean Air Act [of 1988]
CCCTA	Contra Costa County Transportation Authority
CEQA	California Environmental Quality Act
CFCs	Chlorofluorocarbons
CMA	Congestion Management Agency
CMAQ	Congestion Management Air Quality [Improvement Program]
CMP	Congestion Management Program
CNG	Compressed Natural Gas
CO	Carbon monoxide
EBTR	Employer-based trip reduction
EJ	Environmental Justice
EIR	Environmental Impact Report
EPA	[United States] Environmental Protection Agency
EV	Electric Vehicle
HC	Hydrocarbons

HOV	High-occupancy vehicle lanes (carpool lanes)
hp	Horsepower
I&M	[Motor Vehicle] Inspection & Maintenance ("Smog Check" program)
ILEV	Inherently Low Emission Vehicle
JPB	[Peninsula Corridor] Joint Powers Board
LAVTA	Livermore-Amador Valley Transit Authority (“Wheels”)
LEV	Low Emission Vehicle
LNG	Liquefied Natural Gas
MPG	Miles per gallon
MTC	Metropolitan Transportation Commission
NAAQS	National Ambient Air Quality Standards (federal standards)
NO_x	Nitrogen oxides, or oxides of nitrogen
NPOC	Non-Precursor Organic Compounds
NSR	New Source Review
O_3	Ozone
$PM_{2.5}$	Particulate matter less than 2.5 microns
PM_{10}	Particulate matter (dust) less than 10 microns
$PM_{>10}$	Particulate matter (dust) over 10 microns
POC	Precursor Organic Compounds
pphm	Parts per hundred million
ppm	Parts per million
PUC	Public Utilities Commission
RFG	Reformulated gasoline
ROG	Reactive organic gases (photochemically reactive organic compounds)
RIDES	RIDES for Bay Area Commuters
RTP	Regional Transportation Plan
RVP	Reid vapor pressure (measure of gasoline volatility)
SCAQMD	South Coast [Los Angeles area] Air Quality Management District
SIP	State Implementation Plan (prepared for *national* air quality standards)
SO_2	Sulfur Dioxide
TAC	Toxic Air Contaminant
TCM	Transportation Control Measure
TFCA	Transportation Fund for Clean Air [BAAQMD]
TIP	Transportation Improvement Program
TMA	Transportation Management Association
TOS	Traffic Operations System
tpd	tons per day
Ug/m^3	micrograms per cubit meter
ULEV	Ultra low emission vehicle
ULSD	Ultra low sulfur diesel
USC	United States Code
UV	Ultraviolet
VMT	Vehicle miles traveled (usually per *day*, in a defined area)

VTA	Santa Clara Valley Transportation Authority
ZEV	Zero Emission Vehicle

AGENDA: 5

BAY AREA AIR QUALITY MANGEMENT DISTRICT
Memorandum

To: Chairperson Haggerty and Members
Of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 8, 2004

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

RECOMMENDED ACTION
Receive and file.

BACKGROUND
It is the District's policy to report all out-of-state travel to the Board of Directors.

DISCUSSION
Tony Gambardella, Principal Air Quality Specialist, Enforcement and Compliance Division, attended the EPA AFS National Workshop held in Portland, OR from July 16 - 22, 2004.

Saffet Tanrikulu, Research and Modeling Manager, Philip Martien, Senior Atmospheric Modeler and Su-Tzai Soong, Atmospheric Modeler, Planning Division, attended the 13th Applications of Air Pollution Meteorology Conference held Vancouver, BC Canada, from August 22 – 25, 2004. The papers submitted by District staff were accepted for presentation.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Ronald C. Raimondi
Reviewed by: Wayne Tanaka

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Haggerty and
Members of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: September 7, 2004

Re: Report of the Budget & Finance Committee Meeting of August 4, 2004

RECOMMENDATION

The Committee recommends that the Board of Directors approve the following:

- Amendment to Administrative Code Section 3.6(c), Division II, Administrative Policies and Purchasing Procedures. The amendment will streamline the refund process and authorize the APCO to approve refunds in excess of $50,000. Refunds in excess of $50,000 will be reported to the Board through the consent calendar. See attached proposed revision.
- Approve revisions to the District's fiscal year 2004/2005 General Fund Budget and approve a transfer of $295,800 from the Reserve for Furniture Replacement. The revisions include the following:
  - A) $363,000 reduction of Personnel Costs through deferred hiring.
  - B) $308,800 reduction in Services and Supplies.
  - C) $374,400 reduction in Capital Expenditures
  - D) A $250,000 increase in Penalties and Settlements Revenue.
  - E) A $295,800 transfer from the Reserve for Furniture Replacement to partially fund Capital Expenditures for the building.
  - F) A $1,592,000 reduction in budgeted Property Tax Revenue

BACKGROUND

The Committee met August 4, 2004 to receive a status report on the development of a request to conduct a cost recovery analysis for future budgetary utilization. This was an informational report.

The Committee received a status report on the resources devoted to Community and Title V Outreach meetings.

BUDGET CONSIDERATION/FINANCIAL IMPACT

The proposed budget revisions will reduce budgeted Property Tax Revenue $1,592,000 in the FY 2004/2005 General Fund Budget, and will be offset by expenditure reductions of $1,046,200, a $250,000 increase in budgeted Penalties and Settlements, and a transfer of $295,800 from the Designated Reserve for Furniture Replacement to partially fund Capital expenditure items.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Wayne Tanaka

3.6 APPROVAL OF REFUND CLAIM.

The APCO shall act on the claim in one of the following ways:

(a) If it is found that the claim is a proper charge against the District for any of the reasons cited in Section II-3.5(a) through (e), the APCO shall allow the claim. Otherwise, the claim shall be denied.

(b) If it is found that the claim is a proper claim against the District but is for an amount greater than is justly due, it shall be rejected as to the balance. If the claim is allowed in part and rejected in part, the claimant may be required to accept the amount allowed in settlement of the entire claim.

(c) Claims less than fifty thousand dollars ($50,000) ~~ten thousand dollars ($10,000)~~, shall be processed by the Director of Administrative Services, claims fifty thousand dollars ($50,000) or greater ~~that are rejected~~, shall be submitted to the APCO~~Board of Directors~~ with a recommendation from the Director of Adminstrative Services~~APCO~~ for final action~~disposition~~. Rejected claims shall be submitted to the Board of Directors, with a recommendation from the APCO, for final disposition.

(d) Refund deposits when the purpose for which such deposit was made has been achieved and there is no financial loss to the District.

The APCO shall execute such forms as are prescribed by the Director of Administrative Services, attach thereto the verified claim for refund, with the action endorsed thereon, and transmit same to the Director of Administrative Services.

AGENDA: **8**

BAY AREA AIR QUALITY MANGEMENT DISTRICT
Memorandum

To: Chairperson Haggerty and Members of the Board of Directors

From: Jack P. Broadbent
Executive Officer / APCO

Date: September 8, 2004

Re: Public Hearing to Consider Proposed Amendments to Regulation 8, Rule 8: Wastewater (Oil-Water) Separators and Regulation 8, Rule 18: Equipment Leaks

RECOMMENDED ACTION:

Staff recommend that the Board take the following actions:

1. Adopt proposed amendments to District Regulation 8, Rule 8: Wastewater (Oil – Water) Separators and the associated amendment to Regulation 8, Rule 18: Equipment Leaks;
2. Approve a Negative Declaration pursuant to the California Environmental Quality Act (CEQA) for this rule-making activity.

BACKGROUND:

Further Study Measure FS 9 in the 2001 Ozone Attainment Plan examined the potential for volatile organic compound (VOC) emission reductions from refinery wastewater systems. The proposed amendments to Regulation 8, Rule 8: Wastewater (Oil-Water) Separators and the associated amendment to Regulation 8, Rule 18: Equipment Leaks are the result of that study. Staff formed and have worked with a technical workgroup consisting of industry, an environmental group, Air Resources Board staff and Regional Water Quality Control Board staff to develop sampling plans, computer modeling, emissions estimates and the proposed rule amendments.

Refinery wastewater systems span large areas and consist of multiple drains from refinery process blocks and tank farms and include piping, junction boxes, manholes, gravity sumps and lift stations. Once collected, the oily wastewater is piped to a physical separation process (oil – water separator) and is then chemically and biologically treated to meet wastewater discharge standards. Organic compounds can volatilize and be emitted from various open points along the collection system. Regulation 8, Rule 8 already controls the oil-water separators and other equipment associated with physical separation. The proposed amendments address emissions from the collection system. Emissions from the treatment process, including wastewater ponds, are the subject of further study.

DISCUSSION:

The proposed amendments to Regulation 8, Rule 8 will:

- Expand Regulation 8, Rule 8 to encompass refinery wastewater collection systems.
- Impose a 500 ppm leak standard on wastewater collection components (process drains, trenches, manholes, junction boxes, reaches, sumps and lift stations).
- Require refineries to install controls on components found leaking in excess of the 500 ppm standard.

- Require refineries to perform inspection and maintenance programs on wastewater components to ensure that the standards are being met.
- Require documentation of leaking components and maintenance performed at facilities to ensure ongoing compliance with the 500 ppm leak standard.

The proposed amendment to Regulation 8, Rule 18: Equipment Leaks merely clarifies that wastewater emissions are subject to Rule 8 and not Rule 18.

These amendments will reduce VOC emissions by approximately 65% or 2.1 tons per day. The cost effectiveness is approximately $1,900 to $4,300 per ton of volatile organic compound emissions reduced. A socioeconomic analysis found that the proposed amendments would not have a significant economic impact on the impacted businesses. A California Environmental Quality Act analysis found that there would be no significant adverse impacts on the environment as result of the proposal.

Draft rule amendments, a staff report, the socioeconomic analysis, and CEQA negative declaration are attached. Staff conducted two public workshops on April 27 and May 18, 2004. In addition, staff met with the technical workgroup 15 times during the past two years to discuss a variety of technical issues and with Communities for a Better Environment (CBE) on three separate occasions.

ISSUES:

A number of issues have been raised during the development of this proposal. The following summarizes the issues and staff's rationale for the proposal:

Cost Effectiveness: The representative from Valero Refining has argued that the costs of the program are too high, given that many of the required controls are already installed in the Valero facility resulting in few emissions reductions at Valero. The cost effectiveness calculation of $1900 – $4300 per ton of emissions reduced includes equipment costs to control emission points. If controls are already installed at Valero, the costs would be significantly less for that facility.

Effective Date of the Rule: At the May 24, 2004 meeting of the Stationary Source Committee the refiners stated that a two year implementation time period is necessary for effective planning, fabrication and installation of the controls necessary to meet the requirements in the rule. CBE argued that the compliance date in the rule should be one year or less. At a subsequent workgroup meeting, the refineries agreed to meet the requirements in a shorter time frame, but not as early as CBE recommended. Staff again met with CBE and the technical workgroup and determined that the proposed implementation period is appropriate: compliance within 15 months with a rule provision that allows some components to be uncontrolled provided they do not emit, compliance within two and a half years for refiners who choose to control all components.

Inspection Frequency: The proposed amendments require an initial inspection of all components before the effective date for controls so that refiners can check their assumptions about what portions of their systems need controls. Then, bi-monthly inspections are required during the first year the requirements are in place and semi-annual inspections are required thereafter. Any uncontrolled component found exceeding the leak standard must be re-inspected monthly and controlled if the leaking continues. CBE argued that the components should be inspected monthly for at least two years to catch all leaking components. Inspection programs at refineries with thousands of components are expected to be time and labor intensive. Staff expect that the implementation period will be used to find and control all components with the potential to leak. In addition to the inspection and

maintenance program required of the refiners, District staff will also be inspecting these components. Should District staff discover leaking components, repairs must be made more quickly, which is an incentive for refiners to conduct a robust inspection program.

Safety: The comparable South Coast rule has an exemption for components determined by the refinery to be unsafe to control. Refiners requested a similar provision be added to the proposed rule. Discussion with South Coast staff revealed that this exemption has never been utilized by refiners. Although staff will continue to discuss any individual safety concerns, given the ambiguous requirement for the South Coast exemption and its lack of use in practice, a similar exemption is not included in the proposed rule amendments.

System Segregation: CBE argued that the refinery wastewater systems should be considered in total, that the proposal should include control requirements on the wastewater treatment systems, including wastewater ponds. Staff's response is that segregating refinery wastewater systems into two portions, collection systems (controlled by this proposal) and treatment systems, allows collection system emissions reductions to become effective much earlier. Staff have begun to study treatment system emissions, and a further study measure regarding treatment systems will be included in the draft 2004 Ozone Strategy.

A more detailed discussion of these issues is contained in the staff report.

CONCLUSION:

In the development of this regulatory proposal, staff have undertaken an extensive analysis of refinery wastewater systems. This work included developing emissions models and verifying emissions estimates with the extensive help of CARB staff, consultants and with the cooperation of the refiners. Staff have spent considerable time evaluating technical issues associated with implementation of the control proposals and conducting an inclusive, open process to consider all viewpoints. Staff recommend adoption of the proposed amendments to Regulation 8, Rule 8, the amendment to Regulation 8, Rule 18, and adoption of a CEQA negative declaration for the proposed amendments.

Respectfully submitted,

Jack P. Broadbent
Executive Officer / APCO

Prepared by: Damian Breen and Daniel Belik

Reviewed by: Jean Roggenkamp, Director of Planning and Research

Attachments:
Proposed Amendments to Regulation 8, Rule 8 and Regulation 8, Rule 18
Staff Report for Regulation 8, Rule 8
Appendices:
1. Socioeconomic Analysis
2. California Environmental Quality Act Analysis and Negative Declaration
3. Comments and Responses

REGULATION 8
ORGANIC COMPOUNDS
RULE 8
WASTEWATER ~~(OIL-WATER) SEPARATORS~~ COLLECTION AND SEPARATION SYSTEMS

INDEX

8-8-300 STANDARDS

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8-8-302 Wastewater Separators Rated Capacity Larger Than or Equal to 18.9 Liters per Seconds
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8-8-304 Sludge-dewatering Unit
8-8-305 Oil-Water Separator And/Or Air Flotation Unit Slop Oil Vessels
8-8-306 Oil-Water Separator Effluent Channel, Pond, Trench, or Basin
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8-8-310 Deleted October 6, 1993
8-8-311 Deleted October 6, 1993
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REGULATION 8
ORGANIC COMPOUNDS
RULE 8
WASTEWATER ~~(OIL-WATER) SEPARATORS)~~ COLLECTION AND SEPARATION SYSTEMS

(Adopted January 17, 1979)

8-8-100 GENERAL

8-8-101 Description: The purpose of this Rule is to limit the emissions of ~~precursor~~ organic compounds from wastewater collection and separation systems that handle liquid organic compounds from industrial processes. ~~(oil-water) separators, forebays, and air flotation units which remove floating oil, floating emulsified oil, or other liquid precursor organic compounds~~. (Amended November 1, 1989)

8-8-110 Exemption, Less Than 760 Liters: The requirements of Section 8-8-301 shall not apply to any wastewater separator which processes less than 760 liters (200 gals.) per day of wastewater containing organic liquids. This exemption shall not apply to wastewater separators at petroleum refinery complexes after March 1, 1980.

8-8-111 Deleted November 1, 1989

8-8-112 Exemption, Wastewater Critical Organic Compound Concentration ~~And/~~Or Temperature: The requirements of Sections 8-8-301, 302, 306, 307, and 308 shall not apply to any wastewater ~~separator~~ separation system that processes influent wastewater with a temperature of less than 20 degrees C (68 ^{o}F) except at petroleum refineries. ~~and/or w~~Wastewater ~~comprised~~ having a concentration of less than 1.0 ppm (volume) critical organic compounds, as defined in Section 8-8-210, dissolved in the water samples, is exempt from the requirements of Sections 8-8-301, 302, 306, 307, 308, 312 and 313. ~~provided that t~~The requirements of Section 8-8-502 ~~are~~ must be met.

(Adopted November 1, 1989)

8-8-113 Exemption, Secondary Wastewater Treatment Processes And Stormwater Sewer Systems: The requirements of Sections 8-8-301, 302, 306, and 308 shall not apply to any secondary wastewater treatment processes or stormwater sewer systems, as defined in Sections 8-8-208 and 216, ~~which~~ that are used as a wastewater polishing step or for collection of stormwater ~~which~~ that is segregated from the process wastewater collection system. (Adopted November 1, 1989)

8-8-114 Exemption, Bypassed Oil-Water Separator or Air Flotation Influent: The requirements of Sections 8-8-301, 302, and 307 shall not apply for wastewater which bypasses either the oil-water separator or air flotation unit provided that: (1) the requirements of Section 8-8-501 are met; and (2) on that day the District did not predict an excess of the Federal Ambient Air Quality Standard for ozone.

(Adopted November 1, 1989)

8-8-115 Exemption, Municipal Wastewater Collection, Separation and Treatment Facilities: The requirements of Sections 8-8-301, 302, 303, 304, 305, 306, 307, ~~and~~ 308, 312, 313 and 314 shall not apply to any publicly owned municipal wastewater treatment facility.

(Adopted November 1, 1989)

8-8-116 Limited Exemption, Oil-Water Separation Trenches: The requirements of Sections 8-8-312, 313 or 314 shall not apply to oil-water separation trenches used as part of maintenance or turnaround activities.

8-8-200 DEFINITIONS

8-8-201 Organic Compounds: ~~For the purposes of this Rule, any organic compound as defined in Section 8-8-210.~~ Any compound of carbon, excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate.

(Amended November 1, 1989)

8-8-202 **Wastewater (Oil-Water) Separator:** Any device used to separate liquid organic compounds from oil-water waste streams (excluding Wastewater Separator Forebay, Air Flotation (AF) units, Sludge-dewatering Units, Oil-Water Separator and /or AF Unit Slop Oil Vessels, and Junction Boxes). (Amended November 1, 1989)

8-8-203 **Wastewater Separator Forebay:** That section of a gravity-type separator which (a) receives the untreated, contaminated wastewater from the preseparator flume, and (b) acts as a header which distributes the influent to the separator channels. (Amended November 1, 1989)

8-8-204 **Vapor-tight:** ~~The concentration of precursor organic compounds, measured one centimeter from the source, shall not exceed 500 ppm (expressed as methane) above background.~~ A leak of less than 500 ppm (expressed as methane) above background, measured at the interface of the component in accordance with Section 8-8-603. (Amended November 1, 1989)

8-8-205 **Oil-Water Separator Slop Oil:** Floating oil, flocculant sludge, and solids which accumulate in an oil-water separator or air flotation unit. (Adopted November 1, 1989)

8-8-206 **Oil-Water Separator Effluent Channel/Pond:** An open channel, trench, pond, or basin which handles wastewater downstream of an oil-water separator that has not been treated by an air flotation unit (usually located between the separator and the air flotation unit). (Adopted November 1, 1989)

8-8-207 **Full Contact Fixed Cover:** A stationary separator cover which is always in full contact with the liquid surface of the oil-water separator. (Adopted November 1, 1989)

8-8-208 **Secondary Treatment Processes:** Any wastewater treatment process which is downstream of the air flotation unit, any other biological treatment process at a refinery, or any treatment process which is regulated by the EPA National Categorical Pretreatment Standards. These treatment processes are considered to be wastewater polishing steps and include: activated sludge tanks/basins, trickling or sand filters, aerated lagoons, oxidation ponds, rotating biological contactors, and other biological wastewater treatment processes. (Adopted November 1, 1989)

8-8-209 **Air Flotation Unit:** Any device, equipment, or apparatus in which wastewater is saturated with air or gas under pressure and removes floating oil, floating emulsified oil, or other floating liquid precursor organic compounds by skimming. Also included in this definition are: induced air flotation units and pre-air flotation unit flocculant sumps, tanks, or basins. (Adopted November 1, 1989)

8-8-210 **Critical Organic Compound ~~(OC)~~:** Any compound of carbon, excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides~~,~~ or carbonates and ammonium carbonate~~., or non-precursor organic compounds (Methylene chloride, 1,1,1 trichloroethane, 1,1,2 trichlorotrifluoroethane (CFC-113), trichlorofluoromethane (CFC-11), dichlorodifluoromethane (CFC-12), dichlorotetrafluoroethane (CFC-114), and chloropentafluoroethane (CFC-115),~~ emitted during separation, processing, transportation or storage of wastewater, and having a carbon number of C-14 or less (excluding phenolic compounds). (Adopted November 1, 1989)

8-8-211 **Wastewater:** Any process water which contains oil, emulsified oil, or other organic compounds which is not recycled or otherwise used within a facility. (Adopted November 1, 1989)

8-8-212 **Pre-Air Flotation Unit Flocculation Sump, Basin, Chamber, or Tank:** Any facility which pretreats the air flotation unit's influent with chemical coagulants, and/or adjusts the influent's pH. (Adopted November 1, 1989)

8-8-213 **Oil-Water Separator Slop Oil Vessel:** Any vessel which, as its sole function, treats or dewaters oil-water separator slop oil. (Adopted November 1, 1989)

8-8-214 **Oil-Water Separator Effluent:** Any process wastewater downstream of the oil-water separator that has not been treated by an air flotation unit. (Adopted November 1, 1989)

8-8-215 **Sludge-dewatering Unit:** Any device which, as its sole function, is used to dewater oil-water separator and air flotation slop oil/sludge. (Adopted November 1, 1989)

8-8-216 **Stormwater Sewer System:** A drain and collection system that is designed and operated for the sole purpose of collecting stormwater and ~~which~~ is segregated from the wastewater collection system. (Adopted November 1, 1989)

8-8-217 **Junction Box:** Any structure where sewer lines meet and one or more wastewater streams are co-mingled. ~~A manhole or access point to a wastewater sewer system line.~~

8-8-218 **Sewer Line:** A lateral, trunk line, branch line, ditch, channel, or other conduit used to convey wastewater to downstream oil-water separators. (Adopted November 1, 1989)

8-8-219 **Leak Minimization:** Reducing the leak to the lowest achievable level using best modern practices and without shutting down the process the equipment serves.

8-8-220 **Leak Repair:** The tightening, adjustment, or addition of material, or the replacement of the equipment, which reduces leakage to the atmosphere below 500 ppm.

8-8-221 **Lift Stations:** Any structure whose function is to take water from a low point on a gradient and transport it to the treatment system via a pumping mechanism.

8-8-222 **Manholes:** Any service entrance into sewer lines that allows access for inspection and cleaning.

8-8-223 **Oil-Water Separation Trench:** Any grated open topped culvert used to separate debris from oil-water during equipment washing or steaming associated with maintenance or turnaround.

8-8-224 **Petroleum Refinery:** A facility that processes petroleum, as defined in the North American Industrial Classification Standard No. 32411 (1997).

8-8-225 **Process Drains:** Any point in the wastewater collection system where streams from a source or sources enter the collection system. A process drain may be connected to the main process sewer line or to trenches, sumps, or ditches.

8-8-226 **Reaches:** Any segments of sewer pipe that convey wastewater between two manholes or other sewer components such as lift stations or junction boxes.

8-8-227 **Sumps:** Any below-grade structure typically used as a collection point for wastewater from multiple sewer lines prior to pumping or overflow to wastewater treatment.

8-8-228 **Trenches:** Any open-topped culvert used to transport wastewater from the point of process discharge to subsequent wastewater collection system components, such as junction boxes and lift stations.

8-8-229 **Vent Pipes:** Any piping used to ventilate a wastewater collection system component or a wastewater separation system.

8-8-230 **Wastewater Collection System Components:** Any structure or part of structures used to collect and transport wastewater prior to any treatment. These structures are usually located before oil/water separators and may include but are not limited to process drains, sewer lines, trenches, manholes, junction boxes, reaches, sumps and lift stations (including vent pipes).

8-8-231 **Wastewater Separation System:** Any structure used to remove oil from water via a physical process including but not limited to oil-water separators, dissolved air flotation units or dissolved gas flotation units.

8-8-232 **Water Seal or Equivalent Control:** Any seal pot, p-leg trap, or other type of trap filled with a liquid not containing organic compounds in order to create a barrier between the sewer and the atmosphere, or an equivalent physical seal, enclosed piping, pollution prevention measure or abatement device that meets the criteria of Regulation 2, Rule 1.

8-8-300 STANDARDS

8-8-301 **Wastewater Separators Greater than 760 Liters per Day and Smaller than 18.9 Liters per Second:** A person shall not operate any wastewater separator and/or forebay with a design rated or maximum allowable capacity greater than 760 liters per day and smaller than 18.9 liters per second (oil-water separators and/or forebays between 200 gals per day to 300 gals per min.) unless such wastewater separator

and/or forebay is operated within its design rated or maximum allowable capacity and is equipped with one of the following:

301.1 A solid, gasketed, fixed cover totally enclosing the separator tank, chamber, or basin (compartment) liquid contents, with all cover openings closed, except when the opening is being used for inspection, maintenance, or wastewater sampling. Roof seals, access doors, and other openings shall be checked by visual inspection initially and semiannually thereafter to ensure that no cracks or gaps greater than 0.32 cm (0.125 inch) occur in the roof or between the roof and wall; and that the access doors and other openings are closed and gasketed properly; or

301.2 A floating pontoon or double-deck vapor-tight type cover. All floating roofs must rest entirely on the liquid surface. The floating roof shall consist of two seals, one above the other, the one below shall be referred to as the primary seal, while the other seal shall be referred to as the secondary seal.

2.1 Oil-Water Separator Liquid-Mounted Primary Seal Gap Criteria: No gap between the separator wall and the liquid-mounted primary seal shall exceed 3.8 cm (1.5 inch). No continuous gap greater than 0.32 cm (0.125 inch) shall exceed 10 percent of the perimeter of the separator. The cumulative length of all primary seal gaps exceeding 1.3 cm (0.5 inch) shall be not more than 10 percent of the perimeter and the cumulative length of all primary seal gaps exceeding 0.32 cm (0.125 inch) shall be not more than 40 percent of the perimeter.

2.2 Oil-Water Separator Secondary And Wiper Seals Gap Criteria: No gap between the separator wall and the secondary and wiper seals shall exceed 1.5 mm (0.06 inch). The cumulative length of all secondary and wiper seals gaps exceeding 0.5 mm (0.02 inch) shall be not more than 5 percent of the perimeter of the separator. The secondary and wiper seals must exert a positive pressure against the separator such that the seal surface in contact with the separator wall does not pull away from the separator wall more than the gaps allowed.

2.3 Primary And Secondary Seal Gap Inspection: The primary seal shall be inspected within 60 calendar days after initial installation of the floating roof and once every 5 years thereafter in accordance with the requirements of S~~ubse~~ction 8-8-301.2.~~2.~~1. The secondary seal shall be inspected within 60 calendar days after initial installation of the floating roof and once every year thereafter in accordance with the requirements of Subsection 8-8-301.2.~~2.~~2. The owner or operator shall make necessary repairs within 30 calendar days of identification of seals not meeting the requirements listed in S~~ubse~~ctions 8-8-301.2.1 and 301.2.~~2.~~2.; or

301.3 An ~~OC~~ organic compound vapor recovery system with a combined collection and destruction efficiency of at least 95 percent, by weight.

301.4 Deleted October 6, 1993

(Amended November 1, 1989; October 6, 1993)

8-8-302 Wastewater Separators Larger than or Equal to 18.9 Liters per Second: A person shall not operate any wastewater separator and/or forebay with a rated or maximum allowable capacity larger than or equal to 18.9 liters per second (300 gals per min.) unless such wastewater separator and/or forebay is operated within its design rated or maximum allowable capacity and is equipped with one of the following:

302.1 A solid, vapor-tight, full contact fixed cover which totally encloses the separator tank, chamber, or basin (compartment) liquid contents, with all cover openings closed and sealed, except when the opening is being used for inspection, maintenance, or wastewater sampling; or

302.2 A floating pontoon or double-deck vapor-tight type cover. All floating roofs must rest on the liquid surface. The floating roof shall consist of two seals, one above the other, the one below shall be referred to as the primary seal, while the other seal shall be referred to as the secondary seal.

2.1 Oil-Water Separator Liquid-Mounted Primary Seal Gap Criteria: No gap between the separator wall and the liquid-mounted primary seal shall exceed 3.8 cm (1.5 inch). No continuous gap greater than 0.32 cm (0.125 inch) shall exceed 10 percent of the perimeter of the separator. The cumulative length of all primary seal gaps exceeding 1.3 cm (0.5 inch) shall be not more than 10 percent of the perimeter and the cumulative length of all primary seal gaps exceeding 0.32 cm (0.125 inch) shall be not more than 40 percent of the perimeter.

2.2 Oil-Water Separator Secondary And Wiper Seals Gap Criteria: No gap between the separator wall and the secondary and wiper seals shall exceed 1.5 mm (0.06 inch). The cumulative length of all secondary and wiper seals gaps exceeding 0.5 mm (0.02 inch) shall be not more than 5 percent of the perimeter of the separator. The secondary and wiper seals must exert a positive pressure against the separator such that the seal surface in contact with the separator wall does not pull away from the separator wall more than the gaps allowed; or

2.3 Primary And Secondary Seal Gap Inspection: The primary seal shall be inspected within 60 calendar days after initial installation of the floating roof and once every 5 years thereafter in accordance with the requirements of S~~ubse~~ction 8-8-302.2.~~2.~~1. The secondary seal shall be inspected within 60 calendar days after initial installation of the floating roof and once every year thereafter in accordance with the requirements of S~~ubse~~ction 8-8-302.2.~~2.~~2. The owner or operator shall make necessary repairs within 30 calendar days of identification of seals not meeting the requirements listed in S~~ubse~~ctions 8-8-302.2.~~2.~~1 and 302.2.~~2.~~2.; or

302.3 A vapor-tight fixed cover with an ~~OC~~ organic compound vapor recovery system which has a combined collection and destruction efficiency of at least 95 percent, by weight, inspection and access hatches shall be closed except when the opening is being used for inspection, maintenance, or wastewater sampling, or

302.4 A solid, sealed, gasketed, fixed cover which totally encloses the separator tank, chamber, or basin (compartment) liquid contents, with all cover openings closed and sealed, except when the opening is being used for inspection, maintenance, or wastewater sampling. The cover may include a pressure/vacuum valve. The concentration of ~~precursor~~ organic compounds, measured ~~one centimeter from~~ at the interface of the roof seals, fixed cover, access doors, pressure/vacuum valve, and other openings shall not exceed 1,000 ppm (expressed as methane) above background. Roof seals, fixed cover, access doors, and other openings shall be inspected initially and semiannually thereafter to ensure that there are no emission leaks greater than 1,000 ppm. Any emission leak greater than 1,000 ppm must be reported to the APCO and repaired within 15 days.

302.5 Deleted October 6, 1993

302.6 Roof seals, fixed covers, access doors, and other openings at petroleum refineries shall be inspected initially and semiannually thereafter to ensure that they are vapor tight. A leak in any component that is not vapor tight must be minimized within 24 hours and repaired within 7 days.

(Adopted November 1, 1989; Amended October 6, 1993)

8-8-303 Gauging and Sampling Devices: Any compartment or access hatch shall have a vapor tight cover. Any gauging and sampling device in the compartment cover shall be equipped with a vapor tight cover, seal, or lid. The compartment cover and gauging or sampling device cover shall at all times be in a closed position, except when the device is in use for inspection, maintenance, or wastewater sampling.

(Amended, Renumbered November 1, 1989)

8-8-304 Sludge-dewatering Unit: Any sludge-dewatering unit, equipment, machinery, apparatus, or device shall be totally enclosed and vented to a control device which

has a minimum combined collection and destruction efficiency of 95 percent by weight; or shall have vapor-tight covers on the unit, conveyer belts, and storage bins or tanks except during inspection, maintenance or when the solids storage bin is in use. Sludge must be maintained in vapor tight containers during storage.

(Adopted November 1, 1989; Amended October 6, 1993)

8-8-305 Oil-Water Separator And/Or Air Flotation Unit Slop Oil Vessels: A person shall not store any oil-water separator and/or air flotation unit sludges in an oil-water separator slop oil vessel unless such oil-water separator slop oil vessel is equipped with one of the following:

305.1 A solid, gasketed, fixed cover totally enclosing the vessel liquid contents, with all cover openings closed, except when the opening is being used for inspection, maintenance, or wastewater sampling. The cover may include an atmospheric vent or a pressure/vacuum valve. Roof seals, access doors, and other openings shall be checked by visual inspection initially and semiannually thereafter to ensure that no cracks or gaps greater than 0.32 cm (0.125 inch) occur in the roof or between the roof and wall; and that the access doors and other openings are closed and gasketed properly; or

305.2 An ~~Oc~~ organic compound vapor recovery system with a combined collection and destruction efficiency of at least 70 percent, by weight.

305.3 Deleted October 6, 1993

(Adopted November 1, 1989; Amended October 6, 1993)

8-8-306 Oil-Water Separator Effluent Channel, Pond, Trench, or Basin: A person shall not operate any oil-water separator effluent channel, pond, trench, or basin a design rated or maximum allowable capacity greater than 25.2 liters per second (any oil-water separator effluent channel, pond, trench, or basin greater than 400 gals per min) unless such oil-water separator effluent channel, pond, trench, or basin is operated within its design rated or maximum allowable capacity and is equipped with one of the following:

306.1 A solid, gasketed, fixed cover totally enclosing the oil-water separator effluent channel, pond, trench, or basin (compartment) liquid contents, with all cover openings closed, except when the opening is being used for inspection, maintenance, or wastewater sampling. Roof seals, access doors, and other openings shall be checked by visual inspection initially and semiannually thereafter to ensure that no cracks or gaps greater than 0.32 cm (0.125 inch) occur in the roof or between the roof and wall; and that the access doors and other openings are closed and gasketed properly; or

306.2 An ~~OC~~ organic compound vapor recovery system with a combined collection and destruction efficiency of at least 70 percent, by weight.

306.3 Deleted October 6, 1993

(Adopted November 1, 1989; Amended October 6, 1993)

8-8-307 Air Flotation Unit: A person shall not operate any air flotation unit and/or pre-air flotation unit flocculation sump, basin, chamber, or tank with a design rated or maximum allowable capacity greater than 25.2 liters per second (air flotation units and/or pre-air flotation unit flocculation sump, basin, chamber, or tank greater than 400 gals per min.) unless such air flotation unit and/or pre-air flotation unit flocculation sump, basin, chamber, or tank is operated within its design rated or maximum allowable capacity and is equipped with one of the following:

307.1 A solid, gasketed, fixed cover totally enclosing the air flotation and pre-air-flotation-unit flocculation tank, chamber, or basin (compartment) liquid contents, with all cover openings closed, except when the opening is being used for inspection, maintenance, or wastewater sampling. The cover may include an atmospheric vent or pressure/vacuum valve. Roof seals, access doors, and other openings shall be checked by visual inspection initially and semiannually thereafter to ensure that no cracks or gaps greater than 0.32 cm (0.125 inch) occur in the roof or between the roof and wall; and that the access doors and other openings are closed and gasketed properly; or

307.2 An ~~OC~~ organic compound vapor recovery system with a combined collection and destruction efficiency of at least 70 percent, by weight.

307.3 Deleted October 6, 1993

(Adopted November 1, 1989; Amended October 6, 1993)

8-8-308 **Junction Box:** Any junction box shall be equipped with either a solid, gasketed, fixed cover totally enclosing the junction box or a solid manhole cover. Junction boxes may include openings in the covers and vent pipes if the total open area of the junction box does not exceed 81.3 cm^2 (12.6 in^2) and all vent pipes are at least 3 feet in length.

(Adopted November 1, 1989; Amended October 6, 1993)

8-8-309 **Deleted October 6, 1993**

8-8-310 **Deleted October 6, 1993**

8-8-311 **Deleted October 6, 1993**

8-8-312 **Controlled Wastewater Collection System Components at Petroleum Refineries:** Effective January 1, 2006, all controlled wastewater collection system components at petroleum refineries shall be vapor tight except when in use for active inspection, maintenance, repair or sampling. A leak in any controlled wastewater collection system component that is not vapor tight must be minimized within 24 hours and repaired within 7 days.

8-8-313 **Uncontrolled Wastewater Collection System Components at Petroleum Refineries:** Petroleum refineries shall comply with either Section 8-8-313.1 or 313.2 below:

313.1 Each uncontrolled wastewater collection system component must be equipped with a water seal or equivalent control according to the schedule in Section 8-8-403. Any uncontrolled collection system component that is not vapor tight must be minimized. Upon installation of a water seal or equivalent control, the provisions of Section 8-8-312 will apply; **or**

313.2 Effective January 1, 2006 and until January 1, 2007, each uncontrolled wastewater collection system component must be inspected bi-monthly. Effective January 1, 2007, each uncontrolled wastewater system component must be inspected semi-annually. Any uncontrolled wastewater collection system component that is not vapor tight shall be identified, minimized within 24 hours and re-inspected every 30 days. The component may be returned to a semi-annual inspection schedule if it is vapor tight during three consecutive 30-day inspections. Any uncontrolled wastewater collection system component that is not vapor tight during any three inspections in a five-year period must be equipped with a water seal or equivalent control within 30 days after the third inspection. Upon installation of the water seal or equivalent control, the provisions of Section 8-8-312 shall apply. Unless previously identified by the refinery, any wastewater system component discovered by the APCO not to be vapor tight must be minimized within 24 hours and repaired within 7 days.

8-8-314 **New Wastewater Collection System Components at Petroleum Refineries:** Effective January 1, 2005, any new wastewater collection system component at a petroleum refinery shall be equipped with a water seal or equivalent control.

8-8-400 ADMINISTRATIVE REQUIREMENTS

8-8-401 **Deleted October 6, 1993**

8-8-402 **Wastewater Inspection and Maintenance Plan at Petroleum Refineries:** All petroleum refineries must implement an inspection and maintenance plan that meets all of the following requirements:

402.1 By October 1, 2005, all wastewater collection system components must be identified and the APCO must be provided with lists, diagrams or other information sufficient to locate all components. It shall not be violation of this requirement if the refinery discovers that a component has been omitted from the list, diagram, or other information and submits information to the APCO regarding the component. Effective October 1, 2005, any wastewater

collection system component found by the APCO that was not identified pursuant to the provisions of this section shall constitute a violation.

402.2 By October 1, 2005, an initial inspection of all wastewater collection system components must be completed by the refinery. The results of the initial inspection shall be made available to the APCO, but any wastewater collection system component that is not vapor tight shall not trigger the requirements of Section 8-8-313 before the effective date of that Section.

402.3 Effective January 1, 2006, for petroleum refineries that elect to comply with Section 8-8-313.2, the plan must provide for the identification and minimization of leaking components and a re-inspection within 30 days of discovery. The plan must also provide for re-inspections every thirty days until the affected component is either controlled or is returned to the inspection schedule in Section 8-8-313.2.

402.4 Effective January 1, 2006, each controlled component shall be inspected semi-annually.

402.5 Records must be maintained pursuant to Section 8-8-505.

8-8-403 Petroleum Refinery Compliance Schedule: Any petroleum refinery electing to comply with Section 8-8-313.1 shall install controls on uncontrolled wastewater collection system components according to the following schedule:

403.1 By October 31, 2005, install controls on 25% of wastewater collection system components that were uncontrolled as of January 1, 2005.

403.2 By April 30, 2006, install controls on 50% of wastewater collection system components that were uncontrolled as of January 1, 2005.

403.3 By October 31, 2006, install controls on 75% of wastewater collection system components that were uncontrolled as of January 1, 2005.

403.4 By April 30, 2007, install controls on 100% of wastewater collection system components that were uncontrolled as of January 1, 2005.

8-8-404 Uncontrolled Wastewater Collection System Components Election: By November 1, 2004, each petroleum refinery shall choose a compliance option from Section 8-8-313 and notify the APCO in writing indicating which option has been chosen.

8-8-500 MONITORING AND RECORDS

8-8-501 API Separator or Air Flotation Bypassed Wastewater Records: Any person who bypasses wastewater past their API Separator or Air Flotation unit shall maintain records on the amount of bypassed wastewater, duration, date, causes for bypasses, and dissolved critical ~~O~~organic ~~C~~compound concentration (volume). These records shall be retained and available for inspection by the APCO for at least 24 months.

(Adopted November 1, 1989)

8-8-502 Wastewater Critical Organic Compound Concentration ~~And/~~Or Temperature Records: Any person who exempts their wastewater separator because of either wastewater critical ~~OC~~organic compound concentration or temperature shall sample and test the wastewater initially and semiannually thereafter and maintain records on the date, time of test, location, and wastewater temperature and/or critical ~~OC~~ organic compound concentration (volume). These records shall be retained and available for inspection by the APCO for at least 24 months.

(Adopted November 1, 1989)

8-8-503 Inspection and Repair Records: Records of inspections and repairs as required by Sections 8-8-301, 302, 305, 306 or 307 shall be retained and made available for inspection by the APCO for at least 24 months. (Adopted October 6, 1993)

8-8-504 Portable Hydrocarbon Detector: Any instrument used for the measurement of organic compounds shall be a gas detector that meets the specifications and performance criteria of and has been calibrated in accordance with EPA Reference Method 21 (40 CFR 60, Appendix A). (Adopted June 15, 1994)

8-8-505 Records for Wastewater Collection System Components at Petroleum Refineries: Any person subject to the requirements of this rule shall:

505.1 Maintain records of the type and location of each wastewater collection system component.

505.2 Record the date of each wastewater collection system component inspection, and re-inspection and leak concentration measured for each inspection or re-inspection.

505.3 Record a description of the minimization or repair efforts on each leaking component that is not vapor tight.

505.4 Maintain required records for at least 5 years and make them available to the APCO for inspection at any time.

8-8-600 MANUAL OF PROCEDURES

8-8-601 Wastewater Analysis for Critical Organic Compounds: Samples of wastewater as specified in this rule shall be taken at the influent stream for each unit and analyzed for the concentration of dissolved critical organic compounds as prescribed in the Manual of Procedures, Volume III, Lab Method 33.

(Amended November 1, 1989; October 6, 1993)

8-8-602 Determination of Emissions: Emissions of ~~precursor~~ organic compounds as specified in Sections 8-8-301.3, 8-8-302.3, 8-8-304, 8-8-305.2, 8-8-306.2, and 8-8-307.2 shall be measured as prescribed by any of the following methods: 1) BAAQMD Manual of Procedures, Volume IV, ST-7, 2) EPA Method 25, or 25A). A source shall be considered in violation if the ~~VOC~~ organic compound emissions measured by any of the referenced test methods exceed the standards of this rule.

(Amended November 1, 1989; October 6, 1993, June 15, 1994)

8-8-603 Inspection Procedures: For the purposes of Sections 8-8-301, 302, 303, 304 ~~and~~ 312, 313 and 402, leaks shall be measured using a portable gas detector as prescribed in EPA Reference Method 21 (40 CFR 60, Appendix A).

(Adopted June 15, 1994)

REGULATION 8
ORGANIC COMPOUNDS
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INDEX

REGULATION 8
ORGANIC COMPOUNDS
RULE 18
EQUIPMENT LEAKS

(Adopted October 1, 1980)

8-18-100 GENERAL

8-18-101 Description: The purpose of this Rule is to limit emissions of organic compounds and methane from leaking equipment at petroleum refineries, chemical plants, bulk plants and bulk terminals including, but not limited to: valves, connectors, pumps, compressors, pressure relief devices, diaphragms, hatches, sight-glasses, fittings, sampling ports, meters, pipes, and vessels~~, and refinery wastewater collection system components~~.

(Amended 3/17/82; 3/4/92; 1/7/98; 1/21/04)

8-18-110 Exemption, Controlled Seal Systems and Pressure Relief Devices: The provisions of this Rule shall not apply to seal systems and pressure relief devices vented to a vapor recovery or disposal system which reduces the emissions of organic compounds from the equipment by 95% or greater as determined according to Section 8-18-603.

(Amended, Renumbered 1/7/98; Amended 1/21/04)

8-18-111 Exemption, Small Facilities: The provisions of this rule shall not apply to facilities which have less than 100 valves or less than 10 pumps and compressors. Such facilities are subject to the requirements of Regulation 8, Rule 22.

(Adopted 3/4/92; Amended, Renumbered 1/7/98)

8-18-112 Exemption, Bulk Plant and Terminal Loading Racks: The provisions of this rule shall not apply to those connections at the interface between the loading rack and the vehicle being loaded.

(Adopted 3/4/92; Amended, Renumbered 1/7/98)

8-18-113 Limited Exemption, Initial Boiling Point: The provisions of Sections 8-18-400 shall not apply to equipment which handle organic liquids having an initial boiling point greater than 302° F.

(Adopted 3/4/92; Amended, Renumbered 1/7/98)

8-18-114 Limited Exemption, Research and Development: The provisions of Sections 8-18-401, 402 and 502 shall not apply to research and development plants which produce only non-commercial products solely for research and development purposes.

(Adopted 3/4/92; Amended, Renumbered 1/7/98)

8-18-115 Limited Exemption, Storage Tanks: The provisions of this rule shall not apply to appurtenances on storage tanks including pressure relief devices, which are subject to requirements contained in Regulation 8, Rule 5: Storage of Organic Liquids.

(Adopted January 7, 1998)

8-18-116 Limited Exemption, Vacuum Service: The provisions of Sections 8-18-400 and 502 shall not apply to equipment in vacuum service.

(Amended January 7, 1998)

8-18-117 Limited Exemption, Visual Inspection: The provisions of Section 8-18-403 shall not apply to days when a facility is not staffed.

(Amended, Renumbered January 7, 1998)

8-18-117 Deleted January 7, 1998

8-18-200 DEFINITIONS

8-18-201 Background: The ambient concentration of total organic compounds determined at least 3 meters (10 feet) upwind from the equipment to be inspected and not influenced by any specific emission point as indicated by a hydrocarbon analyzer specified by Section 8-18-501.

(Amended March 4, 1992)

8-18-202 Bulk Plants and Terminals: A distribution facility which is subject to Regulation 8, Rule 6, 33 or 39.

(Amended, Renumbered January 7, 1998)

8-18-203 Chemical Plant: Any facility engaged in producing organic or inorganic chemicals and/or manufacturing products by chemical processes. Any facility or operation that has 325 as the first three digits in the North American Industrial Classification Standard (NAICS) code. Chemical plants may include, but are not limited to the manufacture of: industrial inorganic and organic chemicals; plastic and synthetic resins, synthetic rubber, synthetic and other man made fibers; drugs; soap, detergents and cleaning preparations, perfumes, cosmetics and other toilet preparations; paints, varnishes, lacquers, enamels and allied products; agricultural chemicals; safflower and sunflower oil extracts; re-refining.

(Amended, Renumbered 1/7/98; Amended 1/21/04)

8-18-204 Connection: Flanged, screwed, or other joined fittings used to connect any piping or equipment.

(Amended, Renumbered 1/7/98; Amended 1/21/04)

8-18-205 Equipment: All components including, but not limited to: valves, pumps, compressors, pressure relief devices, diaphragms, hatches, fittings, sampling ports, pipes, plugs, open-ended lines, gages or sight-glasses.

(Amended, Renumbered January 7, 1998)

8-18-206 Inaccessible Equipment: Any equipment located over 13 feet above the ground when access is required from the ground; or any equipment located over 6.5 feet away from a platform when access is required from a platform.

(Amended, Renumbered January 7, 1998)

8-18-207 Inspection: The determination of the concentration of total organic compounds leaking from equipment using EPA Reference Method 21 as required by Section 8-18-501.

(Amended, Renumbered January 7, 1998)

8-18-208 Leak: The concentration of total organic compounds above background, expressed as methane, as measured 1 centimeter or less from the leak using EPA Reference Method 21 in accordance with Section 8-18-602.

(Amended, Renumbered 1/7/98; 1/21/04)

8-18-209 Leak Minimization: Reducing the leak to the lowest achievable level using best modern practices and without shutting down the process the equipment serves.

(Renumbered 3/17/82; Amended 3/4/92; 1/7/98)

8-18-210 Leak Repair: The tightening, adjustment, or addition of material, or the replacement of the equipment, which reduces the leakage to the atmosphere below the applicable standard in Section 8-18-300.

(Renumbered 3/17/82; Amended 3/4/92; 1/7/98)

8-18-211 Liquid Leak: Dripping of liquid at a rate of greater than 3 drops per minute and a concentration of total organic compounds greater than the applicable leak standard in Section 8-18-300.

(Amended, Renumbered January 7, 1998)

8-18-212 Organic Compound: Any compound of carbon, excluding methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates and ammonium carbonate.

(Amended, Renumbered January 7, 1998)

8-18-213 Petroleum Refinery: Any facility that processes petroleum products as defined in North American Industrial Classification Standard Number 32411, Petroleum Refining.

(Amended, Renumbered January 7, 1998)

8-18-214 Pressure Relief Device: The automatic pressure-relieving device actuated by the static pressure upstream of the device including, but not limited to pressure relief valves and rupture disks.

(Amended, Renumbered January 7, 1998)

8-18-215 Process Unit: A manufacturing process which is independent of other processes and is continuous when supplied with a constant feed or raw materials and has sufficient storage facilities for product.

(Amended, Renumbered January 7, 1998)

8-18-216 Quarter: One of the four consecutive 3-month divisions of the calendar year beginning on January 1.

(Amended, Renumbered January 7, 1998)

8-18-217 **Reinspection:** Any inspection following the minimization or repair of leaking equipment.

(Amended, Renumbered January 7, 1998)

8-18-218 **Rupture Disc:** The thin metal diaphragm held between flanges.

(Amended, Renumbered January 7, 1998)

8-18-219 **Total Organic Compounds:** The concentration of organic compounds and methane as indicated by a hydrocarbon analyzer as specified by Section 8-18-501.

(Amended, Renumbered 1/7/98; Amended 1/21/04)

8-18-220 **Turnaround:** The scheduled shutdown of a process unit for maintenance and repair work.

(Amended, Renumbered January 7, 1998)

8-18-221 **Valve:** Any device that regulates the flow of process material by means of an external actuator acting to permit or block passage of liquids or gases.

(Amended, Renumbered January 7, 1998)

8-18-222 **Weephole:** A drain hole in the discharge horn of a pressure relief device.

(Adopted January 7, 1998)

8-18-223 **Deleted January 7, 1998**

8-18-224 **Deleted January 7, 1998**

8-18-225 **Major Leak:** Any leak that cannot be minimized below a concentration of 10,000 parts per million (ppm) total organic compounds, expressed as methane.

(Adopted January 21, 2004)

8-18-300 STANDARDS

8-18-301 **General:** Except for valves, pumps and compressors, connections and pressure relief devices subject to the requirements of Sections 8-18-302, 303, 304, 305 and 306, a person shall not use any equipment that leaks total organic compounds in excess of 100 ppm unless the leak has been discovered by the operator, minimized within 24 hours and repaired within 7 days.

(Amended 7/15/81; 3/17/82; 9/6/89; 3/4/92; 1/7/98)

8-18-302 **Valves:** A person shall not use any valve that leaks total organic compounds in excess of 100 ppm unless one of the following conditions is met:

302.1 If the leak has been discovered by the operator, minimized within 24 hours and repaired within 7 days; or

302.2 If the leak has been discovered by the APCO, repaired within 24 hours; or

302.3 The valve meets the applicable provisions of Section 8-18-306.

(Adopted 3/4/92; Amended 1/7/98; 1/21/04)

8-18-303 **Pumps and Compressors:** A person shall not use any pump or compressor that leaks total organic compounds in excess of 500 ppm unless one of the following conditions is met:

303.1 If the leak has been discovered by the operator, minimized within 24 hours and repaired within 7 days; or

303.2 If the leak has been discovered by the APCO, repaired within 24 hours; or

303.3 The pump or compressor meets the applicable provisions of Section 8-18-306.

(Adopted 3/4/92; Amended 1/7/98; 1/21/04)

8-18-304 **Connections:** A person shall not use any connection that leaks total organic compounds in excess of 100 ppm unless one of the following conditions is met:

304.1 If the leak has been discovered by the operator, minimized within 24 hours and repaired within 7 days; or

304.2 If the connection is inspected as required by Section 8-18-401.6 and the leak has been discovered by the APCO, repaired within 24 hours; or

304.3 The connection meets the applicable provisions of Section 8-18-306.

(Adopted 3/4/92; Amended 1/7/98; 1/21/04)

8-18-305 **Pressure Relief Devices:** A person shall not use any pressure relief device that leaks total organic compounds in excess of 500 ppm unless the leak has been discovered by the operator, minimized within 24 hours and repaired within 15 days; or if the leak has been discovered by the APCO, repaired within 7 days.

(Amended January 7, 1998)

8-18-306 Non-repairable Equipment: Any valve, connection, pressure relief device, pump or compressor which cannot be repaired as required by Section 8-18-302, 303 or 305, shall comply with the following conditions:

306.1 The valve, connection, pressure relief device, pump or compressor is repaired or replaced within 5 years or at the next scheduled turnaround, whichever date comes first.

306.2 Effective July 1, 2004, the number of individual pieces of equipment awaiting repair does not exceed the percentages of the total population for each equipment type expressed in the table below or 1 piece of equipment.

Equipment	Total Number of Non-repairable Equipment Allowed (%)
Valves (including Valves with Major Leaks) and Connections as allowed by Section 8-18-306.3	0.30% of total number of valves
Valves with Major Leaks as allowed by Section 8-18-306.4	0.025% of total number of valves
Pressure Relief Devices	1.0% of total number of pressure relief devices
Pumps and Compressors	1.0% of total number of pumps and compressors

306.3 A connection that leaks in excess of 100 ppm and no greater than 10,000 ppm can be considered non-repairable equipment pursuant to Section 8-18-306 provided each non-repairable connection is considered as two valves toward the total number of non-repairable equipment allowed.

306.4 Effective July 1, 2004, a valve with a major leak may not be considered non-repairable equipment pursuant to Section 8-18-306 for more than 45 days after leak discovery, unless the mass emission rate has been measured in accordance with Section 8-18-604 and has been determined to be less than 15 pounds per day. The APCO shall be notified no less than 96 hours prior to conducting measurements required by this section.

(Adopted 3/4/92, Amended 1/7/98; 1/21/04)

8-18-307 Liquid Leak: A person shall not use any equipment that leaks liquid as defined in Section 8-18-211, unless the leak has been discovered by the operator, minimized within 24 hours and repaired within 7 days.

(Adopted 3/4/92; Amended 1/7/98)

8-18-308 Alternate Compliance: The requirements of Sections 8-18-301, 302, 303, 304, 305, 306 and 307 shall not apply to any facility which complies with an alternative emission reduction plan that satisfies all the requirements in Sections 8-18-405 and 406.

(Adopted January 7, 1998)

8-18-400 ADMINISTRATIVE REQUIREMENTS

8-18-401 Inspection: Any person subject to this Rule shall comply with the following inspection requirements:

401.1 All connections that have been opened during a turnaround shall be inspected for leaks within 90 days after start-up is completed following a turnaround.

401.2 Except as provided under Subsection 8-18-401.3, 404, 405, and 406 all valves, pressure relief devices, pumps or compressors subject to this Rule shall be inspected quarterly.

401.3 Inaccessible valves and pressure relief devices subject to this Rule shall be inspected at least once a year.

401.4 Any equipment subject to this Rule may be inspected at any time by the APCO.

401.5 Any equipment found to have a leak in excess of the standard in Section 8-18-300 shall be reinspected within 24 hours after leak repair or minimization.

401.6 Any connection that is inspected annually or that is part of an APCO and EPA approved connection inspection program is subject to the provisions of Subsection 8-18-304.2.

401.7 Any pressure relief device equipped with a weephole shall be inspected quarterly at the outlet of the weephole if the horn outlet is inaccessible.

401.8 Any pressure relief device that releases to the atmosphere shall be inspected within 5 working days after the release event.

401.9 Effective July 1, 2004, any valve placed on the non-repairable list shall be inspected at least once per quarter.

401.10 Effective July 1, 2004, the mass emission rate of any valve with a major leak placed on the non-repairable list in accordance with Section 8-18-306 shall be determined at least once per calendar year. The APCO shall be notified no less than 96 hours prior to conducting the measurements required by this section.

(Amended 3/17/82; 9/3/86; 9/6/89; 3/4/92; 1/7/98; 1/21/04)

8-18-402 Identification: Any person subject to this Rule shall comply with the following identification requirements:

402.1 All valves, pressure relief devices, pumps and compressors shall be identified with a unique permanent identification code approved by the APCO. This identification code shall be used to refer to the valve, pressure relief device, pump or compressor location. Records for each valve, pressure relief device, pump or compressor shall refer to this identification code.

402.2 All equipment with a leak in excess of the applicable leak limitation in Section 8-18-300 shall be tagged with a brightly colored weatherproof tag indicating the date the leak was detected.

(Amended 3/4/92; 1/7/98)

8-18-403 Visual Inspection Schedule: All pumps and compressors subject to this rule shall be visually inspected daily for leaks. If a leak is observed, the concentration of organic compounds shall be determined.

(Renumbered January 7, 1998)

8-18-404 Alternative Inspection Schedule: The inspection frequency for valves may change from quarterly to annually provided all of the conditions in Subsection 404.1 and 404.2 are satisfied.

404.1 The valve has been operated leak free for five consecutive quarters; and

404.2 Records are submitted and approval from the APCO is obtained.

404.3 The valve remains leak free. If a leak is discovered, the inspection frequency will revert back to quarterly.

(Adopted January 7, 1998)

8-18-405 Alternate Emission Reduction Plan: Any person may comply with Section 8-18-308 by developing and submitting an alternate emission reduction plan to the APCO that satisfies all of the following conditions:

405.1 The plan shall contain all information necessary to establish, document, measure progress and verify compliance with an emission reduction level set forth in this rule.

405.2 All emission reductions must be achieved solely from equipment and connections subject to this rule.

405.3 Public notice and a 60-day public comment period shall be provided.

405.4 Following the public comment period, the plan shall be submitted to and approved in writing by the EPA, Region IX prior to the APCO approval of the plan.

405.5 An alternate emission reduction plan must provide for emission reductions equal to or greater than required by the specific limits in this rule.

(Adopted 1/7/98; Amended 11/27/02)

8-18-406 Interim Compliance: A facility is subject to the limits contained in Sections 8-18-301, 302, 303, 304, 305, 306 and 307 until receipt of the written approvals of both the APCO and the EPA of an Alternate Emission Reduction Plan that complies with Section 8-18-405.

(Adopted1/7/98; Amended 11/27/02)

8-18-500 MONITORING AND RECORDS

8-18-501 Portable Hydrocarbon Detector: Any instrument used for the measurement of organic compounds shall be a combustible gas indicator that has been approved by the APCO and meets the specifications and performance criteria of and has been calibrated in accordance with EPA Reference Method 21 (40 CFR 60, Appendix A).

(Amended 3/17/82; 9/6/89; 3/4/92)

8-18-502 Records: Any person subject to the requirements of this rule shall maintain records that provided the following information:

502.1 For equipment subject to Section 8-18-402.1, the equipment identification code, equipment type and the location of the equipment.

502.2 The date of all inspections and reinspections and the corresponding leak concentrations measured as specified by Section 8-18-401.

502.3 Records shall be maintained for at least 5 years and shall be made available to the APCO for inspection at any time.

502.4 Records of all non-repairable equipment subject to the provisions of Section 8-18-306 shall be maintained, and contain the equipment identification code, equipment type, equipment location, leak concentration measurement and date, the duration the equipment has been on the non-repairable list, any mass emission rate determination and date the determination was made, last process unit turnaround date, and total number of non-repairable equipment awaiting repair.

(Adopted 3/4/92; Amended 1/7/98; 1/21/04)

8-18-503 Reports: Any person subject to the requirements of this rule shall submit the information to the District:

503.1 Records of all non-repairable equipment subject to the provisions of Section 8-18-306 shall be submitted to the District quarterly and contain the equipment identification code, equipment type, equipment location, leak concentration measurement and date, the duration the equipment has been on the non-repairable list, any mass emission rate determination, date the determination was made, last process unit turnaround date, and total number of non-repairable equipment awaiting repair.

503.2 An inventory of the total numbers of valves, pressure relief devices, pumps and compressors and connections to which this rule applies shall be submitted to the District at least once a year.

(Adopted January 21, 2004)

8-18-600 MANUAL OF PROCEDURES

8-18-601 Analysis of Samples: Samples of organic compounds as defined in Section 8-18-113 shall be analyzed for Initial Boiling Point as prescribed in ASTM D-1078- 98 or ASTM D-86.

(Adopted 3/17/82; Amended 3/4/92; 1/7/98)

8-18-602 Inspection Procedure: Inspections of equipment shall be conducted as prescribed by EPA Reference Method 21 (40 CFR 60, Appendix A).

(Adopted 9/6/89; Amended 3/4/92; 1/7/98)

8-18-603 Determination of Control Efficiency: The control efficiency as specified by Section 8-18-110 shall be determined by any of the following methods: 1) BAAQMD Manual of Procedures, Volume IV, ST-7, 2) EPA Method 25 or 25A. A source shall be considered in violation if the emissions of organic compounds measured by any of the referenced test methods exceed the standards of this rule.

(Amended, Renumbered 1/7/98; Amended 1/21/04)

8-18-604 Determination of Mass Emissions: The mass emission determination as specified by Section 8-18-306 shall be made using any of the following methods: 1) EPA Protocol for Equipment Leak Emission Estimates, Chapter 4, Mass Emission Sampling, (EPA-453/R-95-017) November, 1995 or 2) a method determined to be equivalent by the EPA and approved by the APCO.

(Adopted 1/7/98; Amended 1/21/04)

Bay Area Air Quality Management District

939 Ellis Street
San Francisco, CA 94109

Proposed Amendments to Regulation 8, Rule 8: Wastewater (Oil-Water) Separators

Staff Report

September 8, 2004

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I. EXECUTIVE SUMMARY

Volatile organic compounds (VOC) emissions from wastewater collection systems are generated when organic liquids are entrained in waters used in refinery processes. These partial petroleum products are volatilized during transport to an onsite wastewater treatment system by exposure to high temperatures and turbulence in the transport structures (pipes, manholes, junction boxes, sumps and lift stations). The emitted vapors collect in the headspaces of these transport structures and are passively vented to the atmosphere through uncontrolled system openings.

Currently, the District controls wastewater emissions in Regulation 8, Rule 8 Wastewater (Oil-Water) Separators. This rule limits organic emissions from oil-water separators and dissolved air flotation units at refinery, chemical and other plants throughout the Bay Area. It also limits emissions from sludge dewatering and slop oil vessels.

The Bay Area 2001 Ozone Attainment Plan included a commitment (Further Study Measure 9) to examine wastewater collection and treatment systems at refineries for potential VOC emission reductions. A technical assessment document (TAD) was prepared for the collection portion of these systems. The collection system consists of drains from process units piped to mechanical separation such as oil-water separators. The TAD found that potentially significant emissions reductions could be achieved from refinery wastewater collection systems. The TAD, prepared jointly with the California Air Resources Board (CARB), the Bay Area Air Quality Management District (the District) was moved to a control measure.

Throughout this process, staff staged numerous technical working group meetings. The development of the current emissions estimate was greatly dependant on the co-operation staff received from the refineries. This collaborative technical process has been highly successful and is presently continuing in an effort to assess emissions from the refinery wastewater treatment systems.

The proposed amendments to Regulation 8, Rule 8 would result in a reduction of VOC emissions of at least 2.1 tons per day.

The proposed amendments to Regulation 8-8 include:

- A 500 ppm leak standard measured with an Organic Vapor Analyzer (OVA) for all wastewater collection components;
- A control equipment mandate for leaking components, and;
- An inspection and maintenance program for wastewater components.

It is estimated that the cost-effectiveness to reduce emissions from drains, manholes, and junction box vents ranges from $1900 to $4300 per ton of VOC reduced. This is within the range of cost-effectiveness determined for other VOC control measures adopted by the District.

A socioeconomic analysis mandated by Section 40728.5 of the Health and Safety Code concludes that the proposed amendments would not have significant impacts. Also, analysis performed pursuant to the California Environmental Quality Act (CEQA), concludes that the proposed amendments would result in no negative environmental impacts. A Negative Declaration for the proposed amendments has been prepared and was circulated for comment. No comments were received during the comment period from June 7, 2004 to June 28, 2004. This declaration will be re-circulated for comment between August 13, 2004 and September 7, 2004.

As part of the technical assessment and rule development process a working group was formed that included representatives from the California Air Resources Board, the Bay Area petroleum refineries, the Western States Petroleum Association (WSPA), the Regional Water Quality Control Board, Communities for a Better Environment (CBE), and District staff. The workgroup has met fifteen times to discuss technical issues related to this regulation. These included refinery sampling plans and modeling, wastewater emissions estimation, regulatory concepts and planning for analysis of refinery wastewater treatment systems.

Additionally, staff held two workshops to get input from the public on the rule, one in Martinez on April 17, 2004 and the other in Richmond on May 18, 2004. Both meetings were well attended, 20 persons and 35 persons respectively. Staff received comments on regulatory enforcement, implementation dates, sampling and inspection frequency. These comments and staff responses are included as part of this document.

There remain a number of issues on which the working group could not obtain consensus. These include proposed rule implementation dates and inspection frequency. CBE has argued that they see no technical reason that the proposed amendments can not go into effect sooner and that inspections of the collection system components should be more frequent. The refiners have argued that logistically the rule effectiveness dates are very tight and they will have a hard time meeting the requirements of the proposed amendments as they stand. Staff have considered these statements and, based on the technical information available, has concluded that the proposed implementation dates and inspection frequencies are appropriate.

Staff recommend the adoption of the proposed amendments to Regulation 8, Rule 8.

II. BACKGROUND

A. Process Description

In the Bay Area 2001 Ozone Attainment Plan for the San Francisco Area air basin, the District committed to examine potential VOC emissions reductions from further control of refinery wastewater collection and treatment systems. In order to achieve this goal, staff of the California Air Resources Board (CARB) led a joint effort to quantify these emissions and suggest possible controls.

Refinery wastewater systems exist to separate and process organics entrained in water during the making of petroleum products. Water has many uses in the refining process, including crude oil washing, process unit cooling, component cooling, steam production and vessel and tank cleaning. During these and other processes, volatile organic compounds (VOC's) become entrained in the water due to direct contact. Other sources of wastewater at the refinery include water condensate drawn off refinery tanks and ground water extraction wells.

Each of the five Bay Area refineries has a unique wastewater system, but the systems have many components in common. In the refinery, process block drains allow water containing organics to enter the wastewater collection system. These drains feed a network of pipes that transports the wastewater in a segregated system to an onsite treatment facility. Along this piping network is a series of manholes and junction boxes. Manholes allow access to the piping network to clear line blockages and perform maintenance, and junction boxes allow separate effluent steams to be combined. In addition to these structures, refinery wastewater collection systems may contain pumping or "lift" stations and low point or gravity sumps.

All of the wastewater gathered by the collection system at each refinery is routed to wastewater treatment. The first system in refinery wastewater treatment is oil-water separation. Wastewater flow is introduced to a quiescent environment where heavy organics and particulates settle out under gravity, and lighter oils and organics float to the surface to be removed to slop tanks by mechanical skimmers. Following oil-water separation, wastewater is routed to dissolved nitrogen or dissolved air flotation units. Here, gas is percolated through the wastewater to float organic materials to the tank surface where they are removed to slop tanks. Regulation 8, Rule 8 requires both oil-water separation and dissolved gas flotation to be enclosed.

At this stage, the wastewater again comes in contact with the ambient air. This usually occurs at the biological treatment unit. Many of the refinery wastewater treatment trains included a host of other steps. Many of the steps, including flow equalization, pH balancing, chemical and nutrient addition, are designed to protect the living organisms in the biological treatment unit. These organisms feed on the organic content of the wastewater and clean the water until it

complies with Regional Water Quality Control Board (RWQCB) discharge standards.

Refineries may also employ additional polishing steps in their treatment processes, such as the addition of activated carbon to their biological treatment units, selenium treatment, wetlands filtration, and carbon filtration. These steps ensure that the water discharged into the bay meets all applicable standards.

Refinery collection, separation and treatment systems can span hundreds of acres. Quantifying emissions from the various collection and treatment components can be difficult. There is little available direct measurement data on some parts of the system, and sophisticated models developed by EPA and industry do not account for all the variations that occur in Bay Area refinery Systems. As a result, it was decided that the best way to approach the task of quantifying and controlling emissions was to think about the refinery wastewater system in sections. Analysis of the systems showed that a partition could be made after physical separation (following the oil-water separators and dissolved air or gas flotation). The following two divisions were made:

Collection and Separation: This is the portion of the system that collects wastewater from process units and tankage, and performs physical separation of oil from water. Effluent is then directed via a series of wastewater collection components (process drains, pipes, manholes, junction boxes, sumps and lift stations) to the oil-water separator for initial treatment. The oil-water separator slows the water flow down and allows the settling and flotation of hydrocarbons out of the waste stream. These hydrocarbons are removed by skimming to slop oil tanks. The effluent then goes through dissolved air flotation units (DAF) or dissolved nitrogen flotation units (DNF). Here gas is bubbled through effluent to remove any residual gross oil or particulates not removed in the oil-water separator.

Treatment: This is the portion of the system located after physical separation. It deals with the treatment of wastewater to remove entrained or dissolved organic compounds. The components in this portion of the system may include

activated carbon injection tanks, flocculation tanks, biofilters, filters, screens, clarifiers, sludge thickeners, bioreactors, sludge presses, selenium removal and carbon filtration.

The Technical Assessment Document prepared by District and CARB staff deals exclusively with emissions from the collection portion of the wastewater system. Most emissions from this portion of the system are generated in the following two ways:

Volatilization : This occurs when wastewater that contains petroleum or partially processed petroleum products is exposed to the atmosphere. When this happens, compounds biodegrade and volatilize from the water into the air. The factors that effect this process are temperature, concentration, the gas/liquid partition coefficient, biodegradability, the affinity for adsorption, ventilation of the system and turbulence or splashing.

Air Entrainment: When liquid that contains petroleum or partial petroleum products is transmitted in contact with air to a transportation system (from a process outlet into a drain), ambient air is entrained in the liquid. Air pockets may become trapped below the water surface and will return to the surface to off-gas later. This off-gassing will include the release of captured VOC's.

The TAD estimated, through field sampling and modeling, VOC emissions estimate of at least three tons per day.

B. Regulation 8, Rule 8: Wastewater (Oil-Water) Separators

Regulation 8, Rule 8 was first adopted by the District on January 17, 1979, was amended March 17, 1982 and October 8, 1989, and was last amended on June 15, 1994. The regulation requires controls on small wastewater separators and junction boxes, the enclosure of sludge dewatering facilities, and the retrofit of larger refinery wastewater oil-water separators. The amendments in 1994 corrected EPA policy deficiencies.

Reg. 8-8 inspections at refineries are not announced to the facility. The responsible inspector will visit the regulated oil-water separator and ensure that all accesses to it are sealed and gasketed. If the oil-water separator tank area is enclosed and the flow through the system exceeds 18.9 liters per second, then an emission standard of 1,000 ppm applies. The inspector will also check any floating roof-seals which may be present for seal gaps and will also check to see that all oil-water sludge dewatering operations are completely enclosed and controlled.

C. Applicable Federal Regulations

Two federal regulations also may affect refinery wastewater systems. They are NSPS (New Source Performance Standards) for VOC Emissions from Petroleum Wastewater Systems (Subpart QQQ) and NESHAP (National Emission Standards for Hazardous Air Pollutants) for Benzene Waste Operations (Subpart FF). Both regulations pertain to the emissions of VOCs and toxic compounds from refinery wastewater systems.

Under Title 40 CFR Part 60, Subpart QQQ, performance standards have been established for individual drain systems, closed vent systems and control devices, including:

- Each drain shall be equipped with a water seal
- Junction boxes shall be equipped with a cover and may have an open vent
- Sewer lines shall not be open to the atmosphere
- Wastewater systems are subject to regular inspection and maintenance.
- Any control device shall operate with an efficiency of 95 percent or greater to reduce VOC emissions vented to them
- All control devices shall be operated with no detectable emissions, as indicated by an instrument reading of 500 parts per million VOC above background.

The National Emission Standards for Hazardous Air Pollutants (NESHAP) for refineries were promulgated in August 1995. These regulations are applicable at refineries that emit 10 tons per year (tpy) of any one hazardous air pollutant (HAP), or 25 tons per year or more of total HAPs. The refineries in the District meet this threshold requirement and are subject to the refinery NESHAP requirements.

Under Title 40, CFR, Part 61, Subpart FF, the benzene NESHAP regulations require petroleum refineries to use maximum achievable control technology (MACT) to control emissions of benzene from waste operations, including certain wastewater systems.

Typically, refineries use carbon adsorption or collection and venting of wastewater gases to the refinery flare system (vent flap system) to control benzene emissions from wastewater systems in compliance with the refinery NESHAP requirements.

District inspectors enforce the provisions of federal NESHAP (National Emission Standards for Hazardous Air Pollutants) Subpart FF for Benzene Waste Operations. This entails conducting visual checks of controlled water trap drains in affected units.

III. APPLICABLE CONTROL TECHNOLOGY

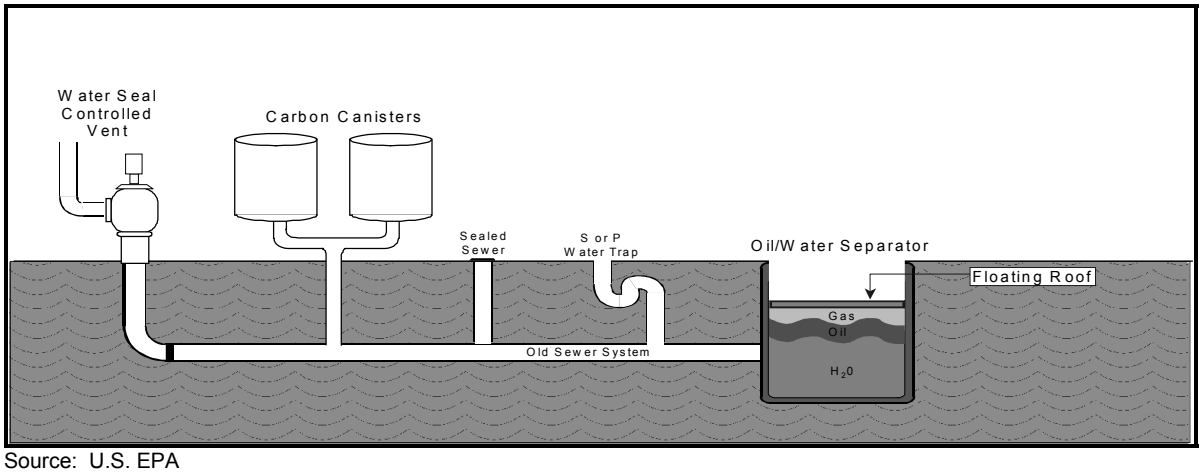
VOC emissions from wastewater collection systems can be controlled in a variety

of ways including enclosing or controlling all openings to the atmosphere, changing the operation of the units that are feeding the wastewater collection system, having a rigid inspection and maintenance (I&M) program, or using a combination of controls.

Several technologies are available to control emissions. They can be largely grouped into two categories: pollution prevention and emission controls. Pollution prevention strategies can reduce emissions at their source by changes in operation, while emission controls are designed to reduce emissions after VOC-containing materials have entered the wastewater system. Examples of emissions controls are gasketed or sealed collection system components, water sealed collection system components, activated carbon scrubbers, water impingement scrubbers, vacuum stripping columns, and thermal oxidizers.

Equipment control strategies can require the installation of new equipment or devices, or can include physical changes to the wastewater system. Potential equipment control strategies applicable for refinery wastewater systems can include a number of different components. Figure 1 schematically shows the application of these control strategies in a wastewater system.

Figure 1: Potential Equipment Control Strategies



Source: U.S. EPA

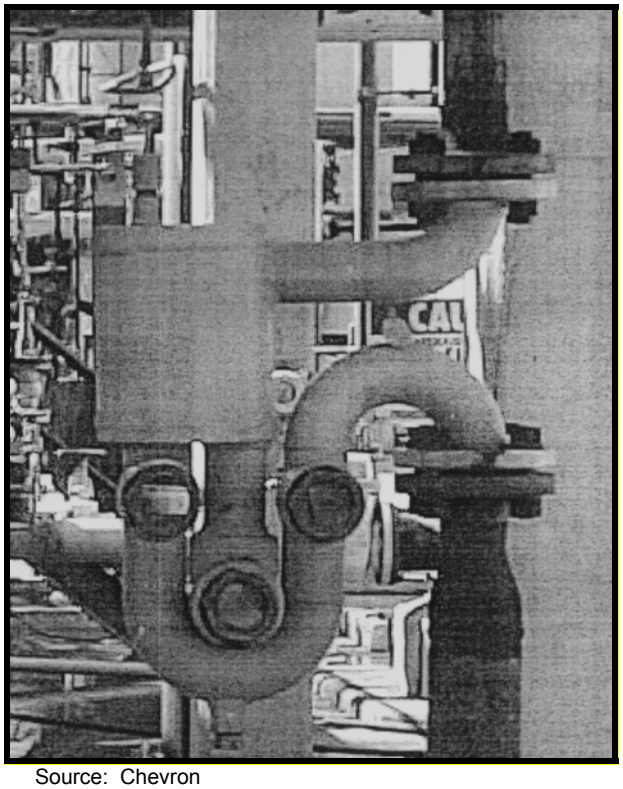
Water Seals

Installing water seals on process drains and vents open to the atmosphere would help prevent emissions from downstream sewer lines from escaping back out of the drain or vent opening. However, even with water seals installed in drains, emissions have been reported from VOC-containing liquid left standing in the water seal that was not flushed into the sewer line. In addition, if the water were allowed to evaporate from the water seal control, the emissions from the drain or vent would be similar to those from uncontrolled units. Two types of water seal configurations are:

- P-leg seal configuration (similar to a kitchen sink drain).
- Liquid seal inserts that can be placed in existing process drains and

junction box vents (Figure 2).

Figure 2: Typical Design of a Liquid Seal Insert For Junction Box Vents



Source: Chevron

The overall control efficiency of this method is estimated at 65%, but varies depending on the degree of maintenance of the water seal. This approach requires an extensive inspection and maintenance (I&M) program in order to be effective. An effective I&M program is designed to inspect on a regular basis, maintain and repair as necessary the components of a pollution control system. These inspections are usually performed by refinery personnel and include:

- Inspection of sealed manholes for corrosion and leaks
- Inspection of water seals for evaporated water or accumulation of trapped VOC containing material
- Inspection and repair of visible leaks from a sealed wastewater system
- Measurement of VOC concentrations in and around controlled systems (leak detection program)

Vent Control Devices

Collecting and venting the emissions to a control device can achieve greater than 95% control efficiency. Potential emission control devices for wastewater

collection systems (predominately junction box vents) include carbon adsorption, thermal oxidation, catalytic oxidation, and condensation.

Hard Piping

Enclosing open weirs and lines with direct piping (also called hard piping) is the most stringent control option and could result in the greatest amounts of VOC emission reductions. Complete drainage system enclosure can be accomplished in the following manner:

- Hard-pipe process units to the wastewater separator and then remove or cap all existing process drains.
- Hard-pipe process units to a drain box enclosure.
- Hard-pipe those process units identified as the largest contributors to process drain emissions.
- Hard-pipe junction boxes that are completely covered and sealed with no openings.

This method is considered to have up to 100% control efficiency[1]. However, the safety issues and reconstruction complexity may be two of many limiting factors that reduce the likelihood of converting an existing open drainage system to a totally enclosed system (see section on hard piping costs).

Emission or Performance Based Standard

An emission or performance based standard would set a limit on the emissions from specific emission points in a wastewater system. Such a limit might consist of a mass or concentration standard in parts per million (ppm).

Setting performance based standards allows a wastewater system operator to consider the optimal control strategy based upon site specific system design and performance. By establishing performance-based standards, such as setting an emission limit of 500-ppm VOC from a drain or vent, equivalent emission reduction can be achieved without specifying a particular control technology.

Pollution Prevention Strategies

In addition to the use of equipment control strategies to reduce VOC emissions from wastewater collection systems, there are also several control strategies that could be implemented to reduce emissions from these systems. This approach differs from the equipment control strategies in that it is designed to reduce the source of the VOC emissions (pollution prevention) through operational changes in the refinery, as opposed to controlling the emissions themselves with equipment. Additional measures, such as the use of I&M programs, can further serve to reduce emissions from wastewater collection systems.

[1] "Final Staff Report for Proposed Rule 1176 – VOC Emissions from Wastewater Systems", South Coast Air Quality Management District, September 13, 1996.

For refinery wastewater collection systems, the following pollution prevention control measures have been identified as potential control measures to reduce VOC emissions:

- Reduce the generation of tank bottoms (these are the residues left in tanks containing petroleum products prior to cleaning)
- Minimize solids leaving desalter units to prevent organic from entering the wastewater collection system (a desalter unit removes mineral salts from crude oil using a water washing technique)
- Minimize or segregate cooling tower condensate from wastewater collection
- Minimize fluid catalytic cracking unit decant oil sludge (this sludge oil is the residue produced during the clean up following the catalytic cracking process)
- Control heat exchanger cleaning
- Minimize discharge of surfactants into wastewater collection system
- Thermally treat petroleum sludges to prevent the evaporation of organic vapors
- Reduce use of open pits and tanks
- Remove unnecessary storage tanks from service
- Segregate storm, process, and septic wastewater collection
- Improve recovery of petroleum products from wastewater collection systems
- Identify VOC sources and install upstream water treatment or separation
- Use oily sludges as feedstock (feedstock is the material used as the raw material of “feed” in various petroleum production processes)
- Control and reuse fluids from coking units and coke fines. Coke fines are the granular carbon particulates produced by the coking process
- Train personnel to reduce solids disposal to sewers

An I&M program, in addition to that discussed for equipment controls, should be an integral part of a pollution prevention strategy. Its procedures could include monitoring of waste generation, either through continuous samplers or regular testing, monitoring the use of open pits and regular training of refinery inspectors.

IV. REGULATORY PROPOSAL

Staff have analyzed methods for achieving the maximum emission reduction from these systems while allowing for the greatest flexibility for the affected facilitiesand recommend a combination of emissions controls: a performance based standard (500 ppm) and a mandated I&M program.

The proposed amendments modify Reg. 8-8 to include a strict concentration limit, an inspection and maintenance program, and an equipment control standard for

refinery wastewater collection systems. This approach incorporates the best elements of the control options discussed above.

This proposal mandates that each affected facility must either install controls on all wastewater collection system components (drains, manholes and junction boxes) or institute a rigorous inspection and maintenance plan. In addition, both of these options are also subject to a 500 ppm emissions standard.

Based on a review of the available materials, a 500 ppm standard for drains, manholes, junction boxes, trenches, reaches, sumps, lift stations, and oil-water separators has been determined to be currently achievable by the industry. While the wastewater collection systems are not designed to the standards of other refinery product transportation systems, this standard is achievable due to lack of high pressures and temperatures in these systems.

This conclusion has also been supported by sampling by District staff, consultations with the South Coast AQMD staff and information supplied through the workgroup process by the refineries. The derivation of the 500 ppm standard contained in the comparable South Coast Rule was based on the Federal Regulation for benzene waste (40 CFR 61 subpart FF). Provisions in this regulation mandate a 500 ppm limit on emissions from individual refinery drains. The federal requirement has demonstrated that 500 ppm is an achievable standard for existing refinery wastewater processes.

A. Proposed Amendments and Emissions Reductions

The following is a summary of proposed amendments to Regulation 8-8. Minor changes are not included.

Summary of Proposed Amendments to Regulation 8, Rule 8

Regulation Section #	Change
101	Changes description to include all organic compounds and extends the regulation to incorporate collection and transportation systems at industrial facilities.
112	Changes exemption to exclude refinery collection and transportation systems from the temperature provision of this section
115	Changes exemption to exclude Municipal Wastewater collection and separation facilities from new portions of the Regulation.

Regulation Section #	Change
116	Add exemption for trenches used for the separation of solids from oily water during maintenance and turnaround activities
201	Changes the definition of Organic Compounds consistent with other Regulation 8 rules
204	Modifies definition of vapor tight to be less than 500 ppm as measured with an OVA at the source interface
210	Modifies definition to exclude non precursor organic compounds
217	Modify definition of junction box in line with United States Environmental Protection Agency (USEPA) definition
219	Adds new definition of Leak Minimization
220	Adds new definition of Leak Repair
221	Adds new definition of Lift Stations in line with USEPA definition
222	Adds new definition of Manholes in line with USEPA definition
223	Adds new definition of Oil-Water Separation Trench
224	Adds new definition of Process Drains in line with USEPA definition
225	Adds new definition of Petroleum Refinery
226	Adds new definition of Reaches in line with USEPA definition
227	Adds new definition of Sumps in line with USEPA definition
228	Adds new definition of Trenches in line with USEPA definition
229	Adds new definition of Vent Pipes
230	Adds new definition of Wastewater Collection System Components
231	Adds new definition of Wastewater Separation System
232	Adds new definition of Water Seal or Equivalent Control
301.3	Modifies section to apply to organic compounds instead of critical organic compounds
302.3	Modifies section to apply to organic compounds instead of critical organic compounds
302.4	Modifies required testing in the section to be consistent with USEPA method 21
302.6	New language reduces concentration limit for oil-water separators from 1,000 ppm to 500 ppm total organics as measured with an OVA calibrated with methane
304	Modifies section to limit emissions from sludge during storage
305.2	Modifies section to apply to organic compounds instead of critical organic compounds
306.2	Modifies section to apply to organic compounds instead of critical organic compounds
307.2	Modifies section to apply to organic compounds instead of critical organic compounds
312	Adds new leak standard and repair requirements for controlled wastewater collection system components at petroleum refineries

Regulation Section #	Change
313	Adds new language that provides control options for uncontrolled wastewater collection system components at petroleum refineries
313.1	One of two new control options requires refineries to install controls on uncontrolled wastewater collection system components in accordance with the schedule listed in Section 8-8-403
313.2	The second of two new compliance options requires refineries to choose an Inspections and Maintenance plan for uncontrolled wastewater collection system components. This section also requires that components leaking over 500 ppm be minimized and reinspected within 30 days. If the component passes three consecutive 30-day inspections without leaking in excess of the standard, then it can be returned to an inspection schedule laid out in the section. Also, new language requires that any component found to be leaking over 500 ppm in any three inspections over five years be controlled in 30 days
314	Adds new language requiring that all future Wastewater Collection System Components at refineries be controlled by water seals or an approved equivalent
402	Adds new language mandating a Wastewater Collection System Components Inspection and Maintenance Plan
402.1	Adds new language requiring that all wastewater collection system components be identified
402.2	Adds new language requiring that an initial inspection must be completed by refineries and be made available to the APCO
402.3	Adds new language requiring a plan that provides for a re-inspection after minimization or repair of components. It also outlines inspection frequency for facilities choosing to comply with Section 8-8-313.2
402.4	Adds new language requiring a semi-annual inspection frequency for controlled wastewater system components at refineries
402.5	Adds new language requiring records must be maintained as per Section 8-8-505
403	Adds new language providing a compliance schedule for the control of Wastewater Collection System Components at Petroleum Refineries

Regulation Section #	Change
403.1	Adds new language requiring that petroleum refineries choosing this option control 25% of all uncontrolled drains by October 30, 2005
403.2	Adds new language requiring that petroleum refineries choosing this option control 50% of all uncontrolled drains by April 31, 2006
403.3	Adds new language requiring that petroleum refineries choosing this option control 75% of all uncontrolled drains by October 30, 2006
403.4	Adds new language requiring that petroleum refineries choosing this option control 100% of all uncontrolled drains by April 30, 2007
404	Adds new language requiring that refineries notify the APCO as to which Section of 8-8-313 they intend to comply
505	Adds new language requiring that refineries keep records for their Wastewater Collection Systems
505.1	Adds new language requiring records be kept for the location and type of Wastewater Collection System Component
505.2	Adds new language requiring records of the date, location and concentration recorded during any Wastewater Collection Systems inspection
505.3	Adds new language requiring that refineries describe efforts to minimize and repair leaking components
505.4	Adds new language requiring that all records pertaining to these inspections be kept on site for five years
602	Modifies language to apply to organic compounds
603	Modifies language to apply to inspection procedures to new rule sections

IV. EMISSIONS AND EMISSION REDUCTIONS

A. Emissions

To determine the emissions from wastewater collection systems, District and CARB staff conducted a series of extensive site visits to the five Bay Area refineries. During these visits, the staff observed how the collection system worked at each refinery. It was determined that a combination of emissions modeling (TOXCHEM+ and USEPA Water9) and best available control technology/lowest achievable emissions rate (BACT/LAER) equations should be used to estimate the emissions from the collection system.

District and CARB staff performed extensive wastewater sampling at all five Bay Area refineries. Utilizing these sampling results, estimates for refinery wastewater collection system emissions were developed. Field data collected including drain inventories, systems layouts, wastewater flow-rates and laboratory were used as inputs for the TOXCHEM+ model. A comprehensive explanation of this modeling and the associated sampling results is provided in the TAD. This modeling provided the following partial emissions estimates for refinery wastewater collection systems:

Table 3: VOC Emission Estimates for Refinery Wastewater Drains, Manholes, and Junction Box Vents

Refinery	Drain Emissions (tpd)	Manhole Emissions (tpd)	Junction Box Vent Emissions (tpd)	Total [2] (tpd)
1	0.411[1]	0.17	0.13[1]	0.70
2	0.27	0.048	0.17	0.49
3	0.14	0.16	0.17	0.47
4	0.12	0.034	0.084[1]	0.24
5	1.16	0.076	0.17	1.4
Total	2.1[3]	0.49	0.71	3.3

[1] Partial emissions. Additional information is needed to complete the assessment of drain and junction box vents from these facilities.

2 The emissions reported in this table do not represent the total emissions from the wastewater collection system. As discussed earlier, additional work is needed to estimate emissions from wastewater treatment and TPHd compounds.

3 2.02 tpd emissions from uncontrolled drains

By comparison, the District's emission inventory lists a total of 1.3 tpd of total VOC emissions from refinery wastewater process drains. The inventory numbers are derived from historical data and sampling, as well as emission factors. Due to the comprehensive nature of the TAD, it is assumed that the VOC estimates it contains, though incomplete, are more reflective of the current situation at Bay Area refineries.

In evaluating the data in Table 3, it is important to note that the VOC emission estimates for Refineries 1 and 4 are incomplete. For Refinery 1, only part of the refinery was sampled during the source tests, due to ongoing maintenance to the

wastewater system. For Refinery 4, it was discovered after the source tests had been completed that a significant portion of the wastewater collection system was not sampled, and consequently not included in the refinery VOC emission calculation. Therefore, data was not collected to estimate any VOC emissions from vents associated with this portion of the wastewater system.

In addition, the emission estimate was only developed for gasoline range compounds (C_2 to C_{10}) identified during sampling. Significant amounts of diesel range materials were found in the wastewater samples. The significance of emissions from these materials has not been established as part of this assessment, but has been recommended for further study.

B. Emission Reductions

Implementation of the regulatory proposal, which requires controls on all wastewater collection system components (drains, manholes and junction boxes) or a District prescribed inspection and maintenance plan, and a 500 ppm emissions standard can achieve approximately 2.1 tpd of VOC reductions**.** Emission reduction estimates are based on control of uncontrolled refinery drains, manholes and junction boxes. Water seals reduce emissions by 65% according to the South Coast Air Quality Management District's staff report for their Regulation 1176 and this is the basis of the emission reduction calculation.

While not specifically targeted by this regulation, a reduction in VOC will also decrease the amount of toxic air contaminants released by wastewater collection system components. The toxic compounds reduced include benzene, toluene and xylene (identified as part of the water analysis performed for the TAD). Based on the TAD analysis, other toxic compounds may also be present, including ethylbenzene and naphthalene. These compounds are present in extremely low amounts. The largest amounts observed in wastewater samples were in the parts per billion range and translate to the following percentages: 0.005% benzene, 0.01% toluene and 0.006% xylene). While the air emissions significance has not been established for these compounds, the proposed amendments would also lead to a reduction in their emissions.

Additionally, diesel range constituents were found in the samples used to prepare this estimate. While their emissions significance has not been determined, the proposed amendments would also control any emissions they may give off during transport.

V. ECONOMIC IMPACTS

A. Introduction

In estimating the costs associated with the potential control strategies identified in the previous chapter, both the capital costs and the recurring annual costs were considered.

The capital recover method was used to evaluate the capital costs. The

annualized capital costs were determined using the following equation:

Annualized Cost = (*Capital Recovery Factor*)×(*Capital Expenditure*)

Where:

Capital Expenditure – Equipment and installation costs
Capital Recovery Factor – 14.2% (7% per year over 10 years)

In evaluating the recurring annual costs, considerations were provided for such expenditures as operating costs (i.e. utilities, adsorption material replacement, etc.) and potential Inspection and Maintenance (I&M) costs.

Water Seals on Drains

Capital costs associated with sealing inserting water seals in drains are not significant in terms of the cost per emission point. It is estimated that the capital costs are between $400 and $1000 per drain. However, in considering this cost, it is important to consider that a refinery wastewater collection system may contain over one thousand uncontrolled drains.

The total anticipated capital costs to install wastewater water seals on all of the existing uncontrolled refinery process drains in the District are estimated to be between about $3.4 million and $8.6 million, as shown in Table 4. When annualized over ten years, these costs are between $540,000 and $1.5 million per year, including annual I&M costs. Table 5 shows these costs by refinery.

Annual recurring costs are comprised mainly of an anticipated need for an I&M program and equipment depreciation. The I&M program will likely be necessary to ensure the operability of each control device (this is already required for drains under the U.S. EPA's NSPS). It is estimated that the annual costs of employing an additional refinery employee is about $65,000 per year. It is possible that some refineries will need more than one inspector per facility. Also, each inspector will require the use of monitoring equipment (such as an organic vapor analyzer) which costs about $3,000 per unit. It is assumed that inspectors could be hired part-time or be included in current I&M programs if an annual I&M program for wastewater systems would require less than one full-time position, so pro-rated costs are shown in Table 5. The costs range from a semi-annual inspection frequency, which is the lowest cost option to a monthly inspection frequency, which is the highest cost option (Note: Appendix M of the TAD provides a more detailed listing of the cost estimate calculations.)

Table 5: Annual Costs for Water Seals on Uncontrolled Drains[1]

Refinery	Number of Uncontrolled Drains	Capital Cost (Thousand Dollars)	Annualized Capital Cost (Thousand Dollars per Year)	Annual I&M Costs (Thousand Dollars per Year)	Total Annual Cost (Thousand Dollars per Year over 10 years)
1	1,677	670 – 1,700	100 – 240	10 – 60	100 – 300
2	1,100	440 – 1,100	60– 160	6– 40	70 – 190
3	572[2]	230 – 570	30 – 80	3 – 20	40 – 100
4	500[2]	200 – 500	30 – 70	3 – 20	30 – 90
5	4,750	1,900 – 4,800	270 – 680	30 – 160	300 – 840
Total	8,599	3,400 – 8,600	490 – 1,200	50 – 290	540 – 1,500

1 Numbers may not total due to rounding.
2 Estimated from field data.

Sealing Manhole Structures

Capital costs associated with sealing manholes and inserting water seals are typically not significant in terms of the cost per emission point. It is estimated that the capital costs are between $400 and $1000 per manhole. Installing gaskets or seals and plugging holes in manhole covers is a straightforward maintenance operation. However, in considering this cost, it is important to consider that sealing a manhole structure may require replacement of the complete manhole structure due to cracks and gaps in the manhole chimney. Sealing emission sources from a failed manhole structure can require significant underground repair and expense.

Table 6 shows the total anticipated capital costs to seal manhole structures on all of the existing refinery manholes in the District are estimated to be between about $2.3 million and $5.8 million. When annualized over ten years, these costs are between $360,000 and $1 million per year, including annual I&M costs. Table 5 shows these costs by refinery.

Annual recurring costs are comprised mainly of an anticipated need for an I&M program and equipment depreciation. The I&M program will likely be necessary to ensure the operability of each control device (this is already required for drains under the U.S. EPA's NSPS). It is estimated that the annual costs of employing an additional refinery employee is about $65,000 per year. It is possible that some refineries will need more than one inspector per facility. Also, each inspector will require the use of monitoring equipment (such as an organic vapor analyzer) which costs about $3,000 per unit. It is assumed that inspectors could be hired part-time or be included in current I&M programs if an annual I&M program for wastewater systems would require less than one full-time position, so pro-rated costs are shown in Table 6.

It is important to note that these annual I&M costs are dependent upon the frequency of inspections necessary. As such, costs for a monthly, quarterly and semi-annual inspection program were estimated. These range of annual costs (by refinery) for an I&M program are shown in Table 6, along with the total

anticipated annual costs associated with controlling manhole emissions from refinery wastewater systems. The costs range from a semi-annual inspection frequency, which is the lowest cost option to a monthly inspection frequency, which is the highest cost option (Note: Appendix M of the TAD provides a more detailed listing of the cost estimate calculations.)

Table 6: Annual Costs for I&M and Sealing Manholes[1]

Refinery	Number of Manholes	Capital Cost (Thousand Dollars)	Annualized Capital Cost (Thousand Dollars per Year)	Annual I&M Costs (Thousand Dollars per Year)	Total Annual Cost (Thousand Dollars per Year)
1	1,965	790 -2000	110 - 280	11 – 70	120 – 350
2	570	230 -570	30 - 80	3 – 20	35 – 100
3	1941	780 -1900	110 - 280	11 – 70	120 – 340
4	400	160 - 400	20 - 60	2 – 14	25 – 70
5	900	360 - 900	50 - 130	5 – 30	56 – 160
Total	5,778	2,300-5,800	330 - 820	30 - 200	360 - 1000

[1] Numbers may not sum due to rounding.

Water Seals on Junction Boxes

Unlike the case for water seals on drains, the total number of uncontrolled junction box vents at refineries is unknown. To estimate costs, it was assumed that all junction boxes would need controls. In reality, this is not likely the case as some junction boxes are already controlled, or are not vented to the atmosphere. As such, the costs identified below are likely higher than could be expected to comply with any future rule.

Capital costs associated with water seals for junction box vents are estimated to be between $2000 and $2500 per vent, based on data provided by refiners. It was indicated that these costs include installation costs. The total anticipated capital costs to install wastewater water seals on all of the existing uncontrolled refinery junction box vents in the District are estimated to be between about $3.9 million and $4.8 million, as shown in Table 6. When annualized over ten years, these costs are between about $560,000 and $750,000 per year, including annual I&M cost. Table 7 also shows these costs by refinery.

Annual recurring costs are comprised mainly of an anticipated need for an I&M program. It is estimated that the annual costs of employing an additional refinery employee, dedicated to monitoring and maintaining the water seals is about $65,000 per year, with potentially more than one inspector being required per facility. Also, each inspector may require the use of monitoring equipment (such as an organic vapor analyzer) which costs about $3,000 per unit. It is assumed that inspectors could be hired part-time or be included in current I&M programs for other regulated equipment if an annual I&M program for wastewater systems would require less than one full-time position, so pro-rated costs are shown in Table 7.

It is important to note that these annual I&M costs are dependent upon the frequency of inspections necessary. As such, costs for a monthly, quarterly and semi-annual inspection program were estimated. These range of annual costs (by refinery) for an I&M program are shown in the previous tables, along with the total anticipated annual costs associated with controlling junction box vent emissions from refinery wastewater collection systems. The costs range from a semi-annual inspection frequency, which is the lowest cost option to a monthly inspection frequency, which is the highest cost option (Note: Appendix M of the TAD provides a more detailed listing of the cost estimate calculations.)

Table 7: Annual Costs for Water Seals for Wastewater Junction Box Vents[1]

Refinery	Number of Junction Boxes	Capital Cost (Thousand Dollars)	Annualized Capital Cost (Thousand Dollars per Year)	Annual I&M Costs (Thousand Dollars per Year)	Total Annual Cost (Thousand Dollars per Year)
1	655	1,300 – 1,640	190 - 230	4 - 22	190 – 260
2	190	380 – 480	54 – 67	1 – 6	55 – 73
3	647	1,300 – 1,600	180 - 230	4 – 22	190 – 250
4	134	270 - 340	38 - 48	1 – 5	39 – 53
5	300	600 - 750	85 - 110	2 - 10	87 - 120
Total	1,926	3,900 – 4,800	550 - 690	12 - 65	560 - 750

[1]Numbers may not total due to rounding.

Other Types of Vapor Recovery and Control Equipment

Table 8 provides some generic cost information on other potential vapor recovery and control equipment. In general, it is expected that the costs associated with the application of control equipment to junction box vents are significantly higher than with the use of water seals, although larger emission reductions could be achieved.

Table 8: Operating Costs for Alternative Vapor Recovery and Control Equipment (Cubic Feet per Minute)

Control Technology		Capital Cost ($)	Annual Operating Cost ($)
Carbon Adsorption		15-120/cfm	10-35/cfm
Thermal Oxidation	Recuperative	10-200/cfm	15-90/cfm
	Regenerative	30-450/cfm	20-150/cfm
Catalytic Oxidation	Fixed bed	20-250/cfm	10-75/cfm
	Fluidized Bed	35-220/cfm	15-90/cfm
Condensation		10-80/cfm	20-120/cfm

Source: Shen, Almon M. "Stationary Source VOC and NOx Emissions and Controls", Presentation at the 1995 Air Pollution Prevention Conference, Taipei, Taiwan, October 1995.

Performance Based Standards

Costs associated with implementing performance based standards are difficult to quantify, because of the inherent flexibility of the approach used allows a variety of controls options. In general, the establishment of performance based standards provides one of the lowest cost options for control. This is because performance based standards allow each refiner to utilize the control option or options that result in the lowest cost (both in terms of capital costs and operating costs). As such, it is believed that the costs associated with performance based standards would be in the range of, or even less than, the costs identified above for specific prescriptive control strategies.

Hard Piping

The costs associated with hard piping are estimated by CARB to be between $80 and $250 per linear foot of piping replaced. Similarly, a standard estimating program used by the Shell Oil refinery estimates cost for hard piping at $40 per inch diameter per linear foot. Staff estimates that between the five Bay Area refineries over 1 million linear feet of wastewater collection system piping exists.

Utilizing the estimating program cost number and applying it to 2", 8" and 18" piping over all five refineries, staff was able to produce a cost effectiveness number of approximately $20,000 per ton of VOC reduced per day. However, this figure counts only the cost of piping itself and does not take into account the cost of lost revenue due to loss of petroleum production, excess emissions from process unit shut downs, the cost of an inspection and maintenance plan to monitor these systems or the costs of the installation of segregated storm-water sewers for pad run-off. All of these factors are expected to drive the cost effectiveness numbers significantly higher.

It should also be noted that the incremental cost of a hard piping option is at a minimum $170 million. Staff estimates that such an extensive construction and retrofit project may take up to four to five years to complete. Staff do not recommend this control option as it delays emissions reductions and is not the most cost effective option.

B. Cost-Effectiveness

This section describes the overall cost-effectiveness of water seal controls on drains, manholes and junction box vents.

Based on the estimates of 3.3 tpd of VOC emissions (Table 3) from drains, manholes, and junction box vents, it is expected that 2.1 tpd of emission reductions can be achieved by sealing manholes and installing water seals in drains and junction box vents. The estimated total annual costs for control at each of the refineries in the District is in the range of $1.4 million to $3.3 million. It is estimated that the cost-effectiveness to reduce emissions from drains,

manholes, and junction box vents ranges from $1900 to $4300 per ton of VOC reduced. This cost also includes an I&M program with a semi-annual inspection frequency component that is part of the lowest cost option and a monthly inspection frequency component that is part of the highest cost option. This is within the range of cost-effectiveness determined for other VOC control measures adopted by the District, as well as by the ARB.

It is important to consider that the emission estimates for two of the refineries are not complete, and that characterization of emissions from total petroleum hydrocarbon diesel (TPHd) in the wastewater still needs to be evaluated. As such, the cost-effectiveness numbers above are conservative, and likely to improve as additional data is developed. In addition, it is likely that all of the junction box vents will not need controls. As such, the capital cost estimates, and by default the cost-effectiveness numbers, are overestimated. Further study would improve these cost estimates.

C. Socioeconomic Impacts

Section 40728.5 of the Health and Safety Code requires an air district to assess the socioeconomic impacts of the adoption, amendment, or repeal of a rule if the rule is one that "will significantly affect air quality or emissions limitations." Applied Economic Development, Berkeley, California, prepared a socioeconomic analysis, which is attached as Appendix A. The analysis concludes that the proposed amendments would not have significant socioeconomic impacts.

D. Incremental Costs

Under California Health and Safety Code Section 40920.6, the District is required to perform an incremental cost analysis for a proposed rule under certain circumstances. To perform this analysis, the District must (1) identify one or more control options achieving the emission reduction objectives for the proposed rule, (2) determine the cost effectiveness for each option, and (3) calculate the incremental cost effectiveness for each option. To determine incremental costs, the District must "calculate the difference in the dollar costs divided by the difference in the emission reduction potentials between each progressively more stringent potential control option as compared to the next less expensive control option."

In considering incremental cost-effectiveness, it is important to note that the emission estimates for two of the refineries are not complete, and that characterization of emissions from wastewater treatment and emissions from TPHd in the wastewater still need to be evaluated. As such, the cost-effectiveness numbers bellow are conservative, and the cost-effectiveness of control measures will improve as additional data is developed.

Incremental Cost-Effectiveness for Waterseals on Drains

Based on the estimates of 2.1 tpd of VOC emissions (Table 3) from refinery drains, it is expected that 1.3 tpd of emission reductions can be achieved. With

estimated total annual costs for control of all uncontrolled drains at each of the refineries in the District of $540,000 to $1.5 million (Table 4), it is estimated that the cost-effectiveness to require water seals on uncontrolled drains is between $1,100 and $3200 per ton of VOC reduced. This is in the range of cost-effectiveness determined for other VOC control measures adopted by the District, as well as by the ARB.

Incremental Cost-Effectiveness for Sealing Manholes

Based on the estimates of 0.49 tpd of VOC emissions (Table3) from refinery manholes, it is expected that 0.32 tpd of emission reductions can be achieved. With estimated total annual costs for control of all unsealed manholes at all of the refineries in the District of $360,000 to $1 million (Table 5), it is estimated that the cost-effectiveness to seal manholes is between $3100 and $8800 per ton of VOC reduced. This is in the range of cost-effectiveness determined for other VOC control measures adopted by the District, as well as by the ARB.

Incremental Cost-Effectiveness for Waterseals on Junction Boxes

Based on the estimates of 0.71 tpd of VOC emissions (Table 3) from junction box vents, it is expected that 0.46 tpd of emission reductions can be achieved. With estimated total annual costs for control of all junction box vents at all of the refineries in the District of $560,000 to $750,000 (Table 6), it is estimated that the cost-effectiveness to require water seals on junction box vents is between $3300 and $4400 per ton of VOC reduced. This is in the range of cost-effectiveness determined for other VOC control measures adopted by the District, as well as by the ARB.

E. Staff Impacts

Implementation of the proposed amendments will have a moderate impact on the District's resources. Staff will be inspecting wastewater components that are currently not regulated. However, staff routinely conduct similar inspections on many other refinery components. Staff regularly inspect over 2,000 valve and flange components a month under the provisions of Regulation 8-18. The number of wastewater collection system components estimated at refinery facilities is 19,489 (approximately 1% of the total number of Regulation 8-18 components). The proposed amendments to Regulation 8, Rule 8, will therefore result in an approximately 2% increase in staff component inspection time. These changes are necessary to achieve the necessary emission reductions and to verify compliance.

ENVIRONMENTAL IMPACTS

Pursuant to the California Environmental Quality Act, the District's environmental consultant, Environmental Audit, Inc., prepared an initial study for the proposed rule amendments to determine whether rule adoption would result in any significant environmental impacts. The initial study concludes that the proposed amendments would not result in negative environmental impacts. It also points out the benefits of ensuring that emissions from refinery wastewater collection systems are minimized. The complete environmental document is attached as Appendix B. A Negative Declaration for the proposed amendments has been prepared and was circulated for comment. No comments were received during the comment period from June 7, 2004 to June 28, 2004. This declaration was re-circulated for comment between August 13, 2004 and September 7, 2004. No comments were received during this second comment period.

REGULATORY IMPACTS

Section 40727.2 of the Health and Safety Code requires an air district, in adopting, amending, or repealing an air district regulation, to identify existing federal and district air pollution control requirements for the equipment or source type affected by the proposed change in district rules. The district must then note any differences between these existing requirements and the requirements imposed by the proposed change.

Existing Requirements	New Requirements
Reg. 8-8 requires that fixed roof Oil-water separators at refineries larger than or equal to 18.9 liters per second must meet a 1,000 ppm leak standard	Regulation 8-8 will now require that fixed roof Oil-water separators at refineries larger than or equal to 18.9 liters per second must meet a 500 ppm leak standard.
Under Title 40 CFR Part 60, Subpart QQQ, junction boxes on new sources at refineries shall be equipped with a cover and may have an open vent	Regulation 8-8 will now require that new or existing junction boxes at refineries be controlled with a sealed closed cover but may have an open vent.
Under Title 40 CFR Part 60, Subpart QQQ, standards for drains, junction boxes and oil-water separators do not apply during startup, shutdown or malfunction.	Regulation 8-8 will now require that control and emissions standard apply during these periods.
Under Title 40 CFR Part 60, Subpart QQQ, broken seals or gaps on junction boxes must be repaired within 15 days.	Regulation 8-8 will now require that upon discovery of any leak over 500 ppm on junction boxes that leak must be minimized within 24 hours.
Under Title 40 CFR Part 60, Subpart QQQ, broken seals or gaps on drains must be repaired within 15 days	Regulation 8-8 will now require that upon discovery of any leak over 500 ppm on drains that leak must be minimized within 24 hours.
Under Title 40 CFR Part 60, Subpart QQQ, broken seals or gaps on oil-water separators must be repaired within 15 days	Regulation 8-8 will now require that upon discovery of any leak over 500 ppm on oil-water separators that leak must be minimized within 24 hours and repaired within three days.
Under Title 40 CFR Part 60, Subpart QQQ, the EPA Administrator will determine if a control measure meets equivalency for a process.	Regulation 8-8 will now require that the APCO also approve equivalency.

Under Title 40, CFR, Part 61, Subpart FF, the benzene NESHAP regulations require visual checks on all controlled water seal drains identified as containing benzene	Regulation 8-8 will now require that all drains also be subject to biannual VOC emissions testing.

Based on this review there is no conflict or duplication of District or Federal requirements.

RULE DEVELOPMENT PROCESS

As part of the development of this regulation staff have gone through an extensive rule development process in order to get input from all affected parties. These efforts included the formation of a technical working group, public workshops and a presentation to the District Board Stationary Source Committee. The following is a summary of these efforts:

Technical Working Group

To assist in the TAD and rule development process a technical working group was formed that included representatives from California Air Resources Board, Industry, the Regional Water Quality Control Board, USEPA, Communities for a Better Environment (CBE), and District staff. This workgroup has met fifteen times to discuss technical issues related to this regulation. The issues discussed included refinery sampling plans and modeling, wastewater emissions estimation, regulatory concepts and planning for analysis of refinery wastewater treatment systems. The following is a summary of these meetings:

March 6, 2002 – This meeting served as the workgroup kick off. Members were introduced to each other and an overview of the scope of the project was given. A technical information questionnaire was discussed as well as a schedule for refinery site visits.

April 18, 2002 – This meeting discussed and reviewed the various models available for the estimation of VOC emissions from refinery wastewater systems. Also, wastewater sampling methodologies were discussed.

May 22, 2002 – This meeting discussed a proposed a pilot sampling project at the Valero refinery, the sampling methodologies to be used, laboratory analysis, project reporting, quality control and emissions modeling.

July 15, 2002 – This meeting discussed the results of the Valero pilot project, established TOXCHEM+ and Water9 as the preferred modeling methods and discussed the assumptions and sensitivity of the models to be used. In addition this meeting discussed the limitations of the sampling methodology and modeling in term of it being a worst-case scenario.

September 11, 2002 – This meeting discussed the preliminary results of sampling and modeling at the five Bay Area refineries. It also discussed the assignment of surrogates to undefined chromatograph peaks found in the sampling results as well as the reasons why those peaks could not be assigned to the Diesel range portions of the sampled materials.

November 12, 2002 – This meeting discussed the first version of the TAD produced in September. Staff got comments on emissions modeling, project set up, monitoring provisions for wastewater systems and the assessment emissions from the diesel fraction found in refinery samples.

August 14, 2003 – This meeting served as the kick off for the regulatory development portion of the project. Regulatory concepts were discussed such as equipment standards, leak standards and an emissions cap. A regulatory development schedule was also discussed.

September 4, 2003 – This meeting discussed including the wastewater collection system components in the amendments to Regulation 8, Rule 18. Also discussed were leak standards, commitments to study wastewater treatment systems, regulatory concepts and RWQCB permit requirements.

September 18, 2003 – This meeting served to discontinue the discussion of including wastewater collection system components in the amendments to Regulation 8, Rule 18. Also discussed were the possibility of the inclusion of a non-repairable list for components, safety issues and existing federal standards for P-trap drains.

October 9, 2003 – The majority of discussion in this meeting centered on discussion of regulatory concepts such as leak standards, monitoring of loading into treatment systems and sampling methodologies.

September 13, 2003 – This meeting discussed regulatory concepts such as control installation, repair periods, reporting, federal requirements, safety concerns and refinery commitment to the study of wastewater treatment systems.

March 4, 2004 – This meeting served to finalize the TAD and to continue the discussion on regulatory concepts. Discussed were repair period, record keeping requirements, Title V compliance issues, treatment system monitoring, refinery commitment to the study of wastewater treatment systems.

April 19, 2004 – This meeting discussed the draft regulation and staff report. Issues discussed were exemptions, repair period, reinspection frequency, leak test methodology and the effective date of the regulation.

May 27, 2004 – This meeting discussed the outstanding issues in the regulation, inspection frequency, the effective date of the regulation and repair periods.

June 25, 2004 - This meeting discussed in greater details the technical issues surrounding the proposed regulatory effective date, inspection frequency and safety issues.

Staff also held the following additional meetings with CBE

February 23, 2004 – CBE requested this meeting to discuss a number of their positions in regard to the study of the wastewater treatment systems at refineries, economic cost of monitoring, pollutant transportation issues and toxics.

May 10, 2004 – Due to the fact that CBE staff was unable to attend the April 19, 2004 technical workgroup meeting, staff agreed to discuss their issues with the draft regulation and staff report. The issues discussed were inspection frequency, the effective date of the regulation, rule enforcement, episodic events at facilities, impacts on local communities and efforts for emissions estimation for refinery wastewater treatment systems.

June 6, 2004 – CBE requested a meeting with the Executive staff to discuss the workgroup meeting of May 27th, 2004. The items discussed were decision making in the workgroup, the purpose of the workgroup process, CBE's proposal for the effective date of the regulation and the frequency of monitoring at refineries, and the effects of the regulation on local communities.

Public Workshops

Staff held two workshops to solicit public comment on the proposed amendments to Regulation 8, Rule 8. The first was help in Martinez on April 27, 2004 and a second meeting was held, at CBE's, request in Richmond on May 18, 2004. The following is a brief synopsis of those meetings (more detail on the issues raised is available in the comments section of this regulation):

April 27, 2004 – Staff gave a brief presentation on refinery wastewater systems and reviewed the regulation with the 20 attendees. Staff received comments on the effective date of the regulation, staff impacts, rule enforcement, health impacts on local communities, Title V reporting criteria, the equipment leak standard and the financial and time burden on the affected industry.

May 18, 2004 – Staff gave a brief presentation on refinery wastewater systems and reviewed the regulation with the 35 attendees. Staff received comments on the effective date of the regulation, rule enforcement, impacts on local communities, safety, toxic's, public outreach, point source emissions and the financial and time burden on the affected industry.

Stationary Source Committee Report

Following the public workshops, staff updated the District Board Stationary Source Committee on the progress that had been made on the development of amendments to Regulation 8, Rule 8. The following is a synopsis of that meeting:

May 24th, 2004 - Staff gave a brief presentation on refinery wastewater systems. The report described the refinery wastewater process system, which includes wastewater collection, separation and treatment. Staff reviewed some of the equipment options identified to control the emissions, such as wastewater control vents, carbon canisters, sealed sewers, fixed covers, wastewater seals or "P" trap drains.

Staff also reviewed the rule development process, which included a Technical Workgroup that was formed with the California Air Resources Board (CARB) in February 2002; a September 2002 draft Technical Assessment Document (TAD); a final draft TAD in

March 2004, and two public workshops. Staff outlined future steps for wastewater emissions assessment including keeping the workgroup in place, a sampling plan and emissions modeling is under discussion for the treatment portion of the wastewater system. If necessary, once the data on excess emissions from the treatment systems is available, staff will bring a treatment rule before the Board.

There was discussion on the implementation timeline. WSPA commented that two years was an appropriate schedule, and CBE commented that they believed twelve months was an appropriate timeline for implementation. Both commentors had participated in the rule development process. In response to a question from Director Cooper, staff stated that a number of the refineries are already implementing some of the proposed requirements (federal standards require controls of wastewater drains containing benzene).

Director Haggerty stated that, on the issue of implementation dates and in light of the difference of opinion between CBE and WSPA, it may appropriate for staff to split the difference between the two and make the proposed amendments effective 18 months from the date the rule was brought before the board. Both Director Silva and Director Cooper stated that a shorter time line might be more appropriate.

Director Townsend discussed hard piping as a required alternative and staff noted that alternative methods of control were looked at in the TAD, but staff did not find hard piping to be cost-effective.

ISSUES

As part of the development of the proposed amendments to Regulation 8, Rule 8 a number of issues have been raised. These issues have been considered by staff as part of the decision making for this regulatory effort. This section has been added to explain staff's rationale. The significant issues raised are as follows:

System Segregation

From the inception of this project and throughout the workgroup process, CBE has disagreed with the segregation of wastewater treatment from the collection and separation portions of the wastewater system proposed to be regulated by

this rule amendment. CBE have suggested a more holistic approach to emissions reduction by repeatedly floating the idea of pollution prevention in work group meetings.

Staff were faced with a huge project to quantify emissions from refinery wastewater systems. These systems are very complex and span very large areas. Based on its review of the project and information available from the SCAQMD, staff decided that a large benefit could be achieved by first studying and then reducing the emissions from refinery collection systems. Separation systems at refineries are currently regulated by Regulation 8, Rule 8 and provided a natural point to break the systems into more manageable portions.

This approach has led to a proposed regulatory amendments that will lead to an emissions reduction of 2.1 tpd of VOC emissions that can be achieved in the near term. Additionally, work has continued to begin the quantification of emissions from the treatment portion of the refinery system. Staff have also included pollution prevention as an option for refiners when controlling wastewater collection system components and believe that this will lead to a consideration of pollution prevention options sought by CBE.

Safety

As part of the workgroup process a number of refineries have brought up the issue of safety. Specifically, they have requested an exemption in the rule similar to one contained in the SCAQMD Rule 1176 which would allow them not to control any area in which a danger of explosion existed.

Staff have reviewed this issue carefully and consulted with the SCAQMD on this subject. Rule 1176 has been in place at 11 refineries for the last 8 years. In that time not a singe facility has claimed this exemption for any of their wastewater processes. In addition, staff review has found that these systems are not pressurized and that the concentrations of hydrocarbon in them is very low, frequently in the less than one percent range. Refineries have presented evidence of a danger of explosion with relation to confined space entry, however, this danger is no greater than the entry into any other permit required confined space. Refineries perform hundreds of these entries yearly without explosion, therefore, staff do not recommend an exemption from the proposed control requirements for safety in this regulation.

Costs

The Valero refining facility has expressed concerns regarding the cost of this proposed measure. Valero has repeatedly stated at workgroup meetings and at the public workshops that the cost of this measure in terms of the emissions from its wastewater system are high.

In response to this staff have performed both incremental and socio-economic analyses and found that this measure is very cost effective as an over all control

measure. Staff have also performed limited field testing at the Valero facility and has a good working knowledge of the Valero wastewater collection system. This facility already has significant controls in place, therefore, the cost of this measure to the Valero facility maybe as low as the projected $65,000 expense of an additional refinery employee to perform inspections. The cost effectiveness of $1,900 to $4,300 per ton includes equipment costs that Valero may forego.

Effective Date of the Rule

Of all the issues raised at the workgroups, public workshops and the Stationary Source Committee, this issue has been the most contentious. The refineries state that the implementation dates of the proposed amendments to Regulation 8, Rule 8 are very aggressive and had requested a two year lead time prior to the partial control option requirements coming in force. Additionally, the refiners have argued that by providing extra lead time at the inception of this regulation it will provide them with an incentive to investigate pollution prevention measures rather than emissions reduction controls.

However, CBE and members of the community have requested that the lead time for the partial control option be cut to one year or less. CBE has argued that they see no technical reason to delay implementation and that their membership is currently being affected by the emission from refineries. CBE has also stated that they feel that the refineries could expedite the implementation of this rule by budgeting for additional resources to perform work up front.

Staff have examined this issue carefully and has sought advice from both the SCAQMD and leading consultants in the field of wastewater systems, Brown and Caldwell. Brown and Caldwell have performed a large number of studies of refinery wastewater systems including some at bay area facilities. At one of these facilities they were tasked with the production of an overall system map that showed all major junction boxes and manholes on the refinery sewer line. This project took a team of 6 to 8 staff members nine months to complete. Staff have a copy of this survey and have examined it. Additionally, this project had no control or survey elements to it as required by the proposed amendments to Regulation 8, Rule 8.

Based on the size of this facility, the level of detail required by the proposed regulation and the level of current knowledge about refinery systems, staff have determined that the fifteen month lead time provided by the regulation will be the minimum sufficient for the facilities to comply with the regulation.

There is a safety concern regarding the construction and retrofit that must take place at these facilities to comply with the proposed amendments to this regulation. As discussed earlier many of the retrofit and construction portions of this project will be performed in permit required confined spaces at refinery process units. Permit required confined spaces are working environments where a health risk exists to the personnel entering them. Entry into these spaces

requires a permit and is also subject to stringent OSHA and monitoring requirements. These requirement means that due to the administration and control of this type of work and because of the nature of the drain system, it will be likely that only one portion of the drain system can be worked on at any given time. These procedures will enable the refineries to remain well below the explosive limits for oxygen in these systems.

Although staff does not recommend an exemption from the control requirements based on safety, the need to schedule safe work environments is a consideration in the proposed implementation date.

Proposed Section 8-8-313.1 provides an option for control of all wastewater system components in a refinery. This option is also present in the comparable South Coast rule. The SCAQMD provided substantially more lead time (4.5 years) for facilities to achieve compliance with the total control portion of their regulation. The proposed amendments to Regulation 8, Rule 8 include a significantly shortened timeline of 2.5 years for total control of these systems which staff have determined based on logistical, safety and technical issues is appropriate to ensure compliance, should a facility choose this compliance option.

Inspection Frequency

The issue of how often to inspect drain system components has also proved contentious in both the workgroups and public workshops. Having reviewed the cost estimates contained in the TAD and this draft report, CBE has been requesting that the refiners perform monthly monitoring on their facility wastewater collection system components for at least the first two years following the implementation of the proposed amendments. CBE argued that due to the episodic nature of releases to refinery drains, it will be impossible to ensure that actual emissions reductions are being achieved by less frequent monitoring.

The refineries have stated that they have limited resources in the area of leak detection and that it takes a significant period of time to train and equip personnel for leak detection. They have also argued that given the stringency of the District's inspection program that this will further tax resources and that they would be unable to support the burden of such a frequent inspection schedule.

Staff have examined these issues and have determined that the schedule of inspections proposed by the regulation will assure that emissions reductions are achieved. The proposal includes a higher inspection frequency initially (bi-monthly for one year) to ensure that major leakers are identified, followed up by semi-annually inspections to ensure components remain leak tight.

Staff have done a number of leak inspections at facilities and has reviewed data from the SCAQMD. This data indicates that the majority of wastewater system components either do or do not leak. Intermittent component leaks are rare. Staff have concluded that the inspection frequency proposed ensures that the

majority of leaking components will be found during the initial inspection period.

The proposed amendments are more stringent than the requirements in the SCAQMD rule and require components that are discovered to leak three times over a five year period to be controlled.

In addition, District staff will be conducting inspections. This will find leaking collection system components and will require immediate corrective action thus ensuring the estimated emissions reductions in the proposed rule are achieved.

CONCLUSION

The proposed amendments to Regulation 8, Rule 8: Wastewater (Oil – Water) Separators will exceed the commitment for study made as part of 2001 Ozone Attainment Plan. It is intended to limit the amount of organic compounds released during the collection of refinery wastewater during transport to on-site treatment. Pursuant to the Health and Safety Code Section 40727, new regulations must meet necessity, authority, clarity, consistency, non-duplicity and reference. The proposed regulation is:

- Necessary to protect public health by reducing ozone precursor emissions. The amendments also reduce exposures to toxic air contaminants.
- Authorized by California Health and Safety Code Section 40702.
- Clear, in that the new regulation specifically delineates the affected industry, compliance options and administrative requirements for industry subject to this rule,
- Consistent with other District rules, and not in conflict with state or federal law,
- Non-duplicative of other statutes, rules or regulations, and
- The proposed regulation properly references the applicable District rules and test methods and does not reference other existing law.

While this current revision is targeted at refineries only, it is recommended that other industries subject to this rule be studied and, if necessary, controlled in a similar manner so that emissions reductions can be obtained. Also, both the TAD and this rule making effort identified a number of other areas where further potential emissions reductions could be studied, including better characterization of the contribution of heavier hydrocarbons (i.e., diesel fuel, fuel oils, etc.) in the wastewater stream to VOC emissions from the wastewater collection system and study of emissions from wastewater treatment.

A socioeconomic analysis mandated by Section 40728.5 of the Health and Safety Code concludes that the proposed amendments would not have significant impacts. Also, analysis performed pursuant to the California Environmental Quality Act (CEQA), concludes that the proposed amendments would result in no negative environmental impacts. A Negative Declaration for the proposed amendments has been prepared and was circulated for comment. No comments were received during the comment period from June 7, 2004 to June 28, 2004. This declaration was re-circulated for comment between August 13, 2004 and September 7, 2004. No comments were received during this second comment period.

Staff recommend the adoption of the proposed amendments to Regulation 8, Rule 8.

REFERENCES

1. California Air Resources Board Draft Technical Assessment Document "Potential Control Strategies to Reduce Emissions for Refinery wastewater Collection and Treatment Systems" January 2003.

2. Bay Area Air Quality Management District, "Best Available Control Technology (BACT) Guideline for Water Treating – Oil-water Separator", October 1991.

3. South Coast Air Quality Management District, "Proposed Amended Rule 1176 – VOC Emissions From Wastewater Systems", Final Staff Report, September 13, 1996.

4. United States Environmental Protection Agency, AP-42 "Waste Water Collection, Treatment And Storage", January 1995.

Socioeconomic Analysis
Proposed Amendments
Regulation 8
Rule 8
Wastewater (Oil-Water) Separators

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1. EXECUTIVE SUMMARY

The purpose of Regulation 8 Rule 8 is to reduce the emission of volatile organic compounds (VOCs) from wastewater collection systems at five petroleum refineries in the nine-county San Francisco Bay Area. Rule 8-8 was first adopted in 1979 and was subsequently amended in 1982, 1989 and 1994. The regulation requires controls on small wastewater separators, junction boxes and sludge dewatering facilities, and it requires the retrofit of larger refinery wastewater oil-water separators.

The following are some of the key findings from the socioeconomic analysis of the proposed amendments.

- According to the Bay Area Air Quality Management District (BAAQMD), there are five (5) petroleum refineries in the region that are primarily affected by the amendments. These corporations are Chevron, Shell, Connoco Phillips, Valero-Valero Asphalt, and Tesoro.
- In 2003, these five refineries employed an estimated 2,807 workers, generated revenues of $8.2 billion, and earned an estimated $224 million in profits.
- The proposed amendments to will result in aggregate compliance costs ranging from $1,457,000 to $3,296,000 —between 0.6 and 1.5 percent of aggregate profits for the 5 refineries directly affected by the proposed amendments to Regulation 8, Rule 8. Thus, the proposed amendments to Regulation 8, Rule 8 do not significantly impact in affected refineries.

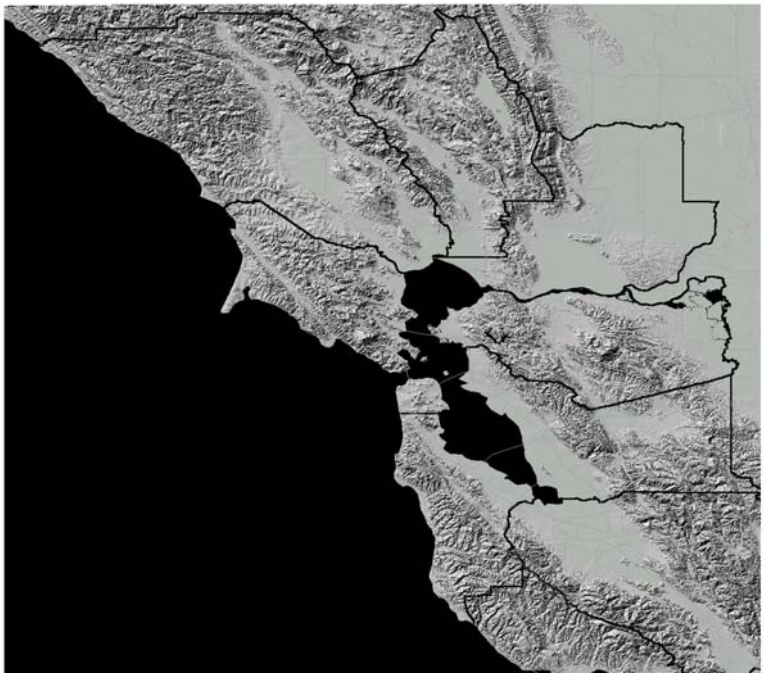
2. INTRODUCTION

This report describes the socioeconomic impacts of proposed amendments to Regulation 8, Rule 8. Following this introduction, the report summarizes proposed amendments to the rule and describes the methodology for the socioeconomic analysis. In Section 5, the report describes the economic characteristics of sites affected by the proposed amendment. The sixth section analyzes the socioeconomic impacts of proposed amendments to Regulation 8, Rule 8.

The proposed amendments to Regulation 8, Rule 8 will assist the BAAQMD in meeting its commitments to improving air quality in the region by limiting organic emissions from oil/water separators and dissolved air flotation units at refineries, chemical and other plants throughout the Bay Area. It also limits emissions from sludge dewatering and slop oil vessels.

Figure 1 below is a map of the Bay Area Air Quality Management District. The District consists of nine counties in the San Francisco Bay Area: Alameda, Contra Costa, Marin, Napa, San Mateo, San Francisco, Santa Clara, Solano, and Sonoma Counties.

Figure 1. Bay Area Air Quality Management District Air Basin



3. DESCRIPTION OF PROPOSED AMENDMENTS

Volatile Organic Compound (VOC) emissions from wastewater collection systems at oil refineries are generated when organic liquids are entrained in water used in refinery processes. These organic liquids are volatilized during transport to an onsite wastewater treatment system by exposure to high temperatures and turbulence in the transport structures (pipes, manholes, junction boxes, sumps and lift stations).

To reduce VOC emissions by at least 1.9 tons per day, as well as reduce toxic compounds such as benzene, toluene, and xylene, the Bay Area Air Quality Management District (BAAQMD) seeks to amend Regulation 8, Rule 8 (Wastewater [Oil-Water] Separators). In particular, the BAAQMD seeks to amend Regulation 8, Rule 8 to include a 500 ppm leak standard measured with an Organic Vapor Analyzer (OVA) for all wastewater collection components, control equipment mandates for leaking components, and an inspection and maintenance program for wastewater components.

4. METHODOLOGY

The socioeconomic analysis involves the use of information provided directly by the District, the corporations and sites directly affected by proposed amendments, as well as secondary data used to describe the industries affected by proposed amendments to Regulation 8, Rule 8. The approach is briefly described below.

ADE began the analysis by requesting from the District a list of all sites subject to the proposed amendments to Regulation 8, Rule 8. Based on conversations with District staff, we determined that the study would focus on oil refineries in the BAAQMD region and, of these, we further focused attention on Chevron, Shell, Connoco Phillips, Valero and Tesoro.

We then began to prepare a statistical description of the industry groups of which the affected sites are part, as well as to analyze data on the number of jobs, sales levels, the typical profit ratios and other economic indicators for each industry. ADE also reviewed and summarized documents available to the public such as annual reports for publicly traded companies.

With the annual reports and data from the US Economic Census, ADE was able to estimate revenues and profit ratios for many of the sites affected by the proposed amendments to Regulation 8, Rule 8. In calculating aggregate revenues generated by Bay Area refineries, ADE first estimated an average revenue figure for a refinery based on revenues generated over the four-year period between 2000 and 2003. Using the annual reports and data culled by Dun and Bradstreet, ADE calculated ratios of profit per dollar of sales for each refinery. To estimate employment, ADE used employment data from data vendors such as the US Economic Census and the Minnesota IMPLAN Group.

The result of the socioeconomic analysis shows what proportion of profit the compliance costs represent. Based on a given threshold of significance, ADE discusses in the report whether the affected sites are likely to reduce jobs as a means of recouping the cost of rule compliance or as a result of reducing

business operations. To the extent that such jobs losses appear likely, the indirect multiplier effects of the jobs losses are estimated using a regional IMPLAN input-output model.

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5. IMPACTED SOURCES SUBJECT TO PROPOSED AMENDMENTS TO REGULATION 8, RULE 8

This section of the socioeconomic analysis describes demographic and economic trends in the San Francisco Bay Area region. The first part of this section compares the Bay Area against California as a whole and, in so doing, provides a context for understanding demographic and economic changes that occurred within the Bay Area between 1997 and 2002. Starting with sub-section 5.2, the second part of this section narrows the focus of the socioeconomic analysis to those industries identified by the District as subject to the proposed amendments. The five (5) sites that are affected by the proposed amendments to Regulation 8, Rule 8 are within SIC 2911 (petroleum refining). The second part of this section describes the economic characteristics of impacted sites subject to Regulation 8, Rule 8. For the purposes of this report, the Bay Area region is defined as Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano and Sonoma Counties.

5.1 REGIONAL DEMOGRAPHIC AND ECONOMIC TRENDS

Regional Demographic Trends

The San Francisco Bay Area experienced moderate population growth during the 1990s. Between 1992 and 2002, the nine-county region as a whole increased by 12 percent, from 6.2 million in 1992 to 6.9 million in 2002. The Bay Area grew almost at the same pace with the state, which increased by 13 percent. San Francisco, Marin, and San Mateo counties grew at significantly slower paces, perhaps because of the high cost of housing in these parts of the Bay Area, as Table 1 shows.

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TABLE 1
Population Growth: San Francisco Bay Area
1992 - 2002

	1992	1997	2002	92 - 97	97 - 02	92 - 02
California	30,844,728	32,670,019	34,999,827	6%	7%	13%
Bay Area	6,181,849	6,566,939	6,936,646	6%	6%	12%
Alameda County	1,310,478	1,381,705	1,484,698	5%	7%	13%
Contra Costa County	829,247	887,065	980,870	7%	11%	18%
Marin County	234,165	241,412	248,490	3%	3%	6%
Napa County	113,593	120,095	128,132	6%	7%	13%
San Francisco County	735,633	772,834	789,062	5%	2%	7%
San Mateo County	664,258	704,834	714,414	6%	1%	8%
Santa Clara County	1,534,704	1,654,833	1,716,755	8%	4%	12%
Solano County	358,916	375,512	405,642	5%	8%	13%
Sonoma County	400,855	428,649	468,583	7%	9%	17%

Source: Applied Development Economics, based on data from California Department of Finance

Regional Economic Trends

Economic development practitioners and planners have traditionally divided economies into two broad industrial categories—the economic base and local support industries. Economic base industries are the drivers of local and regional economies in that these industries draw income into a local economy by selling products outside of the local economy, much like the export industries of a national economy. Accrued earnings then circulate throughout the local area in the form of wages and salaries, investments, purchase of fixed assets, and goods and services, generating more jobs and wealth.

The economic base is typically comprised of industries within the manufacturing, minerals-resource extraction, and agricultural sectors. There are also the "local support industries" such as retail or service sectors, the progress of which is a function of the economic base and demographic changes, and more so the latter than the former. As population increases in a given area, demand for services – such as realtors, teachers, healthcare – increases, as does demand for basic retail items like groceries, gas for commuting, or clothing at the local apparel shops.

With notable companies such as Intel, Apple, NUMMI, to name a few, manufacturing continues to be the economic base of the San Francisco Bay Area, exporting goods and produce throughout the nation and globe. The industries affected by Regulation 8, Rule 8 are a prominent part of the region's

economic base. Over the course of the late 1990s, local support industries gained somewhat within the region. Growth in local support industries, such as construction, retail and services, is in large part due to regional population growth, particularly in Alameda (Livermore Valley region), Contra Costa, Solano and Sonoma Counties.

As Table 2 shows, the service sector is the largest employment sector in the region, at 1.2 million or 34 percent of all private and public sector jobs. In 1997, services represented 32 percent of all jobs (1.0 million jobs). While the proportion of people employed in the services-based sector increased between 1997 and 2002, the proportion of people employed in the manufacturing economic base declined, from 16 to 13 percent of all private sector workers in the Bay Area. Between 1997 and 2002, manufacturing jobs decreased by 10 percent, from 495,500 to 445,400, as Table 2 shows.

Between 1997 and 2002, construction increased by 24 percent, from 142,400 to 176,300 jobs, as Table 2 shows. Other sectors with significant employment gains include services, which grew by 16 percent between 1997 and 2002, and government, which grew by 11 percent. Over the same five-year period, the number of retail jobs increased by 11 percent. In short, strong employment growth over the 1997-2002 five-year period and over the 1992-2002 ten-year period occurred in sectors that are local-support in nature, or, more precisely, those sectors whose respective fortunes ebb and flow with population. Export-oriented sectors such as manufacturing declined between 1997 and 2002, after having increased between 1992 and 1997.

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TABLE 2
Employment Profile of the San Francisco Bay Area, 1997 – 2002

	1992	1997	2002	2002	92 - 97	97 - 02	92 - 02
Agriculture	22,300	23,700	22,500	1%	6%	-5%	1%
Mining	6,875	4,003	3,300	0.1%	-42%	-18%	-52%
Construction	113,128	142,408	176,300	5%	26%	24%	56%
Manufacturing	453,875	495,584	445,400	13%	9%	-10%	-2%
Transportation and Public Utilities	164,747	179,333	171,700	5%	9%	-4%	4%
Wholesale Trade	162,570	176,870	166,700	5%	9%	-6%	3%
Retail Trade	473,044	513,214	570,700	17%	8%	11%	21%
Finance Insurance & Real Estate	207,347	202,944	214,300	6%	-2%	6%	3%
Services	828,269	1,017,933	1,179,900	34%	23%	16%	42%
Government	454,300	437,900	484,600	14%	-4%	11%	7%
TOTAL	2,886,455	3,193,889	3,435,400	100%	11%	8%	19%

Source: Applied Development Economics, based on data from MIG IMPLAN and California EDD LMID

5.2 DESCRIPTION OF AFFECTED INDUSTRIES

Regulation 8, Rule 8 affects industries in SIC 2911 (oil refineries). What follows is a description of this industry. Table 3 identifies economic trends for oil refineries in the Bay Area, and it provides a comparison between two points in time—1997 and 2002. Data in Table 3 are for all sources, not just the five (5) impacted sources subject to the proposed amendments. As Table 3 shows, employment in oil refineries increased by an estimated 4 percent for the five-year period from 1997 to 2002 — from 7,292 to 7,549 jobs. While Bay Area refinery jobs increased slightly between 1997 and 2002, manufacturing as a whole decreased by 10 percent in the Bay Area region, as Table 2 above noted.

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TABLE 3
Employment Trends: Industries Affected By Proposed Amendments to Regulation 8, Rule 8
1997 – 2002

	1997	2002	1997 - 2002	1997 - 2002
Manufacturing	495,584	445,400	-50,184	-10%
Oil Refineries (SIC 2911)	7,292	7,594	302	4%
Major refineries (SIC 291100)	*2,769*	*2,707*	*-62*	*-2%*
Other refineries (SIC 2911xx)	*4,523*	*4,887*	*364*	*8%*

Source: Applied Development Economics, based on data from MIG IMPLAN, California EDD LMID, Dun and Bradstreet, corporate annual reports, and East Bay Business Times (April 19, 2002)

Table 3 also distinguishes employment in the five refineries directly affected by amendments to Regulation 8, Rule 8. These refineries employ an estimated 2,707 workers. The five industries affected by the proposed amendments are classified under the SIC system as SIC 29110000. In addition to SIC 29110000, the SIC 2911 industry contains other sub-industries at the eight-digit SIC level. Refineries other than SIC 29110000 employ an estimated 4,887 workers, as Table 3 shows. Appendix A lists oil refineries businesses in the San Francisco Bay Area that have 8-digit SIC codes other than SIC 29110000.

5.3 ECONOMIC CHARACTERISTICS OF SOURCES AFFECTED BY THE PROPOSED AMENDMENTS TO REGULATION 8, RULE 8

Table 4 identifies the economic characteristics of the refineries affected by the proposed amendments. This table shows that the refineries are estimated to employ 2,707 workers. These sites have an estimated aggregate payroll of $134 million, and estimated revenues of $8.2 billion. In calculating aggregate revenues generated by Bay Area refineries, the consultant estimated an average revenue figure per refinery based on revenues generated by that refinery over a four-year period between 2000 and 2003. Then, the consultant summed the refineries' respective average revenue to arrive at the aggregate amount of $8.2 billion. The consultant pursued this approach in order to control for the ebb and flow of refinery revenues, which fluctuate from one year to the next based on production

and the price of crude oil and gas, among other things.

TABLE 4
Economic Characteristics of Five Impacted Sources Subject To Proposed Amendments to Regulation 8, Rule 8

SIC	Estimated Employment, 2002	Daily Throughput (bbls), 2002	Estimated Payroll	Revenues
SIC 2911 Oil Refineries	2,707	689,600	$134,891,089	$8,246,738,765

Sources: Applied Development Economics, based on data from the US Economic Census, Dun and Bradstreet, and various corporate annual reports

As Table 5 shows, the affected sources represent 35 percent of all employment within their respective industry (SIC 2911) in the Bay Area region. Overall, there are an estimated 7,594 petroleum refining employees in the Bay Area. Of the 7,594 workers, 2,707 work in the five affected refineries, or 35 percent. In California as a whole, there were 12,878 workers in SIC 2911– NAICS 32411. In other words, 21 percent of all workers in oil refining are employed in refineries impacted by proposed amendments to Regulation 8, Rule 8.

TABLE 5
Employment In Impacted Sites Subject To Proposed Amendment to Regulation 8, Rule 8 Relative To the Bay Area and California

SIC	Estimated employment at Affected Refineries 2002	Affected Sites As percent of Bay Area 2911 Employment	Affected Sites As percent of California 2911 Employment
2911	2,707	35%	21%

Sources: Applied Development Economics, based on data from the Dun and Bradstreet and Count Business Patterns.

6. SOCIOECONOMIC IMPACTS

6.1 COMPLIANCE COST ESTIMATES

The District's cost of compliance analysis indicates that, overall, all sources affected by the amendments would experience an aggregate annual cost between $1,457,000 and $3,296,000. Table 6 provides a breakdown of the estimated costs.

TABLE 6
Annual Compliance Costs

Cost Item	Number of Items	Capital Cost Range ($000)	Annualized Capital Cost Range ($000)	Annual I&M Costs ($000)	Total Annual Costs ($000)
Uncontrolled Drains	8,599	$3,400 - $8,600	$490 - $1,200	$50 - $290	$540 - $1,500
Manholes	5,776	$2,300 - $5,800	$330 - $820	$30 - $200	$360 - $1,000
Junction Boxes	1,926	$3,900 - $4,800	$550 - $690	$12 - $65	$560 - $750
					$1,457 - $3,296

Source: Bay Area Air Quality Management District

6.2 BUSINESS RESPONSE TO COMPLIANCE COSTS

Sites impacted by the proposed amendments to proposed Regulation 8, Rule 8 may respond in a variety of ways when faced with new regulatory costs. These responses may range from simply absorbing the costs and accepting a lower rate of return to shutting down the business operation altogether. Businesses may also seek to pass the costs on to their customers in the form of higher prices, or they may renew efforts to increase productivity and reduce costs elsewhere in their operation in order to recoup the regulatory costs and maintain profit levels.

6.3 IMPACT ANALYSIS

The businesses' responses to increased compliance costs hinge on the effect of the costs on the profits generated at the affected sites. An impact on estimated profits greater than 10

percent implies that the source would experience serious economic effects because of the compliance cost. When compliance costs are greater than 10 percent of estimated profits, companies typically respond to the impact by laying off some workers, closing parts of manufacturing facilities or, in the most drastic case, possibly closing the manufacturing facility.

Using the cost estimates developed by the BAAQMD, Applied Development Economics calculated the socioeconomic impacts of the proposed amendments. In calculating impacts of the proposed amendments on profits, ADE used return on sales ratios identified by Dun and Bradstreet for select industries and in annual reports of companies directly affected by the proposal. Base on data from the US Economic Census and from corporate annual report, we estimate that the 5 affected refineries generated a combined profit of $224 million on $8.2 billion in revenues.

Table 7 compares the estimated costs of the proposed amendments to this rule under both cost alternatives. Affected sources will incur an aggregate cost $1,457,000 under the lower cost alternative. This cost represents an estimated .6 percent of profits for the five sources affected by the proposed amendments. Affected sources will incur an aggregate cost of $3,296,000 in the higher cost alternative. This cost represents an estimated 1.5 percent of aggregate profits for the 5 sites affected by the proposed amendment. Thus, the five oil refineries affected by the proposed amendments to Regulation 8, Rule 8 will not experience any significant employment impacts as a result of the amendments.

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TABLE 7
Socioeconomic Impact Analysis of Proposed Amendments to Regulation 8, Rule 8 on Five Impacted Sources

Impacted Sources	Estimated SF region refinery returns	Distribution of Industry Costs: Lower Range	Distribution of Industry Costs: Upper Range	Cost as a Percent of Estimated Returns: Lower Range	Cost as a Percent of Estimated Returns: Upper Range	Lower Range Impacts	Upper Range Impacts	Lower Range Direct Employment Impacts	Upper Range Direct Employment Impacts
Five Refineries	$224,644,199	$1,457,000	$3,296,000	0.6%	1.5%	-- no impacts --	-- no impacts --	-- no impacts --	-- no impacts --

Sources: Applied Development Economics, based on data from the US Economic Census, Dun and Bradstreet, various corporate annual reports and Bay Area Air Quality Management District

6.4 IMPACT ON SMALL BUSINESSES

In addition to analyzing the employment impacts of proposed amendments to Regulation 8, Rule 8, state legislation requires that the socioeconomic analysis assess whether small businesses are disproportionately affected by air quality rules such as the proposed amendments to the Regulation 8, Rule 8. First, this section profiles oil refineries in the San Francisco Bay Area region by employment size categories, and, in so doing, shows that most of these manufacturers are relatively large employers. Then, this section discusses the average size of the five refineries affected by the proposed amendments. Finally, this section shows how the five refineries affected by the proposed amendments to Regulation 8, Rule 8 fail to qualify as small businesses as defined by the State of California.

Oil Refineries By Employment Size Categories

More than 50 percent of all businesses in California and the United States employ less than four people, and almost 80 percent employ less than ten people. Data in Table 8 are for all sites in industries identified by the BAAQMD, and it includes data on sites affected by amendments to Regulation 8, Rule 8. The data in the table comes from a combination of vendors–Minnesota IMPLAN Group and the US County Business Patterns–and is current as of the year 2001. Table 8 distributes affected industries by number of employees per manufacturing site. As a group, establishments in the affected industries are significantly larger than state and national industries as a whole. Establishments with more than 100 workers represent 2.5 percent of all establishments in all industries in California and the United States. In contrast, 44 percent of affected sites employ at least 100 people. In fact, 55 percent of all sites employ at least 50 people versus the statewide and national average of 5.7 percent, as Table 8 shows. Consistent with data in Table 9, we estimate that the sites directly affected by the proposed amendment employ, on average 541 workers, placing these facilities as mid- to large-sized employers.

TABLE 8
Distribution Of Oil Refineries (SIC 2911) In The San Francisco Bay Area By Size of Facilities, 2001

	Employment Size Categories						
	1 thru 4	5 thru 9	10 thru 19	20-49	50-99	100-249	250 or more
Bay Area SIC 2911	11%	0%	11%	22%	11%	0%	44%
California (all industries)	54.0%	18.5%	12.6%	9.1%	3.2%	1.8%	0.7%
US (all industries)	53.9%	19.3%	12.7%	8.7%	3.0%	1.8%	0.7%

Source: United States Bureau of the Census, County Business Patterns 2000, IMPLAN MIG

Definition Of Small Business Per California Statute

The previous section showed oil refineries in the San Francisco Bay Area, including the five sources that are affected by the proposed amendments to Regulation 8, Rule 8, are significantly larger than most businesses in California and the nation, which, on average, employ less than 10 people. In contrast, the five refineries, on average, employ 541 workers. This section discusses how the State of California defines small business, and, in so doing, shows how the five sources affected by the proposed amendments to Regulation 8, Rule 8 fail to meet the State's definition of small business.

For purposes of qualifying small businesses for bid preferences on state contracts and other benefits, the State of California defines small businesses in the following manner[1]. To be eligible for small business certification, a business:

- Must be independently owned and operated;
- Cannot be dominant in its field of operation;
- Must have its principal office located in California
- Must have its owners (or officers in the case of a corporation) domiciled in California; and
- Together with its affiliates, be either:

[1] State of California. Department of General Services. "California Small Business Certification" (http: www.pd.dgs.ca.gov/smbus/sbcert.htm)

- A business with 100 or fewer employees, and an average gross receipts of $10 million or less over the previous tax years, or
- A manufacturer with 100 or fewer employees

The five sources that are affected by the proposed amendments are not independently-owned and operated businesses. These refineries are owned by publicly-traded global corporations whose headquarters are outside of California (except for Chevron). In addition, each of the sources that are affected by the proposed amendments to Regulation 8, Rule 8 employ, on average, 541 workers, and their average revenue is approximately $1.6 billion. Thus, by the standards established by the State of California, these sources are not small businesses. Based on this discussion, it is determined that proposed amendments to the Regulation 8, Rule 8 do not disproportionately affect small businesses because the sources impacted by the proposed amendments do not meet California's definition of small business.

Initial Study/Negative Declaration for the Amendments to Bay Area Air Quality Management District Regulation 8, Rule 8

Prepared for:

Bay Area Air Quality Management Distict
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May 2004

Chapter 1

Chapter 2

Chapter 3

FIGURES:

TABLES:

CHAPTER 1
Introduction

Purpose of this Document

This Initial Study/Negative Declaration (IS/ND) assesses the environmental impacts of the proposed adoption of amendments to Regulation 8, Rule 8, by the Bay Area Air Quality Management District (BAAQMD or District) as required by the California Environmental Quality Act (CEQA) and in compliance with the state CEQA Guidelines (Title 14 California Code of Regulations§§1400 et seq.). An IS/ND serves as an informational document to be used in the decision-making process for a public agency that intends to carry out a project; it does not recommend approval or denial of the project analyzed in the document. The BAAQMD is the lead agency under CEQA and must consider the impacts of the proposed rule amendments when determining whether to adopt them. The BAAQMD has prepared this IS/ND because no significant adverse impacts would result from the proposed rule amendments.

Scope of this Document

This document evaluates the potential impacts of the proposed amendments on the following resource areas:

- aesthetics,
- agricultural resources,
- air quality,
- biological resources,
- cultural resources,
- geology and soils,
- hazards and hazardous materials
- hydrology and water quality,
- land use planning,
- mineral resources,
- noise,
- population and housing,

- public services,
- recreation,
- transportation/traffic, and
- utilities and service systems.

Impact Terminology

The following terminology is used in this IS/ND to describe the levels of significance of impacts that would result from the proposed rule amendments:

- An impact is considered *beneficial* when the analysis concludes that the project would have a positive effect on a particular resource.
- A conclusion of *no impact* is appropriate when the analysis concludes that there would be no impact on a particular resource from the proposed project.
- An impact is considered *less than significant* if the analysis concludes that an impact on a particular resource topic would not be significant (i.e., would not exceed certain criteria or guidelines established by BAAQMD). Impacts are frequently considered less than significant when the changes are minor relative to the size of the available resource base or would not change an existing resource.
- An impact is considered *less than significant with mitigation incorporated* if the analysis concludes that an impact on a particular resource topic would be significant (i.e., would exceed certain criteria or guidelines established by BAAQMD), but would be reduced to a less than significant level through the implementation of mitigation measures.

Organization of This Document

The content and format of this document, described below, are designed to meet the requirements of CEQA.

- Chapter 1, "Introduction," identifies the purpose, scope, and terminology of the document.
- Chapter 2, " Description of the Proposed Rule," provides background information of Regulation 8, Rule 8, describes the proposed rule amendments, and describes the area and facilities that would be affected by the amendments.
- Chapter 3, "Environmental Checklist," presents the checklist responses for each resource topic. This chapter includes a brief setting description for

each resource area and identifies the impact of the proposed rule amendments on the resources topics listed in the checklist.

- Chapter 4, "References Cited," identifies all printed references and personal communications cited in this report.

CHAPTER 2
Description of the Proposed Rule

Background

Bay Area 2001 Ozone Plan Control Further Study Measure FS-9, was an examination of the volatile organic compound emissions from refinery wastewater components and the potential to control them. The proposed amendments to Bay Area Air Quality Management District Regulation 8, Rule 8: Wastewater (oil-water) Separators result from that study. They propose more stringent controls on wastewater collection systems at petroleum refineries in the Bay Area. Currently, Regulation 8, Rule 8 controls emissions from the wastewater system. It limits organic emissions from oil/water separators and dissolved air flotation units at refinery, chemical and other plants. It also limits emissions from sludge de-watering and slop oil vessels.

The Technical Assessment Document (TAD), prepared by District and CARB staff, deals exclusively with emissions from the collection portion of the wastewater system. The majority of emissions from this portion of the system are generated through volatilization or air entrainment. Several technologies are available to control these emissions. They can be largely grouped into two categories, pollution prevention and emissions controls. Pollution prevention strategies can reduce emissions at their source by changes in operation, while emission controls are designed to reduce emissions after volatile organic compounds (VOC) containing materials have entered the wastewater system.

VOC emissions from wastewater collection systems can be controlled in a variety of ways including enclosing or controlling all openings to the atmosphere, changing the operation of the units that are feeding the wastewater collection system, having a rigid inspection and maintenance (I&M) program or using a combination of controls.

Equipment control strategies can require the installation of new equipment or devices, or can include physical changes to the wastewater system. Potential equipment control strategies applicable for refinery wastewater systems can include a number of different components. Examples of emissions controls are gasketed or sealed collection system components, water sealed collection system components, activated carbon scrubbers, water impingement scrubbers, vacuum stripping columns and thermal oxidizers.

In analyzing the best method for achieving the maximum emissions reduction from these systems allowing for the greatest flexibility for the affected facilities, the BAAQMD staff recommends a combination of emissions controls, a performance based standard (500 ppm) and a mandated I&M program. The use of one or more of these techniques can result in the reduction of emissions from the wastewater transportation system. Currently, the only District standard that deals with wastewater is Regulation 8, Rule 8. This standard mandates gasket-sealed covers for both oil/water separators and DAF units. To get the emissions reductions desired, Regulation 8, Rule 8 will be modified to include:

- A 500 ppm leak standard measured with an Organic Vapor Analyzer (OVA) for all wastewater collection components;

- Control equipment mandate for leaking components; and

- An inspection and maintenance program for wastewater components under regulation.

Objectives

The objectives of the proposed rule amendments are to implement recommendations from the TAD, to reduce emissions of ozone forming compounds (e.g., VOCs), and achieve compliance with state and federal ozone standards.

The U.S. Environmental Protection Agency (U.S. EPA) has set primary national ambient air quality standards for ozone and other air pollutants to define the levels considered safe for human health. CARB has also set a California ozone standard. The federal and state standards are 12 and 9 parts per hundred million (pphm), respectively. The BAAQMD is seeking re-designation to attainment for the federal 1-hour standard for ozone and as a non-attainment area for the state 1-hour standard. Under the requirements of the federal Clean Air Act (CAA), non-attainment areas must prepare ozone attainment demonstrations showing how they will attain the federal standard. The most recent federal attainment demonstration is the Bay Area 2001 Ozone Attainment Plan. Similarly, the California Clean Air Act of 1988 requires areas that do not comply with the standard to prepare ozone attainment plans. The most recent state plan is the Bay Area 2000 Clean Air Plan.

Both federal and state plans include measures to reduce emissions of the pollutants that form ozone. These measures may be already adopted rules or proposal to adopt new regulations or amendments to existing regulations.

Affected Area

The proposed rule amendments would apply to refineries under BAAQMD jurisdiction, which includes all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma counties (approximately 5,600 square miles). The San Francisco Bay Area is characterized by a large, shallow basin surrounded by coastal mountain ranges tapering into sheltered inland valleys. The combined climatic and topographic factors result in increased potential for the accumulation of air pollutants in the inland valleys and reduced potential for buildup of air pollutants along the coast. The Basin is bounded by the Pacific Ocean to the west and includes complex terrain consisting of coastal mountain ranges, inland valleys, and bays.

The refineries affected by the proposed rule amendments are located within existing refineries located in Contra Costa County and Solano County (see Figure 1) adjacent to the San Francisco Bay. The general locations of the refineries are discussed below.

The ChevronTexaco refinery is located in Richmond, Contra Costa County, California. The refinery lies to the west of Castro Street and mostly to the north of Interstate 580 and some

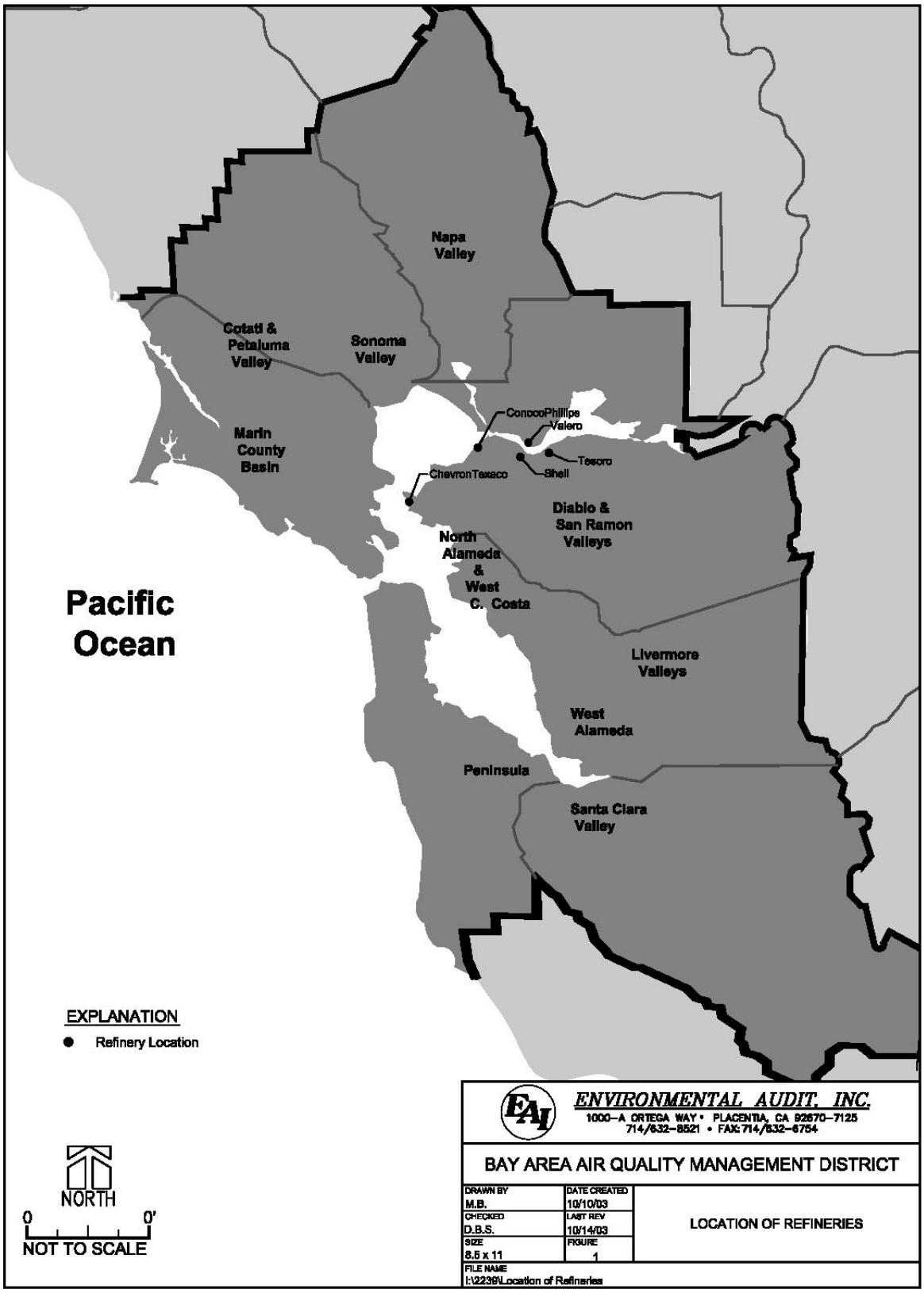
storage tanks and the wharf lie south of I-580. The refinery occupies most of the Point San Pablo Peninsula and covers approximately 2,900 acres. It is generally bordered on the north and south by the residential communities of North Richmond and Point Richmond, respectively. East of the refinery, across Castro Street and Garrard Boulevard, are the Iron Triangle and Santa Fe communities and central and downtown Richmond. San Francisco and San Pablo Bays form the western border of the refinery.

The Valero refinery is located on about 800 acres of land within the City of Benicia. The refinery is located about 0.5 mile north of I-780 and immediately west of I-680. Valero is bisected in a north-south direction by East Second Street. The refinery is bounded on the north by residential development and open space, on the east by an industrial park and I-680, on the south by industrial development, and on the west by residential development.

The ConocoPhillips refinery is located on approximately 1,100 acres of land in the unincorporated area northeast of the community of Rodeo. The refinery property is bounded on the north by San Pablo Bay and a marine terminal, on the east by agricultural lands, on the south and southwest by a residential area and on the west by San Pablo Bay. Interstate 80 runs north-south through the refinery dividing the eastern portion of the refinery.

The Shell Oil refinery is located on about 880 acres in Contra Costa County, partially within the City of Martinez. The main portion of the refinery is bordered by Marina Vista Boulevard to the north, Interstate 680 to the east, Pacheco Boulevard to the South, Merrithew Avenue to the west, and the Shell marine terminal to the northwest. Land use north of the refinery is a combination of industrial and open space; northeast of the refinery is an environmental conservation district; east is residential land use with some light industrial areas; land use south and southwest of the refinery is residential. The Martinez reservoir is also located to the south of the refinery.

The Tesoro refinery is located in Contra Costa County, within the community of Avon. The refinery is located south of Suisun Bay and is bordered by Waterfront road to the north and Solano Way to the west. Land use south and east of the refinery is a combination of industrial and open space. The Tesoro refinery is located east of the Shell Martinez refinery. The Mallard reservoir is also located southeast of the refinery.


Napa Valley
Cotati & Petaluma Valley
Sonoma Valley
Marin County Basin
ConocoPhillips
Valero
Tesoro
Shell
Chevron Texaco
Diablo & San Ramon Valleys
North Alameda & West C. Costa
Livermore Valleys
West Alameda
Peninsula
Santa Clara Valley
Pacific Ocean
EXPLANATION
Refinery Location
NORTH
0
0'
NOT TO SCALE
ENVIRONMENTAL AUDIT, INC.
1000-A ORTEGA WAY • PLACENTIA, CA 92670-7125
714/632-8521 • FAX: 714/632-6754
BAY AREA AIR QUALITY MANAGEMENT DISTRICT
DRAWN BY M.B.
DATE CREATED 10/10/03
CHECKED D.B.S.
LAST REV 10/14/03
SIZE 8.5 x 11
FIGURE 1
LOCATION OF REFINERIES
FILE NAME I:\2239\Location of Refineries

CHAPTER 3
Environmental Checklist

ENVIRONMENTAL CHECKLIST FORM

1. Project Title:	Bay Area Air Quality Management District (BAAQMD) Proposed Amendments to Regulation 8, Rule 8
2. Lead Agency Name and Address:	Bay Area Air Quality Management District 939 Ellis Street San Francisco, California 94109
3.Contact Person and Phone Number:	Dan Belik, Planning and Research Division 415/749-4786 or dbelik@baaqmd.gov
4. Project Location:	This rule amendment applies to the area within the jurisdiction of the Bay Area Air Quality Management District, which encompasses all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The refiners affected by the rule are located in Contra Costa and Solano Counties.
5. Project Sponsor's Name and Address:	Bay Area Air Quality Management District 939 Ellis Street San Francisco, California 94109
6. General Plan Designation:	The rule amendments apply to refineries and chemical plants which are usually located in heavy manufacturing or industrial areas.
7. Zoning	The rule amendments apply to refineries, chemical plants, bulk plants and bulk terminals that are usually located in heavy manufacturing or industrial areas.
8. Description of Project	See "Background" in Chapter 2.
9. Surrounding Land Uses and Setting	See "Affected Area" in Chapter 2.
10. Other Public Agencies Whose Approval Is Required	None

Environmental Factors Potentially Affected:

The environmental factors checked below would potentially be affected by this Project (i.e., the project would involve one impact that is a "Potentially Significant Impact"), as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☐ Hazards & Hazardous Materials	☐ Hydrology/Water Quality	☐ Land Use/Planning
☐ Mineral Resources	☐ Noise	☐ Population/Housing
☐ Public Services	☐ Recreation	☐ Transportation/Traffic
☐ Utilities/Service Systems	☐ Mandatory Findings of Significance	

DETERMINATION:

On the basis of this initial evaluation:

☑ I find the proposed project COULD NOT have a significant effect on the environment, and that a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be significant effects in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have an impact on the environment that is "potentially significant" or "potentially significant unless mitigated" but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

_____ _____

Signature Date

_____ _____

Printed Name For

	Potentially Significant Impact	Less Than Significant Impact With Mitigation	Less-than-Significant Impact	No Impact

			Incorporated		
I.	**AESTHETICS.**				
	Would the project:				
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☑
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?	☐	☐	☐	☑
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☑
d)	Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles), so that land uses vary greatly and include commercial, industrial, residential, agricultural, and open space uses

The refiners affected by the proposed rule amendments are located in the industrial portions of Contra Costa and Solano Counties. Scenic highways or corridors are generally not located in the vicinities of the affected refineries.

Regulatory Background

Visual resources are generally protected by the City and/or County General Plans through land use and zoning requirements.

Discussion of Impacts

I a-d: The amendments to Regulation 8, Rule 8 propose more stringent controls on wastewater collection systems at existing petroleum refineries, chemical, and other plants in the Bay Area. The proposed amendments are not expected to require new structures or result in any adverse aesthetic impacts.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact

II. AGRICULTURE RESOURCES.

In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation. Would the project:

a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☑
b)	Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract?	☐	☐	☐	☑
c)	Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses vary greatly and include commercial, industrial, residential, agricultural, and open space uses. Some of these agricultural lands are under Williamson Act contracts.

The refiners affected by the proposed rule amendments are located in the industrial portions of Contra Costa and Solano Counties. Agricultural resources are generally not located in the vicinities of or within the affected refineries.

Regulatory Background

Agricultural resources are generally protected by the City and/or County General Plans, Community Plans through land use and zoning requirements, as well as any applicable specific plans, ordinances, local coastal plans, and redevelopment plans.

Discussion of Impacts

II a-c: The amendments to Regulation 8, Rule 8 propose more stringent controls on wastewater collection systems at petroleum refineries and chemical plants in the Bay Area. The

amendments would not require construction or impacts outside of the refinery boundaries. The refineries are located within heavy industrial areas. Therefore, no significant adverse impacts on agricultural resources are expected.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY.				
When available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☑
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	☐	☐	☐	☑
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	☑
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☑
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☑
f) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	☐	☐	☐	☑

Setting

Meteorological Conditions

The summer climate of the West Coast is dominated by a semipermanent high centered over the northeastern Pacific Ocean. Because this high pressure cell is quite persistent, storms rarely affect the California coast during the summer. Thus the conditions that persist along the coast of California during summer are a northwest air flow and negligible precipitation. A thermal low pressure area from the Sonoran-Mojave Desert also causes air to flow onshore over the San Francisco Bay Area much of the summer.

In winter, the Pacific High weakens and shifts southward, upwelling ceases, and winter storms become frequent. Almost all of the Bay Area's annual precipitation takes place in the November through April period. During the winter rainy periods, inversions are weak or nonexistent, winds are often moderate and air pollution potential is very low. During winter periods when the Pacific high becomes dominant, inversions become strong and often are surface based; winds are light and pollution potential is high. These periods are characterized by winds that flow out of the Central Valley into the Bay Area and often include tule fog.

Topography

The San Francisco Bay Area is characterized by complex terrain consisting of coastal mountain ranges, inland valleys and bays. Elevations of 1,500 feet are common in the higher terrain of this area. Normal wind flow over the area becomes distorted in the lower elevations, especially when the wind velocity is not strong. This distortion is reduced when stronger winds and unstable air masses move over the areas. The distortion is greatest when low level inversions are present with the surface air, beneath the inversion, flowing independently of the air above the inversion.

Winds

In summer, the northwest winds to the west of the Pacific coastline are drawn into the interior through the Golden Gate and over the lower portions of the San Francisco Peninsula. Immediately to the south of Mount Tamalpais, the northwesterly winds accelerate considerably and come more nearly from the west as they stream through the Golden Gate. This channeling of the flow through the Golden Gate produces a jet that sweeps eastward but widens downstream producing southwest winds at Berkeley and northwest winds at San Jose; a branch curves eastward through the Carquinez Straits and into the Central Valley. Wind speeds may be locally strong in regions where air is channeled through a narrow opening such as the Carquinez Strait, the Golden Gate, or San Bruno Gap.

In winter, the Bay Area experiences periods of storminess and moderate-to-strong winds and periods of stagnation with very light winds. Winter stagnation episodes are characterized by outflow from the Central Valley, nighttime drainage flows in coastal valleys, week onshore flows in the afternoon and otherwise light and variable winds.

Temperature

In summer, the distribution of temperature near the surface over the Bay Area is determined in large part by the effect of the differential heating between land and water surfaces. This process produces a large-scale gradient between the coast and the Central Valley as well as small-scale local gradients along the shorelines of the ocean and bays. The winter mean temperature high and lows reverse the summer relationship in that daytime variations are small while mean minimum nighttime temperatures show large differences and strong gradients. The moderating effect of the ocean influences warmer minimums along the coast and penetrating the Bay. The coldest temperatures are in the sheltered valleys, implying strong radiation inversions and very limited vertical diffusion.

Inversions

A primary factor in air quality is the mixing depth, i.e., the vertical dimension available for dilution of contaminant sources near the ground. Over the Bay Area the frequent occurrence of temperature inversions limits this mixing depth and consequently limits the availability of air for dilution. A temperature inversion may be described as a layer or layers of warmer air over cooler air.

Precipitation

The San Francisco Bay Area climate is characterized by moderately wet winters and dry summers. Winter rains (December through March) account for about 75 percent of the average annual rainfall; about 90 percent of the annual total rainfall is received in November to April period; and between June and September, normal rainfall is typically less than 0.10 inches. Annual precipitation amounts show greater differences in short distances. Annual totals exceed 40 inches in the mountains and are less than 15 inches in the sheltered valleys.

Pollution Potential

The Bay Area is subject to a combination of physiographic and climatic factors which result in a low potential for pollutant buildups near the coast and a high potential in sheltered inland valleys. In summer, areas with high average maximum temperatures tend to be sheltered inland valleys with abundant sunshine and light winds. Areas with low average maximum temperatures are exposed to the prevailing ocean breeze and experience frequent fog or stratus. Locations with warm summer days have a higher pollution potential than the cooler locations along the coast and bays.

In winter, pollution potential is related to the nighttime minimum temperature. Low minimum temperatures are associated with strong radiation inversions in inland valleys that are protected from the moderating influences of the ocean and bays. Conversely, coastal locations experience higher average nighttime temperatures, weaker inversions, stronger breezes and consequently less air pollution potential.

AIR QUALITY

Criteria Pollutants

It is the responsibility of the BAAQMD to ensure that state and federal ambient air quality standards are achieved and maintained in its geographical jurisdiction. Health-based air quality standards have been established by California and the federal government for the following criteria air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), particulate matter less than 10 microns (PM10), sulfur dioxide (SO_2) and lead. These standards were established to protect sensitive receptors with a margin of safety from adverse health impacts due to exposure to air pollution. The California standards are more stringent than the federal standards and in the case of PM10 and SO_2, far more stringent. California has also established standards for sulfate, visibility, hydrogen sulfide, and vinyl chloride.

The state and national ambient air quality standards for each of these pollutants and their effects on health are summarized in Table 3-1. The BAAQMD monitors levels of various criteria pollutants at 26 monitoring stations. The 2002 air quality data from the BAAQMD's monitoring stations are presented in Table 3-2.

Air quality conditions in the San Francisco Bay Area have improved since the District was created in 1955. Ambient concentrations of air pollutants and the number of days on which the region exceeds air quality standards have fallen dramatically (see Table 3-3). The District is in attainment of the state and federal ambient air quality standards for CO, nitrogen oxides (NOx), and sulfur oxides (SOx). The District also is in attainment of the federal 24-hour PM10 standard. The District is seeking redesignation to attainment for the federal 1-hour ozone standard. However, the District does not comply with the state ozone standards or the state 24-hour PM10 standard.

The 2002 air quality data from the BAAQMD's monitoring stations are presented in Table 3-2. All monitoring stations were below the standard and federal ambient air quality standards for CO, NO_2, and SO_2. The federal 1-hour ozone standard was exceeded on two days in 2002 at the Livermore monitoring station. The other monitoring stations were in compliance with the federal 1-hour ozone standard. Based on the Bay Area ozone record for 2001-2003, the U.S. EPA has now proposed a finding that the Bay Area has attained the federal 1-hour ozone standard (68 Fed. Reg. 62041, October 31, 2003). The federal 8-hour standard was exceeded on seven days in the District in 2002, most frequently in the Eastern District (Bethel Island, Concord, Fairfield, Livermore, and Pittsburg), and the Santa Clara Valley (Gilroy, Los Gatos and San Martin). The state 1-hour standard was exceeded on 16 days in 2002 in the District, most frequently in the Eastern District and Santa Clara Valley (see Table 3-2).

All monitoring stations were in compliance with the federal PM10 standards. The California PM10 standards were exceeded on six days in 2002 throughout the various monitoring stations in the District. The District exceeded the federal PM2.5 standards on four days in 2002 at several monitoring stations including Vallejo, San Francisco, and Concord (see Table 3-2).

TABLE 3-1
FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

	STATE STANDARD	FEDERAL PRIMARY STANDARD	MOST RELEVANT EFFECTS
AIR POLLUTANT	CONCENTRATION/ AVERAGING TIME	CONCENTRATION/ AVERAGING TIME	
Ozone	0.09 ppm, 1-hr. avg. >	0.12 ppm, 1-hr avg.> 0.08 ppm, 8-hr avg. >	(a) Short-term exposures: (1) Pulmonary function decrements and localized lung edema in humans and animals (2) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (b) Long-term exposures: Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (c) Vegetation damage; (d) Property damage
Carbon Monoxide	9.0 ppm, 8-hr avg. > 20 ppm, 1-hr avg. >	9 ppm, 8-hr avg.> 35 ppm, 1-hr avg.>	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; (d) Possible increased risk to fetuses
Nitrogen Dioxide	0.25 ppm, 1-hr avg. >	0.053 ppm, ann. avg.>	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; (c) Contribution to atmospheric discoloration
Sulfur Dioxide	0.04 ppm, 24-hr avg.> 0.25 ppm, 1-hr. avg. >	0.03 ppm, ann. avg.> 0.14 ppm, 24-hr avg.>	(a) Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma
Suspended Particulate Matter (PM10)	20 $\mu g/m^3$, annarithmetic mean > 50 $\mu g/m^3$, 24-hr average>	50 $\mu g/m^3$, annual arithmetic mean > 150 $\mu g/m^3$, 24-hr avg.>	(a) Excess deaths from short-term exposures and exacerbation of symptoms in sensitive patients with respiratory disease; (b) Excess seasonal declines in pulmonary function, especially in children
Suspended Particulate Matter (PM2.5)		15 $\mu g/m^3$, annual arithmetic mean> 150 $\mu g/m^3$, 24-hour average>	Decreased lung function from exposures and exacerbation of symptoms in sensitive patients with respiratory disease; elderly; children.
Sulfates	25 $\mu g/m^3$, 24-hr avg. >=		(a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; (f) Property damage
Lead	1.5 $\mu g/m^3$, 30-day avg. >=	1.5 $\mu g/m^3$, calendar quarter>	(a) Increased body burden; (b) Impairment of blood formation and nerve conduction
Visibility-Reducing Particles	In sufficient amount to give an extinction coefficient >0.23 inverse kilometers (visual range to less than 10 miles) with relative humidity less than 70%, 8-hour average (10am – 6pm PST)		Nephelometry and AISI Tape Sampler; instrumental measurement on days when relative humidity is less than 70 percent

TABLE 3-2
BAY AREA AIR POLLUTION SUMMARY 2002

MONITORING STATIONS	Ozone							CARBON MONOXIDE			NITROGEN DIOXIDE			SULFUR DIOXIDE			PM10					PM2.5				
	Max 1-Hr	Nat Days	Cal Days	3-Yr Avg	Max 8-Hr	Nat Days	3-Yr Avg	Max 1-Hr	Max 8-Hr	Nat/ Cal Days	Max 1-Hr	Ann Avg	Nat/ Cal Days	Max 24-Hr	Ann Avg	Nat/ Cal Days	Ann Geo Mean	Ann Avg	Max 24-Hr	Nat Day	Cal Days	Max 24-Hr	Nat Days	3-Yr Avg	Ann Avg	3-Yr Avg
NORTH COUNTIES	(pphm)							(ppm)			(pphm)			(ppb)			($\mu g/m^3$)					($\mu g/m^3$)			($\mu g/m^3$)	
Napa	12	0	1	0.0	8	0	6.3	4.2	2.4	0	5	1.3	0	--	--	--	22.6	25.4	67	0	4	--	--	--	--	--
San Rafael	8	0	0	0.0	6	0	4.7	4.1	1.9	0	6	1.7	0	--	--	--	19.1	21.4	70	0	2	--	--	--	--	--
Santa Rosa	8	0	0	0.0	6	0	5.2	3.7	2.1	0	5	1.3	0	--	--	--	17.8	19.7	60	0	2	51	0	40.2	10.5	10.5
Vallejo	11	0	1	0.0	7	0	5.9	5.8	3.9	0	5	1.3	0	4	1.3	0	18.7	21.4	80	0	1	72	1	51.3	13.6	12.6
COAST & CENTRAL BAY																										
Oakland	5	0	0	0.0	4	0	4.0	4.4	3.3	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Richmond	--	--	--	--	--	--	--	--	--	--	--	--	--	5	1.0	0	--	--	--	--	--	--	--	--	--	--
San Francisco	5	0	0	0.0	5	0	4.4	3.5	2.6	0	8	1.9	0	6	1.9	0	21.0	24.7	74	0	2	70	4	48.0	13.1	11.9
San Pablo*	7	0	0	0.0	5	0	4.5	3.7	1.8	0	5	*	0	5	*	0	*	*	67	0	3	--	--	--	--	--
EASTERN DISTRICT																										
Bethel Island	11	0	5	0.3	10	3	7.9	1.7	1.3	0	4	1.0	0	9	2.5	0	20.8	23.8	58	0	3	--	--	--	--	--
Concord	10	0	5	0.7	9	3	7.8	3.5	2.3	0	6	1.5	0	6	0.8	0	17.9	20.9	63	0	3	77	4	44.7	13.3	11.4
Crockett	--	--	--	--	--	--	--	--	--	--	--	--	--	12	1.8	0	--	--	--	--	--	--	--	--	--	--
Fairfield*	10	0	4	0.0	8	0	7.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Livermore	16	2	10	1.0	11	6	8.2	4.8	2.5	0	8	1.7	0	--	--	--	21.5	24.5	64	0	2	62	0	47.7	13.8	12.3
Martinez	--	--	--	--	--	--	--	--	--	--	--	--	--	7	1.2	0	--	--	--	--	--	--	--	--	--	--
Pittsburg	11	0	4	0.0	10	2	7.4	6.2	2.5	0	5	1.3	0	14	2.5	0	21.1	23.7	73	0	3	--	--	--	--	--
SOUTH CENTRAL BAY																										
Fremont	11	0	3	0.0	7	0	6.1	3.7	2.2	0	6	1.9	0	--	--	--	20.0	22.5	52	0	1	48	0	41.6	12.5	11.4
Hayward	9	0	0	0.0	7	0	6.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Redwood City	9	0	0	0.0	6	0	5.3	5.8	2.8	0	7	1.7	0	--	--	--	19.5	22.0	53	0	1	43	0	41.8	11.5	11.3
San Leandro	10	0	1	0.0	6	0	5.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SANTA CLARA VALLEY																										
Gilroy*	12	0	6	*	9	2	5.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Los Gatos*	11	0	4	0.0	9	2	6.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
San Jose Central*	*	*	*	*	*	*	*	5.3	4.5	0	8	*	0	--	--	--	*	*	70	0	2	58	0	*	*	*
San Jose East	9	0	0	0.0	7	0	5.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
San Jose, Tully Road	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	21.9	25.4	70	0	2	54	0	45.9	12.0	11.8
San Martin	12	0	8	0.0	10	5	8.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sunnyvale*	9	0	0	*	7	0	*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total bay Area Days over Standard		**2**	**16**			**7**				**0**			**0**			**0**				**0**	**6**		**5**			

(ppm) = parts per million, (pphm) = parts per hundred million, (ppb) = parts per billion

TABLE 3-3
TEN-YEAR BAY AREA AIR QUALITY SUMMARY
(Days over standards)

YEAR	OZONE			CARBON MONOXIDE				NO_X	SULFUR DIOXIDE		PM10		PM2.5
	1-Hr		8-Hr	1-Hr		8-Hr		1-Hr	24-Hr		24-Hr*		24-Hr**
	Nat	Cal	Nat	Nat	Cal	Nat	Cal	Cal	Nat	Cal	Nat	Cal	Nat
1993	3	19	-	0	0	0	0	0	0	0	0	10	-
1994	2	13	-	0	0	0	0	0	0	0	0	9	-
1995	11	28	-	0	0	0	0	0	0	0	0	7	-
1996	8	34	-	0	0	0	0	0	0	0	0	3	-
1997	0	8	-	0	0	0	0	0	0	0	0	4	-
1998	8	29	16	0	0	0	0	0	0	0	0	5	-
1999	3	2	9	0	0	0	0	0	0	0	0	12	-
2000	3	12	4	0	0	0	0	0	0	0	0	7	1
2001	1	15	7	0	0	0	0	0	0	0	0	10	5
2002	2	16	7	0	0	0	0	0	0	0	0	6	5

* PM10 is sampled every sixth day – actual days over standard can be estimated to be six times the numbers listed.
** 2000 is the first full year for which the Air District measured PM2.5 levels.

Toxic Air Pollutants

The precursor chemicals that form ozone are VOCs and NOx. Some of these VOCs are toxic air contaminants (TACs) and some are known carcinogens. The BAAQMD maintains a network of monitoring stations to monitor certain TACs in ambient air. In addition, the California Air Resources Board (CARB) maintains several monitoring stations in the Bay Area as part of a statewide toxics monitoring effort. The mean ambient concentrations of monitored TACs are listed in Table 3-4 based on monitoring conducted during 2000 for the monitoring stations closest to the refineries. The Richmond station is located at 7th Street downwind from the ChevronTexaco refinery and the Richmond parkway. The Crockett station is located at the end of Kendall Avenue generally downwind of the ConocoPhillips refinery. There are two Concord stations.

TABLE 3-4

CONCENTRATIONS OF TOXIC AIR CONTAMINANTS IN THE BAY AREA[1]

CHEMICAL	MONITORING STATION (mean ppb)				
	Crocket	Concord (Treat Blvd)	Richmond	Bethel Island	Concord (Arnold)
Vinyl Chloride	<0.30	<0.30	<0.30	<0.30	<0.30
Methylene Chloride (DCM)	0.30	0.26	0.26	0.30	<0.50
Chloroform (CHCl3)	<0.30	<0.30	0.01	<0.30	<0.30
Ethylene Dichloride	<0.10	<0.10	<0.10	<0.10	<0.10
1,1,1-Trichloroethane (TCA)	0.12	0.06	0.06	0.05	0.20
Carbon Tetrachloride (CCl4)	0.11	0.11	0.10	0.11	0.10
Trichloroethylene (TCE)	<0.08	0.04	0.05	<0.08	<0.08
Benzene	0.20	0.54	0.41	0.26	0.43
Ethylene Dibromide	<0.02	<0.02	<0.02	<0.02	<0.02
Perchloroethylene	0.02	0.04	0.06	0.03	0.05
Toluene	0.35	2.32	1.92	0.49	0.94
MTBE	0.67	0.54	0.69	0.46	0.59

(1) BAAQMD, Toxic Air Contaminant, 2000 Annual Report, December 2001.

The concentrations of TACs at these monitoring stations are similar to concentrations of TACs in the rest of the Bay Area.

Regulatory Background

Criteria Pollutants

At the federal level, the Clean Air Act (CAA) Amendments of 1990 give the U.S. EPA additional authority to require states to reduce emissions of ozone precursors and PM10 in non-attainment areas. The amendments set new attainment deadlines based on the severity of problems. At the state level, CARB has traditionally established state ambient air quality standards, maintained oversight authority in

air quality planning, developed programs for reducing emissions from motor vehicles, developed air emission inventories, collected air quality and meteorological data, and approved state implementation plans. At a local level, California's air districts, including the BAAQMD, are responsible for overseeing stationary source emissions, approving permits, maintaining emission inventories, maintaining air quality stations, overseeing agricultural burning permits, and reviewing air quality-related sections of environmental documents required by CEQA.

The BAAQMD regulates air contaminants from stationary sources. The BAAQMD is governed by a 21-member Board of Directors composed of publicly-elected officials apportioned according to the population of the represented counties. The Board has the authority to develop and enforce regulations for the control of air pollution within its jurisdiction. The BAAQMD is responsible for implementing emissions standards and other requirements of federal and state laws. It is also responsible for developing air quality planning documents required by both federal and state laws.

Toxic Air Contaminants

TACs are regulated in the District through federal, state, and local programs. At the federal level, TACs are regulated primarily under the authority of the CAA. Prior to the amendment of the CAA in 1990, source-specific National Emission Standards for Hazardous Air Pollutants (NESHAPs) were promulgated under Section 112 of the CAA for certain sources of radionuclides and Hazardous Air Pollutants (HAPs).

Title III of the 1990 CAA amendments requires U.S. EPA to promulgate NESHAPs on a specified schedule for certain categories of sources identified by U.S. EPA as emitting one or more of the 189 listed HAPs. Emission standards for major sources must require the maximum achievable control technology (MACT). MACT is defined as the maximum degree of emission reduction achievable considering cost and non-air quality health and environmental impacts and energy requirements. All NESHAPs were to be promulgated by the year 2000. Specific incremental progress in establishing standards must be made by the years 1992 (at least 40 source categories), 1994 (25 percent of the listed categories), 1997 (50 percent of remaining listed categories), and 2000 (remaining balance). The 1992 requirement was met; however, many of the four-year standards were not promulgated as scheduled. Promulgation of those standards has been rescheduled based on court ordered deadlines, or the aim to satisfy all Section 112 requirements in a timely manner.

Many of the sources of TACs that have been identified under the CAA are also subject to the California TAC regulatory programs. CARB developed three regulatory programs for the control of TACs. Each of the programs is discussed in the following subsections.

Control of TACs Under the TAC Identification and Control Program: California's TAC identification and control program, adopted in 1983 as Assembly Bill 1807 (AB 1807) (California Health and Safety Code §39662), is a two-step program in which substances are identified as TACs, and airborne toxic control measures (ATCMs) are adopted to control emissions from specific sources. Since adoption of the program, CARB has identified 18 TACs, and CARB adopted a regulation designating all 189 federal HAPs as TACs.

Control of TACs Under the Air Toxics "Hot Spots" Act: The Air Toxics Hot Spot Information and Assessment Act of 1987 (AB 2588) (California Health and Safety Code §39656) establishes a state-wide program to inventory and assess the risks from facilities that emit TACs and to notify the public about significant health risks associated with those emissions. Inventory reports must be updated every four years under current state law. The BAAQMD uses a maximum individual cancer risk of 10 in one million, or an ambient concentration above a non-cancer reference exposure level, as the threshold for notification.

Senate Bill (SB) 1731, enacted in 1992 (California Health and Safety Code §44390 et seq.), amended AB 2588 to include a requirement for facilities with significant risks to prepare and implement a risk reduction plan which will reduce the risk below a defined significant risk level within specified time limits. At a minimum, such facilities must, as quickly as feasible, reduce cancer risk levels that exceed 100 per one million. The BAAQMD adopted risk reduction requirements for perchloroethylene dry cleaners to fulfill the requirements of SB 1731.

Discussion of Impacts

III a. The objectives of the proposed rule amendments are to implement recommendations from the TAD in response to Further Study Measure 9 in the Bay Area 2001 Ozone Attainment Plan, to reduce emissions of ozone forming compounds and achieve compliance with state and federal ozone standards. Therefore, the proposed amendments are in compliance with the local air quality plan and implements portions of that plan.

III b, c, d, and f. To determine the emissions from wastewater collection systems District and CARB staff conducted a series of extensive site visits to the five Bay Area refineries. During these visits, the staff established how the collections system worked at each refinery. It was determined that to estimate the emissions from the collection systems, a combination of emissions modeling programs should be used. The TOXCHEM + and the U.S. EPA's Water9 Models.

Initially, District and CARB staff performed extensive wastewater sampling at all five Bay Area refineries. Utilizing these sampling results, emissions estimates for refinery wastewater collection system emissions were developed. TOXCHEM + emissions modeling based on field data collected (such as drain inventories, systems layouts, wastewater flow-rates), and observed wastewater petroleum concentrations, as identified from the laboratory analytical analysis were then performed. A comprehensive explanation of this modeling and the associated sampling results is provided in the TAD. This modeling provided the following partial emissions estimates for refinery wastewater collection systems shown in Table 3-5.

TABLE 3-5

VOC EMISSION ESTIMATES FOR REFINERY WASTEWATER DRAINS, MANHOLES, AND JUNCTION BOX VENTS (BY REFINERY)

Refinery	Drain Emissions (tpd)	Manhole Emissions (tpd)	Junction Box Emissions (tpd)	Total[2] (tpd)
1	0.411[1]	0.166	0.126[1]	0.70
2	0.270	0.048	0.168	0.49
3	0.140	0.164	0.168	0.47
4	0.123	0.034	0.084[1]	0.24
5	1.164	0.076	0.168	1.41
Total	2.107	0.488	0.714	3.31

1 Partial emissions. Additional information is needed to complete the assessment of drain and junction box vents from these facilities.

2 The emissions reported in this table do not represent the total emissions from the wastewater collection system. Additional work is needed to estimate emissions from wastewater treatment.

By comparison, the District's emissions inventory (see Table 3-6) lists a total of approximately 1.3 tpd of total VOC emissions from refinery wastewater process drains. These numbers are derived from historical data and sampling, as well as emissions factors. Due to the comprehensive nature of the TAD it is assumed that the VOC estimates it contains, though incomplete, are more reflective of the current situation at Bay Area refineries.

TABLE 3-6
VOC EMISSION ESTIMATES FOR REFINERY WASTEWATER COLLECTION SYSTEMS FROM THE BAAQMD INVENTORY (BY REFINERY)

Refinery	Wastewater Collection System Emissions (tpd)
1	0.16
2	0.969
3	0.206
4	0.006
5	0.001
Total	1.342

In evaluating the data in Table 3-5, it is important to note that the VOC emission estimates for Refineries 1 and 4 are incomplete. For Refinery 1, only part of the refinery was sampled during the source tests due to ongoing maintenance to the wastewater system. This did not allow for the full implementation of the refinery sampling plan at Refinery 1 during the source test period. For Refinery 4, it was discovered after the source tests had been completed, that a significant portion of the wastewater collection system was not

sampled, and consequently not included in the refinery VOC emission calculation. Therefore, data was not collected to estimate any VOC emissions from vents associated with this portion of the wastewater system. In addition, this emissions estimate was only developed for the gasoline range compounds (C2 to C10) identified during sampling. Significant amounts of diesel range materials were found in the wastewater samples analyzed as part of this TAD. The significance of emissions from these materials has not been established.

It is estimated that the implementation of the District's regulatory proposal, which includes controls on all wastewater collection system components (drains, manholes and junction boxes), or a District prescribed inspection and maintenance plan and a 500 ppm emissions standard, can achieve approximately 1.9 tpd of VOC reductions**.** Emissions reduction estimates are based on control of uncontrolled refinery drains, manholes and junction boxes of 65%. While not specifically targeted by this regulation, a reduction in VOC will also decrease the amount of toxic air contaminants released by wastewater collection system components. The toxic compounds reduced will include benzene, toluene and xylene (identified as part of the water analysis performed for the TAD). Based on the TAD analysis, other toxic compounds may also be present, including ethylbenzene and naphthalene. It is anticipated that this proposal would also lead to a significant reduction in the emissions of these compounds.

III e. The proposed amendments are expected to result in better inspection and maintenance of wastewater collection, separation, and treatment systems, thus reducing VOC emissions and potential odors associated with those emissions. The rule amendments are not expected to generate any additional odors at refineries.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
IV.	**BIOLOGICAL RESOURCES.** Would the project:				
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☑
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☑
c)	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☑
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☑
e)	Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☑
f)	Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses vary greatly and include commercial, industrial, residential, agricultural, and open space uses. A wide variety of biological resources are located within the Bay Area.

The refineries are located in the Bay Area-Delta Bioregion (as defined by the State's Natural Communities Conservation Program). This Bioregion is comprised of a variety of natural communities, which range from salt marshes to chaparral to oak woodland. The refiners affected by the proposed rule amendments are located in the industrial portions of Contra Costa and Solano Counties. The refinery sites have been graded to develop the various refinery structures and are typically, surrounded by other commercial and industrial facilities. Native vegetation, other than landscape vegetation, has been removed from operating portions of the refineries to minimize fire hazards.

Regulatory Background

Biological resources are generally protected by the City and/or County General Plans through land use and zoning requirements which minimize or prohibit development in biologically sensitive areas. Biological resources are also protected by the California Department of Fish and Game, and the U.S. Fish and Wildlife Service. The U.S Fish and Wildlife Service and National Marine Fisheries Service oversee the federal Endangered Species Act. Development permits may be required from one or both of these agencies if development would impact rare or endangered species. The California Department of Fish and Game administers the California Endangered Species Act which prohibits impacting endangered and threatened species. The U.S. Army Corps of Engineers and the U.S. EPA regulate the discharge of dredge or fill material into waters of the United States, including wetlands.

Discussion of Impacts

IV a – f. No impacts on biological resources are anticipated from the proposed rule amendments which would apply to existing refinery operations. The wastewater collection, separation, and treatment systems to be monitored already exist and are located within the confines of existing refineries. The proposed rule amendments neither require, nor are likely to result in, activities which would affect sensitive biological resources. Therefore, no significant adverse impacts on biological resources are expected.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
V.	**CULTURAL RESOURCES.** Would the project:				
a)	Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☐	☐	☑
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☐	☐	☑
c)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☑
d)	Disturb any human remains, including those interred outside a formal cemeteries?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses vary greatly and include commercial, industrial, residential, agricultural and open space uses. Cultural resources are defined as buildings, sites, structures, or objects which might have historical architectural, archaeological, cultural, or scientific importance.

The Carquinez Strait represents the entry point for the Sacramento and San Joaquin Rivers into the San Francisco Bay. This locality lies within the San Francisco Bay and the west end of the Central Valley archaeological regions, both of which contain a rich array of prehistoric and historical cultural resources. The areas surrounding the Carquinez Strait and Suisun Bay have been occupied for millennia given its abundant combination of littoral and oak woodland resources.

The refiners affected by the proposed rule amendments are located in the industrial portions of Contra Costa and Solano Counties. The sites have been graded to develop the various refinery structures and are typically surrounded by other commercial and industrial facilities. Cultural resources are generally not located within the operating portions of the refineries.

Regulatory Background

The State CEQA Guidelines define a significant cultural resources as a "resource listed or eligible for listing on the California Register of Historical Resources" (Public Resources Code Section 5024.1). A project would have a significant impact if it would cause a substantial adverse change in the significance of a historical resource (State CEQA Guidelines Section 15064/5(b)). A substantial adverse change in the significance of a historical resource would result from an action that would demolish or adversely alter the physical characteristics of the historical resource that convey its historical significance and that qualify the resource for inclusion in the California Register of Historical Resources or a local register or survey that meets the requirements of Public Resources Code Sections 50020.1(k) and 5024.1(g).

Discussion of Impacts

V a – d. No impacts on cultural resources are anticipated from the proposed rule amendments that would apply to existing refinery operations. The wastewater collection, separation, and treatment systems to be monitored already exist and are located within the confines of existing refineries. The proposed rule amendments neither require nor are likely to result in activities that would affect sensitive cultural resources. No major construction activities are expected from the proposed rule amendments. Therefore, no significant adverse impacts on cultural resources are expected.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. GEOLOGY AND SOILS.				
Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	☑
• Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☑
• Strong seismic groundshaking?	☐	☐	☐	☑
• Seismic–related ground failure, including liquefaction?	☐	☐	☐	☑
• Landslides?	☐	☐	☐	☑
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☑
c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☑
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☑
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is

vast (about 5,600 square miles) so that land uses vary greatly and include commercial, industrial, residential, agricultural, and open space uses. The refiners affected by the proposed rule amendments are located in the industrial portions of Contra Costa and Solano Counties.

The refineries are located in the natural region of California known as the Coast Ranges geomorphic province. The province is characterized by a series of northwest trending ridges and valleys controlled by tectonic folding and faulting, examples of which include the Suisun Bay, East Bay Hills, Briones Hills, Vaca Mountains, Napa Valley, and Diablo Ranges.

Regional basement rocks consist of the highly deformed Great Valley Sequence, which include massive beds of sandstone interfingered with siltstone and shale. Unconsolidated alluvial deposits, artificial fill, and estuarine deposits, (including Bay Mud) underlie the low-lying region along the margins of the Carquinez Straight and Suisun Bay. The estuarine sediments found along the shorelines of Solano County are soft, water-saturated mud, peat and loose sands. The organic, soft, clay-rich sediments along the San Francisco and San Pablo Bays are referred to locally as Bay Mud and can present a variety of engineering challenges due to inherent low strength, compressibility and saturated conditions. Landslides in the region occur in weak, easily weathered bedrock on relatively steep slopes.

The San Francisco Bay Area is a seismically active region, which is situated on a plate boundary marked by the San Andreas Fault System. Several northwest trending active and potentially active faults are included with this fault system. Under the Alquist-Priolo Earthquake Fault Zoning Act, Earthquake Fault Zones were established by the California Division of Mines and Geology along “active” faults, or faults along which surface rupture occurred in Holocene time (the last 11,000 years). In the Bay area, these faults include the San Andreas, Hayward, Rodgers Creek-Healdsburg, Concord-Green Valley, Greenville-Marsh Creek, Seal Cove/San Gregorio and West Napa faults. Other smaller faults in the region classified as potentially active include the Southampton and Franklin faults.

Ground movement intensity during an earthquake can vary depending on the overall magnitude, distance to the fault, focus of earthquake energy, and type of geological material. Areas that are underlain by bedrock tend to experience less ground shaking than those underlain by unconsolidated sediments such as artificial fill. Earthquake ground shaking may have secondary effects on certain foundation materials, including liquefaction, seismically induced settlement, and lateral spreading.

Regulatory Background

Construction is regulated by the local City or County building codes that provide requirements for construction, grading, excavations, use of fill, and foundation work including type of materials, design, procedures, etc. which are intended to limit the probability of occurrence and the severity of consequences from geological hazards. Necessary permits, plan checks, and inspections are generally required.

The City or County General Plan includes the Seismic Safety Element. The Element serves primarily to identify seismic hazards and their location in order that they may be taken into account in the planning of future development. The Uniform Building Code is the principle mechanism for protection against and relief from the danger of earthquakes and related events.

In addition, the Seismic Hazard Zone Mapping Act (Public Resources Code §§2690 – 2699.6) was passed by the California legislature in 1990 following the Loma Prieta earthquake. The Act required that the California Division of Mines and Geology (DMG) develop maps that identify the areas of the state that require site specific investigation for earthquake-triggered landslides and/or potential liquefaction prior to permitting most urban developments. The act directs cities, counties and state agencies to use the maps in their land use planning and permitting processes.

Local governments are responsible for implementing the requirements of the Seismic Hazards Mapping Act. The maps and guidelines are tools for local governments to use in establishing their land use management policies and in developing ordinances and review procedures that will reduce losses from ground failure during future earthquakes.

Discussion of Impacts

VI a – e. No impacts on geology and soils are anticipated from the proposed rule amendments that would apply to existing refinery operations. The wastewater collection, separation, and treatment systems to be monitored already exist and are located within the confines of existing refineries. No major construction activities are expected from the proposed rule amendments and no new structures would be required. Therefore, no significant adverse impacts on geology and soils are expected.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VII.	**HAZARDS AND HAZARDOUS MATERIALS.** Would the project:				
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☑
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☑
c)	Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☑
d)	Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☑
e)	Be located within an airport land use plan or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
f)	Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☑
h)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☑

Setting

Petroleum refineries handle and process large quantities of flammable, hazardous, and acutely hazardous materials. Accidents involving these substances can result in worker or public exposure to fire, heat, blast from an explosion, or airborne exposure to hazardous substances.

The potential hazards associated with industrial activities are a function of the materials being processed, processing systems, and procedures used to operate and maintain the facility. The hazards that are likely to exist are identified by the physical and chemical properties of the materials being handled and their process conditions, including the following events.

- **Toxic gas clouds:** Toxic gas clouds are releases of volatile chemicals (e.g., anhydrous ammonia, chlorine, and hydrogen sulfide) that could form a cloud and migrate off-site, thus exposing individuals. "Worst-case" conditions tend to arise when very low wind speeds coincide with an accidental release, which can allow the chemicals to accumulate rather than disperse.

- **Torch fires (gas and liquefied gas releases), flash fires (liquefied gas releases), pool fires, and vapor cloud explosions (gas and liquefied gas releases):** The rupture of a storage tank containing a flammable gaseous material (like propane), without immediate ignition, can result in a vapor cloud explosion. The "worst-case" upset would be a release that produces a large aerosol cloud with flammable properties. If the flammable cloud does not ignite after dispersion, the cloud would simply dissipate. If the flammable cloud were to ignite during the release, a flash fire or vapor cloud explosion could occur. If the flammable cloud were to ignite immediately upon release, a torch fire would ensue.

- **Thermal Radiation:** Thermal radiation is the heat generated by a fire and the potential impacts associated with exposure. Exposure to thermal radiation would result in burns, the severity of which would depend on the intensity of the fire, the duration of exposure, and the distance of an individual to the fire.

- **Explosion/Overpressure:** Process vessels containing flammable explosive vapors and potential ignition sources are present at refineries. Explosions may occur if the flammable/explosive vapors came into contact with an ignition source. An explosion could cause impacts to individuals and structures in the area due to overpressure.

For all refineries, risks to the public are reduced if there is a buffer zone between refinery processes and residences, or the prevailing wind blows away from residential areas. The risks posed by refinery operations are unique and determined by a variety of factors. Refineries tend to be located in industrial areas which helps minimize public exposure in the event of a release.

Regulatory Background

There are many federal and state rules and regulations that refineries must comply with which serve to minimize the potential impacts associated with hazards at these facilities.

Under the Occupational Safety and Health Administration (OSHA) regulations [29 Code of Federal Regulations (CFR) Part 1910], facilities which use, store, manufacture, handle, process, or move highly hazardous materials must prepare a fire prevention plan. In addition, 29 CFR Part 1910.119, Process Safety Management (PSM) of Highly Hazardous Chemicals, and Title 8 of the California Code of Regulations, General Industry Safety Order §5189, specify required prevention program elements to protect workers at facilities that handle toxic, flammable, reactive, or explosive materials. Prevention program elements are aimed at preventing or minimizing the consequences of catastrophic releases of the chemicals and include process hazard analyses, formal training programs for employees and contractors, investigation of equipment mechanical integrity, and an emergency response plan.

Section 112 (r) of the Clean Air Act Amendments of 1990 [42 U.S.C. 7401 et. Seq.] and Article 2, Chapter 6.95 of the California Health and Safety Code require facilities that handle listed regulated substances to develop Risk Management Programs (RMPs) to prevent accidental releases of these substances, U.S. EPA regulations are set forth in 40 CFR Part 68. In California, the California Accidental Release Prevention (CalARP) Program regulation (CCR Title 19, Division 2, Chapter 4.5) was issued by the Governor's Office of Emergency Services (OES). RMPs consist of three main elements: a hazard assessment that includes off-site consequences analyses and a five-year accident history, a prevention program, and an emergency response program. Refineries are also required to comply with the U.S. EPA's Emergency Planning and Community Right-to-Know Act (EPCRA).

The refineries are required to have a Spill Prevention Control and Countermeasures (SPCC) Plan per the requirements of 40 Code of Federal Regulations, Section 112. The SPCC is designed to prevent spills from on-site facilities and includes requirements for secondary containment, provides emergency response procedures, establishes training requirements, and so forth.

The Hazardous Materials Transportation (HMT) Act is the federal legislation that regulates transportation of hazardous materials. The primary regulatory authorities are the U.S. Department of Transportation, the Federal Highway Administration, and the Federal Railroad Administration. The HMT Act requires that carriers report accidental releases of hazardous materials to the Department of Transportation at the earliest practical moment (49 CFR Subchapter C). The California Department of Transportation (Caltrans) sets standards for trucks in California. The regulations are enforced by the California Highway Patrol.

California Assembly Bill 2185 requires local agencies to regulate the storage and handling of hazardous materials and requires development of a plan to mitigate the release of hazardous materials. Businesses that handle any of the specified hazardous materials must submit to government agencies (i.e., fire departments), an inventory of the hazardous materials, an emergency response plan, and an employee training program. The business plans must provide a description of the types of hazardous materials/waste on-site and the location of these materials. The information in the business plan can then be used in the event of an emergency to determine the appropriate response action, the need for public notification, and the need for evacuation.

Contra Costa County has adopted an industrial safety ordinance that addresses the human factors that lead to accidents. The ordinance requires stationary sources to develop a written human factors program that includes the following:

- Consideration of human factors in the process hazards analysis process;
- Consideration of human systems as causal factors in the incident investigation process for major accidents or releases or for incidents that could have led to a major accident or release;
- Training of employees in the human factors program;
- Operating procedures;
- Management of changes in staffing, staffing levels, or organization in operations or emergency response;
- Participation of employees and their representatives in the development of the written human factors program;
- Development of a program that includes issues such as staffing, shiftwork, and overtime; and
- Incorporation of the human factors program description in the facility safety plan.

Discussion of Impacts

VII a. The proposed rule amendment does not affect in any way the transport of hazardous material into, out of, or within any of the refineries. Therefore, no significant adverse impacts on transportation of hazardous materials are expected.

VII b – c. The proposed rule amendments are expected to reduce emissions from existing wastewater collection, separation, and treatment systems within refineries thus reducing the emissions and releases of potentially toxic air contaminants. Therefore, no significant adverse impacts on releases of hazardous materials into the environment are expected.

VII d. No impacts on hazardous material sites are anticipated from the proposed rule amendments that would apply to existing refinery operations. Some of the refineries may be located on the hazardous materials sites list pursuant to Government Code Section 65962.5. However, the proposed rule amendments would have no affect on hazardous materials nor would the amendments create a significant hazard to the public or environment. The wastewater collection, separation, and treatment systems to be monitored already exist and are located within the confines of existing refineries. The proposed rule amendments neither require, nor are likely to result in, activities that would affect hazardous materials or existing site contamination. Therefore, no significant adverse impacts on hazards are expected.

VII e – f. No impacts on airports or airport land use plans are anticipated from the proposed rule amendments that would apply to existing refinery operations. The wastewater collection, separation, and treatment systems to be monitored already exist and are located within the confines of existing refineries. The proposed rule amendments neither require nor are likely to result in activities which would affect the environment outside of the refinery boundaries. No major construction activities are expected from the proposed rule amendments. Further, the refineries are not located within two miles of airports. Therefore, no significant adverse impacts on hazards at airports are expected.

VII g. No impacts on emergency response plans are anticipated from the proposed rule amendments that would apply to existing refinery operations. Each refinery has prepared an emergency response plan; however, the wastewater collection, separation, and treatment systems to be monitored already exist and are located within the confines of existing refineries. The proposed rule amendments neither require, nor are likely to result in, activities that would impact the emergency response plan. No major construction activities are expected from the proposed rule amendments. Therefore, no significant adverse impacts on emergency response plans is expected.

VII h. No increase in hazards related to wildfires are anticipated from the proposed rule amendments that would apply to existing refinery operations. The wastewater collection, separation, and treatment systems to be monitored already exist and are located within the confines of existing refineries. No major construction activities are expected from the proposed rule amendments and no activities would occur outside the confines of the existing refineries. Vegetation surrounding the operating portions of the refinery has been removed to reduce the potential fire hazards. Therefore, no significant adverse impacts on fire hazards are expected.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. HYDROLOGY AND WATER QUALITY.					
Would the project:					
a)	Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☑
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☑
c)	Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite?	☐	☐	☐	☑
d)	Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite?	☐	☐	☐	☑
e)	Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☑
f)	Otherwise substantially degrade water quality?	☐	☐	☐	☑
g)	Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☑
h)	Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	☑

i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☑
j)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses and affected environment vary substantially throughout the area and include commercial, industrial, residential, agricultural, and open space uses.

The refiners affected by the proposed rule amendments are located in the industrial portions of Contra Costa and Solano Counties and are generally surrounded by other commercial and industrial facilities. The refineries are located within rolling, low elevation hills along the shores of the San Francisco Bay, San Pablo Bay, Carquinez Strait, and Suisun Bay. ChevronTexaco is bordered by the San Francisco and San Pablo Bays on the western border of the refinery. The ConocoPhillips refinery is bounded on the north and west by San Pablo Bay. The Valero, Shell, and Tesoro refineries are located adajcent to Suisun Bay along the Carquinez Straits.

Reservoirs and drainage streams are located throughout the area and discharge into the Bays. Marshlands incised with numerous winding tidal channels containing brackish water are located near the refineries.

The refineries are located within the San Francisco Bay Area Hydrologic Basin. The primary regional groundwater water-bearing formations include the recent and Pleistocene (up to two million years old) alluvial deposits and the Pleistocene Huichica formation. Salinity within the unconfined alluvium appears to increase with depth to at least 300 feet. Water of the Huichica formation tends to be soft and relatively high in bicarbonate, although usable for domestic and irrigation needs.

Regulatory Background

The Federal Clean Water Act of 1972 primarily establishes regulations for pollutant discharges into surface waters in order to protect and maintain the quality and integrity of the nation's waters. This Act requires industries that discharge wastewater to municipal sewer systems to meet pretreatment standards. The regulations authorize the U.S. EPA to set the pretreatment standards. The regulations also allow the local treatment plants to set more stringent wastewater discharge requirements, if necessary, to meet local conditions.

The 1987 amendments to the Clean Water Act enabled the U.S. EPA to regulate, under the National Pollutant Discharge Elimination System (NPDES) program, discharges from industries and large municipal sewer systems. The U.S. EPA set initial permit application requirements in 1990. The State of California,

through the State Water Resources Control Board, has authority to issue NPDES permits, which meet U.S. EPA requirements, to specified industries.

The Porter-Cologne Water Quality Act is California's primary water quality control law. It implements the state's responsibilities under the Federal Clean Water Act but also establishes state wastewater discharge requirements. The RWQCB administers the state requirements as specified under the Porter-Cologne Water Quality Act, which include storm water discharge permits. The water quality in the Bay Area is under the jurisdiction of the San Francisco Bay Regional Water Quality Control Board.

In response to the Federal Act, the State Water Resources Control Board prepared two state-wide plans in 1991 and 1995 that address storm water runoff: the California Inland Surface Waters Plan and the California Enclosed Bays and Estuaries Plan. Enclosed bays are indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. San Francisco Bay, and its constituents parts, including Carquinez Strait and Suisun Bay, fall under this category.

The San Francisco Bay Basin Plan identifies the: (1) beneficial water uses that need to be protected; (2) the water quality objectives needed to protect the designated beneficial water uses; and (3) strategies and time schedules for achieving the water quality objectives. The beneficial uses of the Carquinez Strait that must be protected which include water contact and non-contact recreation, navigation, ocean commercial and sport fishing, wildlife habitat, estuarine habitat, fish spawning and migration, industrial process and service supply, and preservation of rare and endangered species. The Carquinez Strait and Suisun Bay are included on the 1998 California list as impaired water bodies due to the presence of chlordane, copper, DDT, diazinon, dieldrin, dioxin and furan compounds, mercury, nickel, PCBs, and selenium.

Discussion of Impacts

VIII a – j. No significant adverse impacts on hydrology/water quality resources are anticipated from the proposed rule amendments that would apply to existing refinery operations. The refineries affected by the proposed rule amendments are required to treat and monitor wastewater discharges from their facilities. The wastewater collection, separation, and treatment systems to be monitored already exist and are located within the confines of existing refineries. The changes to the monitoring for wastewater collection, separation, and treatment systems will have no adverse impact on wastewater discharges, alter drainage patterns, create additional water runoff, place any additional structures within 100-year flood zones or other areas subject to flooding, or contribute to inundation by seiche, tsunami or mudflow. No major construction activities are expected from the proposed rule amendments and no new structures are required. Therefore, no significant adverse impacts on hydrology/water quality are expected.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
IX.	**LAND USE AND PLANNING.** Would the project:				
a)	Physically divide an established community?	☐	☐	☐	☑
b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to a general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☑
c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses vary greatly and include commercial, industrial, residential, agricultural, and open space uses.

The refiners affected by the proposed rule amendments are located in the industrial portions of Contra Costa and Solano Counties and generally adjacent to industrial and commercial land uses.

Regulatory Background

Land uses are generally protected and regulated by the City and/or County General Plans through land use and zoning requirements.

Discussion of Impacts

IX a-c. The wastewater collection, separation, and treatment systems to be monitored already exist and are located within the confines of existing refineries within industrial areas. The proposed rule amendments neither require, nor are likely to result in, construction inside or outside of those facilities. Therefore, no land use impacts are expected.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
X.	**MINERAL RESOURCES.** Would the project:				
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☑
b)	Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses and the affected environment vary greatly throughout the area. The refiners affected by the proposed rule amendments are located in the industrial portions of Contra Costa and Solano Counties.

Regulatory Background

Mineral resources are generally protected and regulated by the City and/or County General Plans through land use and zoning requirements.

Discussion of Impacts

X a-b. The wastewater collection, separation, and treatment systems to be monitored already exist and are located within the confines of existing refineries within industrial areas. The proposed rule amendments neither require, nor is likely to result in, construction inside or outside of those facilities. The proposed rule amendments are not associated with any action that would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state, or of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. Therefore, no impacts on mineral resources are expected.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. NOISE. Would the project:				
a) Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☑
b) Expose persons to or generate of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☑
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☑
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☑
e) Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑
f) Be located within the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses and the affected environment vary greatly throughout the area. The refiners affected by the proposed rule amendments are located in the industrial portions of Contra Costa and Solano Counties and are typically surrounded by other commercial and industrial facilities.

Regulatory Background

Noise issues related to construction and operation activities are addressed in local General Plan policies and local noise ordinance standards. The General Plan and noise ordinances generally establish allowable noise limits within different land uses including residential areas, other sensitive use areas (e.g., schools, churches, hospitals, and libraries), commercial areas, and industrial areas.

Discussion of Impacts

XI a-f. The wastewater collection, separation, and treatment systems to be monitored already exist and are located within the confines of existing refineries within industrial areas. The proposed rule amendments neither require, nor are likely to result in, construction inside or outside of those facilities, and will not alter noise levels either within or outside of the refineries. No new equipment which would generate noise is required as part of the proposed rule amendments. Therefore, no noise impacts are expected.

		Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII.	**POPULATION AND HOUSING.** Would the project:				
a)	Induce substantial population growth in an area either directly (e.g., by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure)?	☐	☐	☐	☑
b)	Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑
c)	Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses and the affected environment vary greatly throughout the area. The refiners affected by the proposed rule amendments are located in the industrial portions of Contra Costa and Solano Counties.

Regulatory Background

Population and housing growth and resources are generally protected and regulated by the City and/or County General Plans through land use and zoning requirements.

Discussion of Impacts

XII a. The wastewater collection, separation, and treatment systems to be monitored already exist and are located within the confines of existing refineries within industrial areas. The proposed rule amendments neither require nor are likely to result in, construction inside or outside of those facilities. No additional workers will be required at the refineries; therefore, no increase in population is expected.

XII b-c. The wastewater collection, separation, and treatment systems to be monitored already exist and are located within the confines of existing refineries within industrial areas. No housing would be impacted or

removed by the proposed rule amendments and no displacement housing would be required. Therefore, no significant adverse impacts on population/housing are expected.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. PUBLIC SERVICES. Would the project:				
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
Fire protection?	☐	☐	☐	☑
Police protection?	☐	☐	☐	☑
Schools?	☐	☐	☐	☑
Parks?	☐	☐	☐	☑
Other public facilities?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses and the affected environment vary greatly throughout the area. The refiners affected by the proposed rule amendments are located in the industrial portions of Contra Costa and Solano Counties.

Given the large area covered by the BAAQMD, public services are provided by a wide variety of local agencies. Fire protection and police protection/law enforcement services within the BAAQMD are provided by various districts, organizations, and agencies. There are several school districts, private schools, and park departments within the BAAQMD. Public facilities within the BAAQMD are managed by different county, city, and special-use districts.

Regulatory Background

City and/or County General Plans usually contain goals and policies to assure adequate public services are maintained within the local jurisdiction.

Discussion of Impacts

XIII a. The wastewater collection, separation, and treatment systems to be monitored already exist and are located within the confines of existing refineries within industrial areas. The proposed rule amendments do not require the installation of new equipment or new public services. No impacts on the need for fire or police protection are expected. The proposed rule amendments are not expected to require additional workers at the refinery or result in population growth so no impacts on schools or parks are expected. Therefore, no significant adverse impacts on public services are expected.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. RECREATION. Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.?	☐	☐	☐	☑
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that there are numerous areas for recreational activities. The refiners affected by the proposed rule amendments are located in the industrial portions of Contra Costa and Solano Counties. Public recreational land uses are not located within the confines of the refineries.

Regulatory Background

Recreational areas are generally protected and regulated by the City and/or County General Plans at the local level through land use and zoning requirements. Some parks and recreation areas are designated and protected by state and federal regulations.

Discussion of Impacts

XIV a-b. The wastewater collection, separation, and treatment systems to be monitored already exist and are located within the confines of existing refineries within industrial areas. The proposed rule amendments neither require, nor are likely to result in, construction inside or outside of those facilities. No additional workers will be required at the refineries, no increase in population is expected and, therefore, no significant adverse impacts on recreation are expected.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XV.	**TRANSPORTATION/TRAFFIC.** Would the project:				
a)	Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	☐	☐	☐	☑
b)	Cause, either individually or cumulatively, exceedance of a level-of-service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☑
c)	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☑
d)	Substantially increase hazards because of a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	☐	☐	☐	☑
e)	Result in inadequate emergency access?	☐	☐	☐	☑
f)	Result in inadequate parking capacity?	☐	☐	☐	☑
g)	Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles). Transportation systems located within the Bay Area include railroads, airports, waterways, and highways. The transportation infrastructure for vehicles and trucks in the Bay Area ranges from single lane roadways to multilane interstate highways. The refiners affected by the proposed rule amendments are located in the industrial portions of Contra Costa and Solano Counties and are accessed via highways and local roadway systems.
Interstate 80 is a major east-west freeway link providing access between Richmond and Oakland/San Francisco to the south and west and Sacramento to the east. Interstate 80 is a six-lane north-south freeway which connects Contra Costa County to Solano County via the Carquinez Bridge. The ConocoPhillips Refinery is bisected by Interstate 80, south of the Carquinez Bridge, near the interchange with State Route 4.

The ChevronTexaco Refinery is located north and adjacent to Interstate 580. Interstate 580 is a six-lane freeway and connects Interstate 80 east of the ChevronTexaco Refinery with U.S. 101 in Marin County via the Richmond-San Rafael Bridge.

The Shell Martinez Refinery is located north of State Route 4 and west of Interstate 680, south of the Benicia-Martinez Bridge. The Tesoro Avon Refinery is located north of State Route 4 and east of Interstate 680, south of the Benicia-Martinez Bridge and several miles east of the Shell Martinez Refinery.

The Valero Benecia Refinery is also located near Interstate 680. Interstate 680 is a four-lane, north-south freeway near the Valero, Tesoro, and Shell refineries. From the Benicia-Martinez Bridge, Interstate 680 extends north to Interstate 80 in Cordelia. Caltrans constructed a second freeway bridge adjacent and east of the existing Benicia-Martinez Bridge. The new bridge consists of five northbound traffic lanes. The existing bridge was re-striped to accommodate four lanes for southbound traffic.

Interstate 780 is a four lane, east-west freeway extending from the Benicia-Martinez Bridge west to I-80 in Vallejo.

Regulatory Background

Transportation planning is usually conducted at the county level and the refineries in the Bay Area are located in Contra Costa and Solano Counties. The County of Contra Costa and the Contra Costa Transportation Authority share the duties of transportation planning and administration of improvement projects in the County of Contra Costa. The Contra Costa County Community Development Department conducts and oversees the transportation and planning for new development projects. The Contra Costa Transportation Agency implements the transportation programs and projects created by the County's Measure C, the Transportation Improvement and Growth Management Program and also serves as the County's Congestion Management Agency.

The Solano Transportation Authority is the designated Congestion Management Agency for Solano County and develops the Congestion Management Plan (CMP) for Solano County. The CMP identifies a system of

state highways and regionally significant principal arterials and specifies level of service standards for those roadways.

Discussion of Impacts

XV a-b. The wastewater collection, separation, and treatment systems to be monitored already exist and are located within the confines of existing refineries within industrial areas. The proposed rule amendments do not require construction activities or the installation of new equipment. The transport of additional materials will not be required and no additional workers will be required. Some refineries use contractors to implement inspection and maintenance programs. The proposed rule amendments may require that the contractor visit the site on additional days to re-inspect some components. The increase in traffic would be limited to about one trip per day per refinery. Additional traffic at the existing facilities that would result in changes to traffic patterns or levels of service at local intersections is not expected.

XV c. The proposed rule amendments include minor modifications to the operation of existing facilities. The project will not involve the delivery of materials via air so no increase in air traffic is expected.

XV d - e. The proposed rule amendments are not expected to increase traffic hazards or create incompatible uses at or adjacent to the site. Emergency access is provided at the refinery sites, will continue to be maintained at the refinery sites, and will not be impacted by the proposed rule amendments.

XV f. No construction activities are expected, so no parking is required for construction workers. No increase in permanent workers is expected. Therefore, the proposed rule amendments will not result in significant adverse impacts on parking.

XV g. The proposed rule amendments involve modifications to the operations within the confines of an existing refinery. The proposed rule amendments are not expected to conflict with adopted policies, plans, or programs supporting alternative transportation modes (e.g., bus turnouts, bicycle racks).

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less-than-Significant Impact	No Impact
XVI. UTILITIES/SERVICE SYSTEMS. Would the project:					
a)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☑
b)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☑
c)	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☑
d)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements needed?	☐	☐	☐	☑
e)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☑
f)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☑
g)	Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☑

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses and the affected environment vary greatly throughout the area. The refiners affected by the proposed rule amendments are located in the industrial portions of Contra Costa and Solano Counties.

Given the large area covered by the BAAQMD, public utilities are provided by a wide variety of local agencies. The refineries have wastewater and storm water treatment facilities and discharge treated wastewater under the requirements of NPDES permits.

Water is supplied to the refineries by several water purveyors in the Bay Area. Solid waste is handled through a variety of municipalities, through recycling activities and at disposal sites.

There are no hazardous waste disposal sites within the jurisdiction of the BAAQMD. Hazardous waste generated at area facilities, which is not reused on-site, or recycled off-site, is disposed of at a licensed in-state hazardous waste disposal facility. Two such facilities are the Chemical Waste Management Inc. (CWMI) Kettleman Hills facility in King's County, and the Safety-Kleen facility in Buttonwillow (Kern County). Hazardous waste can also be transported to permitted facilities outside of California. The nearest out-of-state landfills are U.S. Ecology, Inc., located in Beatty, Nevada; USPCI, Inc., in Murray, Utah; and Envirosafe Services of Idaho, Inc., in Mountain Home, Idaho. Incineration is provided at the following out-of-state facilities: Aptus, located in Aragonite, Utah and Coffeyville, Kansas; Rollins Environmental Services, Inc., located in Deer Park, Texas and Baton Rouge, Louisiana; Chemical Waste Management, Inc., in Port Arthur, Texas; and Waste Research & Reclamation Co., Eau Claire, Wisconsin.

Regulatory Background

City and/or County General Plans usually contain goals and policies to assure adequate utilities and service systems are maintain within the local jurisdiction.

Discussion of Impacts

XVI a – g. The proposed rule amendments will not generate or affect wastewater or solid waste, will not affect storm water, or storm water drainage, and will not require water, or affect water supplies. No increases in demand for public utilities are expected as a result of the proposed rule amendments.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII.	**MANDATORY FINDINGS OF SIGNIFICANCE.**				
a)	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☑
b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	☐	☐	☐	☑
c)	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☑

Discussion of Impacts

XVII a. The proposed rule amendments do not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory, as discussed in the previous sections of the CEQA checklist. The proposed rule amendments are expected to result in emission reductions from refineries, thus providing a beneficial air quality impact and improvement in air quality. No significant adverse impacts are expected.

XVII b. The proposed rule amendments are expected to result in emission reductions from refineries, thus providing a beneficial air quality impact and improvement in air quality. The proposed rule amendments are part of a long-term plan to bring the Bay Area into compliance with the federal and state ambient air quality standards for ozone. The proposed rule amendments do not have adverse environmental impacts that are limited individually, but cumulatively considerable when considered in conjunction with other regulatory control projects. The proposed rule amendments do not have environmental effects that will cause

substantial adverse effects on human beings, either directly or indirectly. No significant adverse impacts are expected.

XVII c. The proposed rule amendments are expected to result in emission reductions from refineries, thus providing a beneficial air quality impact and improvement in air quality. The proposed rule amendments are part of a long-term plan to bring the Bay Area into compliance with the federal and state ambient air quality standards for ozone, thus reducing the potential health impacts due to ozone exposure. The proposed rule amendments do not have significant adverse effects (either directly or indirectly) to human beings.

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CHAPTER 4
References

Bay Area Air Quality Management District (BAAQMD), 2004. Staff Report, Proposed Revision of Regulation 8, Rule 8: Water Collection Systems, March 14, 2004.

BAAQMD, 2001. Revised 2001 San Francisco Bay Area Ozone Attainment Plan for the 1-hour National Ozone Standard, adopted October 24, 2001.

BAAQMD, 2001. Toxic Air Contaminant 2000 Annual Report. December 2001.

BAAQMD, 2002. 2002 BAAQMD Ambient Air Quality Data.

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Comments and Responses
Proposed Amendments to Regulation 8, Rule 8

Commentor	Comment	Response
Tim Dunn, Eric White, ARB (04/05/04, via phone)	Staff Report page 4, incorrectly states that refineries discharge to the Bay, some discharge to surface water that flow to the bay.	Comment correct will change staff report
	Staff Report page 5, explanation of Volatilization maybe confusing, suggest removing word biodegradation from description and including language from TOXCHEM modeling manual to explain the process.	Will remove Biodegradation from report and look at TOXCHEM Manual.
	In Reg. 8-8-201, suggest that the definition of Organic Compounds reference other District Reg.'s rather that spark off debates about exemption of ethane.	Will look at other Districts Regs.
	In Reg. 8-8-217, suggest change to definition of junction boxes which removes section stating "effluent flows downstream as one flow."	Comment correct will change Reg. 8-8
	In Reg. 8-8-222, suggest removing "sufficient pressure" language to include other types of lift stations.	Comment correct will change Reg. 8-8
	In Reg. 8-8-228, suggest removing "equipment discharge" to subject all wastewater trenches to rule.	Comment correct will change Reg. 8-8
	In Reg 8-8-229, suggest language change to subject Vent pips from all wastewater collection system components to rule.	Comment correct will change Reg. 8-8
	In Reg. 8-8-320.4, suggests breaking section in two to clarify for refinery and other sources.	Will consider and review comment
	In Reg. 8-8-305, 306, 307, suggest that the control percentages in conflict with the 500 ppm standard. Include a strict limit of 500 ppm for refinery facilities.	The 500 ppm is a qualitative leak/no leak standard, and should not interfere with emissions control standards.
	In Reg. 8-8-308, suggest amending definition description to "at facilities other than petroleum refineries."	Will consider and review comment.
Ken Forbes (04/06/04, via phone)	Question regarding calculation annualized cost in staff report.	Responded to question by phone to explain annualized cost for the measure to be between $3,000 to $4,200 per ton per day.
	Question regarding emitters of the 3.3 tons mentioned in the staff report.	Responded to question by phone to explain the 3.3 tons is from refinery Wastewater Collection systems.
Brian Johnson (04/07/04, via phone)	Question if rule revisions applied to oil waste recyclers.	Responded: oil waste recyclers are not subject to the rule revisions

Commentor	Comment	Response
Kevin Buchan, Western States Petroleum Association (4/16/04, via e-mail)	Recommend changing the title to "Wastewater Collection and Primary Treatment Systems" – to ensure it is clear that secondary systems are not included in this rule (at least, yet)	Title change to "Collection, Separation and Treatment" consistent with Reg
	In Reg. 8-8-112, think it is appropriate to allow refinery use of this exemption. However, the new standards should be included in the exemption as well. Also, it would be good to include a method to demonstrate areas that are "clean" and not require semi-annual testing, sampling requirements, etc.	Will consider extending concentration portion of exemption to refineries, however, modeling has shown that significant emissions exist at refineries at temperatures below 20 Degrees Centigrade.
	In Reg. 8-8-113, needs to exempt sections 303, 304, and 307 because the rule has been changed to apply to the entire collection and primary treatment system, not just the oil water separator as it previously applied to. Also, need to exempt new sections 312 and 313 for secondary treatment and stormwater systems.	Will consider comment and incorporate into rule.
	Request that the District consider incorporating an exemption for low volatility material, like the Fugitive Rule (Reg 8-18). Low volatility material will not result in any significant impact to ozone, but could require significant costs to monitor and control. One way to address enforcement would be to put burden of proof on the refinery (i.e. refinery would need to provide proof of low volatility or 500 ppm would apply).	Large amounts of diesel range hydrocarbons discovered during the TAD, while the impact of these materials on VOC emissions has not been confirmed, the inclusion of low volatility compounds in this regulation will ensure that any emissions from such materials will be controlled.
	In Reg. 8-8-204 need to clarify that "at the interface" means at the face of the drain, not the surface of the water seal. We would propose "at the opening to the atmosphere". We want to be careful that no one may think it means inside the pipe or the grating.	EPA method 21 is the reference test method for this section and as such clearly defines the process for the measurement of emissions from process drains in section 8.3.1.5.
	In Reg. 8-8-301 through 8-8-302 these sections, there was historically a reference made to "OC" which meant "critical organic compound." It is now being replaced by "organic compound" which excludes the concept of	Large amounts of diesel range hydrocarbons discovered during the TAD, while the impact of these materials on VOC emissions has not been confirmed, the inclusion of low volatility compounds in this regulation will ensure that any

Commentor	Comment	Response
	exempting C14 and heavier material. We're not sure why this would need to be changed and, as noted above, believe it is appropriate to include an exemption for low volatility (heavy) material.	emissions from such materials will be controlled. Additionally, the test methodology (ST-7 and EPA method 25) measures all organic compound not critical organic compounds. This amendment is for purposed of clarity.
	In reg. 8-8-302.4, there are proposed changes to this section applicable to refineries. We recommend that a new section 302.6, be added to make the requirements more clear (including them in this section leaves a few uncertainties). Also, philosophically, it is unclear why refineries have a tighter standard than other oil-water separators.	Will take comment under advisement and amend rule section. In terms of applicability to other industries, the staff report for these amendment recommends further study of other industries subject to this rule.
	In Reg. 8-8-304, the term "sludge" is not defined in the regulation. However, it appears that the only place it is used is in this section. Therefore, it would probably be easier to just modify the proposed addition (in underline) to say "Sludge removed from the sludge dewatering unit must be maintained in vapor tight containers during transport in pipes and storage." We understand that the reference to "transport and storage" means transportation in pipes and storage in tanks. We want to be clear that this does not refer to the use of vacuum trucks. Although this is probably not done frequently, vacuum trucks are clearly a much bigger issue and we would need to discuss those issues at much more length.	While sludge is not defined by Reg. 8-8, sludge dewatering unit is defined as being used only for oil/water separator or dissolved air flotation slop oil or sludge. Staff feels no additional definition of sludge is necessary. The staff report also identifies the area of vacuum truck transportation as being an area where further study is necessary, however, emissions from slop oils and sludge's from these units must be controlled.
	In Reg. 8-8-305 through 8-8-307, these sections, there was historically a reference made to "OC" which meant "critical organic compound." It is now being replaced by "organic compound" which excludes the concept of exempting C14 and heavier material. We're not sure why this would need to be changed and, as noted above, believe it is appropriate to include an exemption for low volatility (heavy) material.	As stated above ozone modeling has no low volatility exemption. Also, this amendment serves to reconcile this standard with the test methodology in the regulation. The test methodology (ST-7 and EPA method 25) measures all organic compound not critical organic compounds. This amendment is for purposed of clarity.

Commentor	Comment	Response
	In Reg. 8-8-312 this section should be revised to clarify maintenance exemption and remove ambiguous language. Apply section to wastewater system components and mandate that they be vapor tight.	Will take comment under advisement and amend rule section.
	In Reg. 8-8-313, the requirement in this section to re-inspect "every 30 days" could be difficult to manage or be misunderstood. We recommend changing it to require re-inspection within 25 to 35 days. Also, for clarity, we recommend putting the word “or” at the end of 313.1. This change should also be made in section 402.6.	Will take comment under advisement and amend rule section.
	In 8-8-313.2, was it your intent to include a time frame for the limit on 3 failed inspections? SCAQMD defines a repeat emitter as 3 times during any consecutive 12 months.	To make this provision achieve quantifiable emissions reductions that this provision must remain in force for five years. This prevents repeat leakers from escaping control.
	In Reg. 8-8-402, the implementation schedule is too aggressive. We need to develop plans and then start inspections. It also takes time to redraw or update entire system drawings, sample to identify clean systems, scope and estimate project, get funding, order and deliver insert-a-seals (from what appears to be a fairly small company; can they handle all the business?), complete installations, etc. Also, facilities will need to stagger inspections over several quarters to ensure getting all the inspections done and to ensure that all re-inspections don’t come up at essentially the same time (the refineries did this initially for fugitives as well). Therefore, to complete inspections by 1/1/05 would be exceedingly difficult, if not impossible. We recommend revising this section, and the rest of the regulation, to provide one more year to complete all inspections, etc. (i.e. January 1, 2006).	Staff will consider this comment and make appropriate adjustments to the implementation timelines.
	In Reg. 8-8-402, need to clarify what is meant by “detailed drawings”? There may be other methods of locating components	Staff feels that this section is vital to enforceability of this regulation as it forces the refiners to identify all their wastewater components. It

Commentor	Comment	Response
	(e.g. bar-coding and included in an LDAR routing database) that could be used to meet this need. This requirement could be changed to be similar to Reg 8-18-502.1 which requires that we "maintain records that provide...the equipment identification code, equipment type and the location of the equipment"	also provides District inspection staff with the tools to be able to identify and find all components.
Kari Lorch, Chevron (4/19/04, comment in workgroup)	In Reg. 8-8-312 with regard to the 500 ppm standard, if a facility was able to indicate that the majority of these emissions were methane, would they be in violation of this section.	The definition of organic compounds in 8-8-201 exempts methane. Therefore a facility could use district source test method (ST-7) or EPA method 25D to demonstrate compliance with this section.
Dennis Bolt, Western States Petroleum Assn. (4/19/04, coment in workgroup)	District must bear in mind in terms of implementation schedules that there are several regulation coming in force at the same time. Request that the cost on the industry in terms of budgets, capital management and resources also must be taken into account.	Will take comment under advisement and will look at adjusting implementation timelines.
Simms Thompson, Jr. (4/27/04, comment at workshop)	How does this regulation affect gas stations?	The revisions to this regulation apply to refineries only. Any gas stations currently regulated under this rule will maintain the same compliance requirements.
Teng Chung Wu, Mountain View Sanitary District (4/27/04, comment at workshop)	How will compliance be determined with this regulation?	District inspectors will enforce the provisions of this regulation by doing inspections, reviewing refinery paper work and enforcing refinery inspection and Title V reporting requirements. The refiners themselves must also perform the inspections or install controls provide for in the regulation and perform self reporting under their Title V permits.
	Has the District done any cost analysis on this regulation and what will the costs be?	As part of this regulation, both socioeconomic and incremental cost analysis on the proposed amendments have been analyzed. The costs per ton of emissions reduced per day are between $1,900 and $4,200.
	Has the District mandated any tagging or identification requirements for refinery wastewater collection systems?	As part of the amendments to the regulation each refinery must submit a detailed diagram denoting the location of all wastewater components at their facilities. This will provide them with maximum

Commentor	Comment	Response
		flexibility in setting up their tracking and inspection programs.
	The Staff report has indicated that the effects on staff are expected to be moderate. What impacts will the amendments have?	The Staff Impacts section of the staff report pertain mostly to the District's inspection staff. While this will mean an increased workload for them, it is not expected to be overburdensome on budgets, time or administration.
Oliba Cardona, Contra Costa Interfaith Supporting Community Organization (4/27/04, comment at workshop)	Who will check the refineries to make sure the inspections or controls are operating correctly?	This responsibility will fall on the District and its inspection staff. Staff is well versed in fugitive detection as well as record keeping and Title V review. This will ensure the provisions of this regulation are enforced.
	What impact will it have on the community if the new provisions of this rule are not carried through?	Should the amendments to this rule not be enforced it would result in the continued emission of 2 tons per day of VOC.
	During incidents at night, members of the community are unsure as to who to contact and are not aware of workshop meetings.	Staff responded by making outreach to Miss Cardona, providing here with information pamphlets in Spanish and English and have since followed up with her through the Districts PI&E Office.
Phil Stern, ConocoPhillips (4/27/04, comment at workshop)	In Reg. 8-8-302 there are sections that have repair periods and others that do not. For Title V reporting it would e better to make these requirements consistent.	Refineries currently comply with all portions of this section. The addition of additional repair periods would make the section less stringent and may lead to excess emissions. Therefore no new repair periods will be added to this section.
	In Reg. 8-8-402, allowances should be made so that violation of non-emission related administrative elements of the Reg. are allowed to be corrected. Such provisions will reduce the need for reporting deviations from Title V permits.	While staff feel this is a valid concern, the administrative portions of this section are essential to the enforcement of this regulation and therefore must have a strict compliance date.
Stephanie Corcoran, Valero (4/27/04, comment at workshop)	With regard to the cost associated with this regulation, it appears that the majority of the emissions occur at one facility. Therefore the costs associated with the implementation of the regulation at the Valero facility seem punitive in terms of dollars per ton of VOC reduced.	The amendments to this regulation allow for facilities who have better emissions performance to expend less money on emissions controls. In the case of the Valero facility, there are few emissions from the wastewater system. This amendment will serve to codify the situation, the result being that based on the compliance option chosen by Valero their cost should fall well bellow the projected cost

Commentor	Comment	Response
		range of $1,900 to $4,200 per ton of VOC reduced.
Kathy Wheeler, Shell (4/27/04, comment at workshop)	Reg. 8-8-402 requires a detailed diagram of all wastewater components. Components discovered after the compliance date that are not on diagrams would constitute a violation and be subject to Title V reporting. Would it possible for this portion of the regulation to make allowances for components discovered after the compliance date.	While the District may make adjustment to the regulatory time line it is essential for enforcement of the regulatory amendments that all wastewater collection system components are identified by the compliance date. This ensures that the proposed emissions reductions are achieved by either controls or an inspection and maintenance plan.
Dennis Bolt Western States Petroleum Association (4/27/04, comment at workshop)	It must be noted in terms of regulatory adoption as well as the physical costs incurred by the refineries, there is a hugh investment in administration by both industry and the District. This includes regulatory adoption, reopening of facility Title V permits and aproval by both the state and EPA for SIP credit.	Staff is aware of these costs, however, their impact is moderate in terms of staff time and District resources.
Rebecca Stager, Chiron Corp. (4/27/04, via e-mail)	Chiron believes that a modification of 8-8-113 to completely exempt stowmwater sewers is in line with the proposed, revised description that limits the scope of the rule to emissions from wastewater collection and treatment systems. Section 8-8-113 currently exempts stormwater sewer systems, as defined under Section 8-8-216, from sections 8-8-301, 302, 306 and 308 if the stormwater sewer system is used to collect stormwater which is segregated from process wastewater. Section 8-8-216 clearly states that a stormwater sewer system is a system that is fully segregated from the wastewater system and thereby segregated from process wastewater. In addition, the language in 8-8-113 implies that stormwater sewer systems (that only collect stormwater) could be regulated under sections 8-8-303, 304, 305 and 307 of the rule. Because sections 304, 305 and 307 do not apply to stormwater sewer systems the net effect of a full	The effect of the proposed exemption would be to exempt stormwater oil-water separators from section 8-8-303 of the rule.
Greg Karras, Terry Valen,	With regard to the Draft Staff	Staff will change the draft staff

Commentor	Comment	Response
Communities for a Better Environment (5/14/04, via mail)	report, District's Staff estimate of emissions from wastewater collection systems excludes diesel range hydrocarbon material. The actual hydrocarbon emissions and reductions from the proposed amendments may actually be double the current estimate. District's Staff cost/benefit analysis point out that the proposed rule would reduce toxic compounds such as benzene but it should similarly include the benefits of reducing the emissions of diesel range hydrocarbons as well.	report to mention that diesel range hydrocarbon emissions will also be reduced as part of the proposed control measure.
	As part of the proposed compliance options in sections 8-8-313.2 and 8-8-402, the requirement for inspections is semi-annually. This is in contrast to RWQCB requirements which mandate that refineries monitor system constituents monthly or even weekly. Semi-annual monitoring may miss emissions and hence fail to control them. As proposed the current rule would not ensure the projected emissions reductions were achieved, largely due to episodic releases to the refinery wastewater system. CBE recommends monthly monitoring of wastewater collection systems, which has been deemed cost effective by the staff report analysis.	Will consider and review comment (Staff have proposed increased monitoring for the first year the rule is implemented, also, inspection staff will be monitoring emissions points in addition to the refinery inspection programs)..
	The exceptions contained in the draft rule under sections 8-8313.1 and 8-8-403 would allow refineries to wait two and a half years before plugging leaks from their sewers into the air. There might also be little incremental benefit for the installation of partial controls which may divert emissions to another part of the refinery. CBE would like to see this timeline shortened so that all controls are installed by December 31, 2005.	As well as the provision to ultimately control all drains, the proposed amendment to the rule also includes a provision for an initial survey of all refinery drains. During this survey period all drains found leaking over 500 ppm must be minimized. This means an immediate emissions reduction benefit from the rule's effective date. In addition, the proposed compliance schedule mirrors one adopted by the South Coast Air Quality Management District. This schedule has proved not only to practical for the facilities but has also allowed for the safe installation of refinery controls for guaranteed

Commentor	Comment	Response
		emissions reductions.
	CBE requests clarification in any resolotion adopting the proposed amendment to Reg. 8-8, its intent to develop a recommendation regarding treatment system controls by December 31, 2005.	Regarding treatment systems, District, CARB and RWQCB staff are currently formulating sampling plans and discussing emissions models with members of the technical working group. While this process in in an advanced stage it is unlikely to deliver the requested recomendation by December 31, 2005.
Sally Rump, California Air Resources Board (5/17/04, via mail)	With Regard to Reg. 8-8-200, would like definitions to be listed alphabetically	Due to the regulated communities familiarty with this section, definitions added follow the regulation numbering scheme and hence are not re-alphabetized.
	With Regard to Reg. 8-8-200 would request that a definition of "inside a battery limit" (ISBL) be added to the rule. ISBL consists of the process facilities, usually grouped in in one or more plants in a geographical area.	The current definition of petroleum refineries contained in the rule incorporates this category and that as such this language would be superfluous.
	With Regard to Reg. 8-8-200 would request that a definition of "outside a battery limit" (OSBL) be added to the rule. OSBL includes bulk storage of flammable materials remote from the on-plot areas and support of facilities such as utilities, fire pumps and buildings, remote from hazardous operating facilities. Flares are in OSBL, but located separately from other areas.	The current definition of petroleum refineries contained in the rule incorporates this category and that as such this language would be superfluous.
	In Reg. 8-8-219, the proposed definition of biological treatment unit refers to any structure which use micro-organisms to metabolize organic compounds aerobically…." The District may also want to include anaerobic biological processes also.	Staff agree with this comment and will include it in the definitions section
	In Reg. 8-8-229 the proposed definition of vent pipes refers to any piping used to ventilate junction boxes or manholes. CARB recommend that this definition be expanded to include all collection system components.	Staff agree with this comment and will include it in the definitions section.
	In Reg. 8-8-313.1, for clarity, the District may want to repeat the hard piping requirement in 8-8-312 that states that "all sewer lines at petroleum refineries be completely	Will consider and review comment.

Commentor	Comment	Response
	enclosed so that no wastewater is exposed to the atmosphere after entering the collection system."	
	In Reg. 8-8-402.1, the proposed language would require that "All wastewater collection system components must be identified." The District may want to consider revising this text so that " All wastewater components or at least 99% of all components inside a battery limit (ISBL) and outside a battery limit (OSBL) be identified.	As stated previously, the current definition of petroleum refineries contained in the rule incorporates the ISBL and OSBL categories mentioned and that, as such, this language would be superfluous.
Vicki Sawiler (?) (5/18/04, comment at workshop)	Where does the hydrocarbon vapor trapped by the emissions controls go to?	Hydrocarbon vapors will be contained in the system and swept to the oil-water separator. Due to the fact that a small amount of petroleum product can saturate the water's absorbtion ability, most of this hydrocarbon material will be insoluble and should be removed at the oil-water separator.
	Has the District analyzed the cost effectiveness of the proposed measure in terms of its benefit to human health?	The District is required to do a cost benefit analysis for the amount of emissions reduced in each regulatory proposal in dollars per ton. Although if it appears that a health effect is being caused by a point source, the District will respond to any complaints made to its communication center via the 1-800-334-ODOR line, we have no methodology to quantify health benefits from each regulation amendment. The national and state ambient standards that we are trying to achieve have gross health benefits attributed toward them. We must progress toward these standards by law.
Wanna Wright, Communities for a Better Environment (5/18/04, comment at workshop)	When will the proposals be completed?	The majority of this regulation goes into effect on January 1, 2005. However, the regulation also contains an alternative compliance schedule for the incremental installation of controls on all refinery wastewater collection system components by December 31, 2006.
Ramona Martinez (5/18/04, comment at workshop)	We think there have been a lot of accidents that have led to contamination of out community. This contamination has lead to health effects such as respatory	Refinery wastewater collection systems span many hundreds of acres and are very complex. It will take time to physically identify each component and control it safely.

Commentor	Comment	Response
	problems and watering eyes. Why will it take so long to put the proposed controls in place?	Also, the schedules proposed in the regulation have been proven to work safely in the South Coast Air Quality Management District.
Carla Perez, Communties for a Better Environment (5/18/04, comment at workshop)	How long have the refineries been aware of the specifics of the regulation and haven't they had time to prepare for its amendment?	The refineries became aware of the specifics of the regulation on the same date as the community, 5/1/04. However, they have been aware through the workgroup process that this rule would require a waterseal control option.
	Why is there such a long delay in implementing the proposed amendments and how long will it take to produce the diagrams of the refinery system?	Refinery wastewater collection systems span many hundreds of acres and are very complex. It will take time to physically identify each component and control it safely. Based on information gained from industry sources, the diagrams themselves will probably take between 6 to 9 months to produce.
	How does the District intent to ensure this regulation is enforced and that actual emissions reductions are achieved?	The District has an excellent enforcement program. This regulation is intended to provide that programs with the tools to audit and cross check compliance at facilities. Field inspectors will also conduct their own inspection and will review facility reporting under Title V.
	How should the community protect itself from the health effects of these pollutants?	Questions regarding human health effects should be deferred to the local health department. However, the District will respond to any complaints made to its communication center via the 1-800-334-ODOR line.
Waylon Williams (5/18/04, comment at workshop)	What are the fines for non-compliance?	Fines for non-compliance with emissions related standards can be as high as $50,000 per day.
	How are the funds raised from fines distributed to the communities affected?	As part of large settlements received by the District, local communities are polled for suggestions on how best to use the monies received. This money, usually 25% of a total settlement, is distributed through supplemental environmental plans (SEP) by the Districts Planning Division.
	How will the District guarantee enforcement of this regulation?	The District has an excellent enforcement program. This regulation is intended to provide that programs with the tools to audit and cross check compliance at facilities. Field inspectors will

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		also conduct their own inspection and will review facility reporting under Title V.
	Why was 500 ppm chosen as the leak standard for the regulation?	500 ppm was chosen by USEPA as the effective leak/no leak for drains in its national environmental standard for hazardous air pollutant (NESHAP) for benzene wastes. As such the District adopted it as its leak/no-leak standard.
	Who informs members of the public if there is a problem such as a violation notice for a drain leak?	Although information is available, the public is not routinely informed unless large violations occur that cause a number of complaints. Contra Costa County does have an emergency warning system for large refinery releases.
Dennis Bolt, Western States Petroleum Association (5/18/04, comment at workshop)	In relation to the emissions from refinery facilities, 95% of the toxic compound emitted in the Bay Area come from automobiles. Toxic monitoring done in partnership with the Contra Costa Health Department indicates no problems in communities surrounding the refineries and that these communities are not impacted above level in other Bay Area residents.	No comment
Greg Karras, Communities for a Better Environment (5/18/04, comment at workshop)	In relation to the implementation date of this regulation CBE see no reason to delay. The emissions from these systems are impacting community now. Safety should not be allowed as an excuse for not implementing controls as soon as possible.	Staff feel that the introduction of controls is timely and that due to the size and complexity of wastewater collection systems at refineries that the implementation schedule is both safe and realistic.
Greg Karras, Carla Perez, Terry Valen, Wanna Wright, Communities for a Better Environment (5/21/04, via mail)	This is the first concrete pollution reducing rule to come out of the two-plus year effort to get relief for our communities. The proposal uncovers a massive air pollution problem which CBE believes to be an important factor in the elevated rates of respatory problems, including asthma, in nearby communities. If passed this rule would cut two tons of this pollution daily.	Staff agree with CBE that this measure will deliver the estimated 2.1 tons per day of emissions reductions.
Sally Rump, CARB (9/7/04, via e-mail)	Comment on Regulation 8, Rule 18: “APCO” should be replaced by “APCO or his or her designee”.	Regulation 1 contains the suggested language, “APCO” is used throughout District rules.
K. Sky Bellanca, Valero (9/7/04, via e-mail)	Concerned that wastewater ponds could be construed as subject to	The suggested language is not necessary because wastewater

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	the proposal. Suggests exempting them from definition of “wastewater collection system” or including specific language in Sec 8-8-114.	ponds are not considered part of the collection system. Other sections of the wastewater system that are also not part of the collection system are also not specifically exempted for the same reason. Inspection criteria will make this point clear.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Haggerty and
Members of the Board of Directors

From: Jean Roggenkamp
Director of Planning and Research

Date: September 8, 2004

Re: Enhanced Public Outreach for the 2004 Ozone Strategy

RECOMMENDED ACTION

None. Information Only.

BACKGROUND

The Air District, in cooperation with the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG), is preparing the Bay Area 2004 Ozone Strategy. The 2004 Ozone Strategy will address national and state air quality planning requirements. The 2004 Ozone Strategy will include a redesignation request and a maintenance plan for the national 1-hour ozone standard and a triennial revision to the Bay Area strategy to attain the California State 1-hour ozone standard and to reduce transport to downwind regions. The strategy will also address other related air quality issues, including fine particulate matter and global warming. The public outreach for the 2004 Ozone Strategy extends well beyond outreach for previous planning processes.

DISCUSSION

The Air District's outreach for the 2004 Ozone Strategy includes Ozone Working Group meetings, community meetings, consultation with other air districts, Modeling Advisory Committee meetings, postings on the District website, mail-outs, printed materials, and Air Currents articles. In addition, staff has presented updates on the planning process to the Board of Directors Executive Committee, the Regional Agency Coordinating Committee, and the District Advisory Council.

Ozone Working Group. The Ozone Working Group (OWG) provides regular opportunities for public involvement in the ozone planning process. At OWG meetings, staff present updates on various aspects of the process and solicit discussion and public comment. Topics include public involvement efforts, development and evaluation of control measures, regulatory and rule-making updates, modeling, MTC's Transportation 2030 process, and other items. The OWG meets during business hours, at MetroCenter in Oakland. OWG meetings are conducted by professional facilitators, with presentations primarily by District and MTC staff. OWG meeting notices are sent to environmental and community groups, business and industry groups, elected officials, local staff, staff at EPA, ARB, and neighboring air districts, and other interested parties on District, MTC and ABAG distribution lists. Eight OWG meetings have been conducted to

date. The next meeting of the OWG is scheduled for September 28, 2004 at 9:30 a.m. at MetroCenter.

Community Meetings. The District conducted a series of six community meetings in September 2003. Community meetings were held in the evening at community centers in Rodeo, East Palo Alto, Richmond, East San Jose, West Oakland, and southeast San Francisco. The community meetings were intended to provide background information on ozone health effects and regulatory programs, and to solicit suggestions on potential control measures. Professional facilitators assisted with the meetings, and Spanish translation was provided. Outreach for the meetings included: email notices to elected officials, community and environmental groups, and other interested parties; coordination with local community groups to help publicize the meetings, and notices on local cable access calendars.

In addition, District staff worked with community groups to conduct "pre-meetings". These pre-meetings served as training sessions in which staff met with community members to provide background information, answer questions, and otherwise help participants prepare for the community meetings. Two pre-meetings were held prior to the community meetings in Richmond and San Jose.

Consultation with Other Air Districts. In addition to soliciting input on potential control measures via the Ozone Working Group and community meetings, Air District staff also consulted with ARB and downwind air districts. Staff participated in discussions sponsored by the California Air Pollution Control Officers Association on all feasible measures. Staff participated in discussions with ARB and downwind air districts on rule comparisons to identify potential rule enhancements for each of the districts. Staff also closely worked with Sacramento Metropolitan Air Quality Management District staff on their suggestions for potential Bay Area control measures to reduce transport.

Modeling Advisory Committee. The Modeling Advisory Committee (MAC) reviews the work of the District's modeling consultants and District staff on a regular basis. The MAC includes representatives from the Environmental Protection Agency, California Air Resources Board, downwind air districts, Metropolitan Transportation Commission, industry, environmental groups, community groups, and transportation groups. The MAC has met 18 times to date. The next meeting of the MAC is scheduled for September 15, 2004 at 1:00 p.m. at the District.

Other Outreach Activities. Staff held a scoping meeting to receive public input on the issues that should be evaluated in the environmental impact report being prepared for the 2004 Ozone Strategy in compliance with CEQA.

Staff has prepared extensive informational materials, ranging from fact sheets and general information geared towards the layperson to more detailed discussions of modeling, control measure evaluations, and draft control measure descriptions.

The District website has a 2003-2004 Ozone Planning section that provides extensive technical information, status reports, announcements and meeting notices. Information on the website regarding the 2004 Ozone Strategy is regularly updated. Articles on the ozone planning process have appeared in Air Currents.

Upcoming Community Meetings. A second round of community meetings will be held in September and October 2004 as listed below. At these meetings, staff will answer questions about and solicit input on the draft ozone control measures and further study measures proposed for inclusion in the Draft 2004 Ozone Strategy.

September 22, 2004	Petaluma
September 23, 2004	Richmond
September 29, 2004	San Jose
September 30, 2004	Oakland
October 13, 2004	San Francisco
October 14, 2004	Livermore
October 21, 2004	Martinez

At these community meetings, staff will also present information about the District's new Community Air Risk Evaluation (CARE) program. This new program is focused on determining health risk associated with toxic air contaminants in the Bay Area. When completed, the study will be a tool the Air District can use to reduce toxic air pollutants in areas with the highest health risk.

Staff will also conduct another "pre-meeting" to provide background information and help community members prepare for the community meetings. The pre-meeting is scheduled for September 13, 2004 in Richmond.

Notices of the community meetings have been widely distributed through the Air District, ABAG and MTC via mailings, email notices, web postings, flyers for distribution by local schools, postings on community calendars, and notices to weekly and monthly community newspapers.

Following the community meetings, staff will complete preparation of the Draft 2004 Ozone Strategy and release it for public review and comment later this fall. Additional public outreach will be conducted at that time.

BUDGET CONSIDERATIONS/FINANCIAL IMPACT

None. Funding for outreach efforts for the 2004 Ozone Strategy is included in the FY 2004/05 budget

Respectfully submitted,

Jean Roggenkamp
Director of Planning and Research

Reviewed by: Peter Hess

FORWARDED:_____