BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

BOARD OF DIRECTORS
REGULAR MEETING
April 18, 2012

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 m ay reconsider or amend the item at any time during the meeting.

Public Comment Procedures

Persons wishing to make public comment must fill out a Public Comment Card indicating their name and the number of the agenda item on which they wish to speak, or that they intend to address the Board on matters not on the Agenda for the meeting.

Public Comment on Non-Agenda Matters, Pursuant to Government Code Section 54954.3 For the first round of public comment on non-agenda matters at the beginning of the agenda, ten persons selected by a drawing by the Clerk of the Boards from among the Public Comment Cards indicating they wish to speak on matters not on the agenda for the meeting will have three minutes each to address the Board on matters not on the agenda. For this first round of public comments on non-agenda matters, all Public Comment Cards must be submitted in person to the Clerk of the Boards at the location of the meeting and prior to commencement of the meeting. The remainder of the speakers wishing to address the Board on non-agenda matters will be heard at the end of the agenda, and each will be allowed three minutes to address the Board at that time.

Members of the Board may engage only in very brief dialogue regarding non-agenda matters, and may refer issues raised to District staff for handling. In addition, the Chairperson may refer issues raised to appropriate Board Committees to be placed on a future agenda for discussion.

Public Comment on Agenda Items After the initial public comment on non-agenda matters, the public may comment on each item on the agenda as the item is taken up. Public Comment Cards for items on the agenda must be submitted in person to the Clerk of the Boards at the location of the meeting and prior to the Board taking up the particular item. Where an item was moved from the Consent Calendar to an Action item, no speaker who has already spoken on that item will be entitled to speak to that item again.

Up to ten (10) speakers may speak for three minutes on each item on the Agenda. If there are more than ten persons interested in speaking on an item on the agenda, the Chairperson or other Board Member presiding at the meeting may limit the public comment for all speakers to fewer than three minutes per speaker, or make other rules to ensure that all speakers have an equal opportunity to be heard. Speakers are permitted to yield their time to one other speaker; however no one speaker shall have more than six minutes. The Chairperson or other Board Member presiding at the meeting may, with the consent of persons representing both sides of an issue, allocate a block of time (not to exceed six minutes) to each side to present their issue.

BOARD OF DIRECTORS REGULAR MEETING AGENDA

WEDNESDAY
APRIL 18, 2012
9:45 A.M.

BOARD ROOM
7TH FLOOR

CALL TO ORDER

Opening Comments — Chairperson, John Gioia
Roll Call — Clerk of the Boards
Pledge of Allegiance

PUBLIC COMMENT ON NON-AGENDA MATTERS

Public Comment on Non-Agenda Items, Pursuant to Government Code Section 54954.3
For the first round of public comment on non-agenda matters at the beginning of the agenda, ten persons selected by a drawing by the Clerk of the Boards from among the Public Comment Cards indicating they wish to speak on matters not on the agenda for the meeting will have three minutes each to address the Board on matters not on the agenda. For this first round of public comments on non-agenda matters, all Public Comment Cards must be submitted in person to the Clerk of the Board at the location of the meeting and prior to commencement of the meeting.

COMMENDATIONS/PROCLAMATIONS/AWARDS

The Board of Directors will recognize Will Travis for his years of service with the San Francisco Bay Conservation and Development Commission.

CONSENT CALENDAR (ITEMS 1 – 6)

Staff/Phone (415) 749-

1. Minutes of the Board of Directors Regular Meeting of March 21, 2012
   Clerk of the Boards

2. Board Communications Received from March 21, 2012 through April 17, 2012
   J. Broadbent/5052
   jbroadbent@baaqmd.gov

   A list of communications directed to the Board of Directors received by the Air District from March 21, 2012 through April 17, 2012, if any, will be at each Board Member's place.

3. Air District Personnel on Out-of-State Business Travel
   J. Broadbent/5052
   jbroadbent@baaqmd.gov

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

4. Approval of Board Members to Attend the Air & Waste Management Association 105th Annual Conference & Exhibition
   J. Broadbent/5052
   jbroadbent@baaqmd.gov

The Board of Directors will consider the approval of Board Members to attend the upcoming Air & Waste Management Association 105th Annual Conference & Exhibition in San Antonio, Texas from Tuesday, June 19, 2012 to Friday, June 22, 2012.

5. Consideration of Authorization for Expenditures for the Implementation of the Production System and its Integration with the JD Edwards Financial System **J. Broadbent/5052** jbroadbent@baaqmd.gov

The Board of Directors will consider authorizing the Executive Officer/APCO to execute an agreement to IT Dependz for an amount not to exceed $95,074.

6. Quarterly Report of California Air Resources Board Representative - Honorable Ken Yeager **J. Broadbent/5052** jbroadbent@baaqmd.gov

COMMITTEE REPORTS AND RECOMMENDATIONS

7. Report of the **Budget and Finance Committee** Meeting of March 28, 2012
CHAIR: C. Groom **J. Broadbent/5052** jbroadbent@baaqmd.gov

8. Report of the **Personnel Committee** Meeting of March 28, 2012
CHAIR: B. Wagenknecht **J. Broadbent/5052** jbroadbent@baaqmd.gov

The Committee recommends Board of Directors approval of the following:

A. Advisory Council Appointments:

1. *Appoint Kathryn Lyddan to the Air District's Advisory Council to fill an immediate vacancy, with a term of office expiring December 31, 2012 in the member category of Agriculture.*

B. Hearing Board Reappointments:

1. *Re-appoint Rolf Lindenhayn and Valerie Armento to the regular and alternate member positions, respectively, for the attorney member category on the Air District's Hearing Board.*

9. Report of the **Climate Protection Committee** Meeting of April 16, 2012
CHAIR: J. Hosterman **J. Broadbent/5052** jbroadbent@baaqmd.gov

PUBLIC HEARING(S)

10. Public Hearing to Receive Testimony on Proposed Amendments to Air District Regulation 3: Fees **J. Broadbent/5052** jbroadbent@baaqmd.gov

The Board of Directors will receive testimony on proposed amendments to Air District Regulation 3: Fees. The final public hearing and consideration of adoption of the proposed amendments is set for June 6, 2012.

11. Continuation of Public Hearing to consider adoption of Regulation 8, Rule 53: Vacuum Truck Operations, amendments to Regulation 2, Rule 1: Permits, General Requirements and adoption of a CEQA Negative Declaration. **J. Broadbent/5052**
jbroadbent@baaqmd.gov

On March 21, 2012, the Board of Directors conducted the first of two public hearings to consider adoption of Regulation 8, Rule 53: Vacuum Truck Operations, amendments to Regulation 2, Rule 1: Permits, General Requirements and adoption of a CEQA Negative Declaration. A continuation of the public hearing was necessary because of changes made to the text of the rule originally made available to the public.

CLOSED SESSION

12. **PUBLIC EMPLOYEE PERFORMANCE EVALUATIONS - (Government Code Section 54957 and 54957.6)**

Pursuant to Government Code Section 54957 and 54957.6, the Committee will meet in closed session to conduct a performance evaluation of the Executive Officer/APCO.

13. **EXISTING LITIGATION (Government Code Section 54956.9(a)**
Pursuant to Government Code Section 54956.9(a), a need exists to meet in closed session with legal counsel to consider the following case(s):

California Building Industry Association v. Bay Area AQMD, Alameda County Superior Court, Case No. RG-10548693

OPEN SESSION

PUBLIC COMMENT ON NON-AGENDA MATTERS

Public Comment on Non-Agenda Items, Pursuant to Government Code Section 54954.3
Speakers who did not have the opportunity to address the Board in the first round of comments on non-agenda matters will be allowed three minutes each to address the Board on non-agenda matters.

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)

OTHER BUSINESS

14. Report of the Executive Officer/APCO

15. Chairperson's Report

16. Time and Place of Next Meeting is Wednesday, May 2, 2012, Bay Area Air Quality Management District Office, 939 Ellis Street, San Francisco, California 94109 at 9:45 a.m.

17. Adjournment

CONTACT EXECUTIVE OFFICE - 939 ELLIS STREET SF, CA 94109 **(415) 749-5130**
FAX: (415) 928-8560
BAAQMD homepage:
www.baaqmd.gov

- To submit written comments on an agenda item in advance of the meeting.
- To request, in advance of the meeting, to be placed on the list to testify on an agenda item.
- To request special accommodations for those persons with disabilities. Notification to the Executive Office should be given at least 3 working days prior to the date of the meeting so that arrangements can be made accordingly.
- Any writing relating to an open session item on this Agenda that is distributed to all, or a majority of all, members of the body to which this Agenda relates shall be made available at the Air District's headquarters at 939 Ellis Street, San Francisco, CA 94109, at the time such writing is made available to all, or a majority of all, members of that body. Such writing(s) may also be posted on the Air District's website (www.baaqmd.gov) at that time.

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

EXECUTIVE OFFICE:
MONTHLY CALENDAR OF DISTRICT MEETINGS

APRIL 2012

TYPE OF MEETING	DAY	DATE	TIME	ROOM
Board of Directors Executive Committee *(Meets 3rd Monday of each Month)* **- CANCELLED**	**Monday**	**16**	**9:30 a.m.**	**4th Floor Conf. Room**
Board of Directors Climate Protection Committee *(At the Call of the Chair)*	**Monday**	**16**	**10:30 a.m.**	**4th Floor Conf. Room**
Board of Directors Regular Meeting *(Meets 1st & 3rd Wednesday of each Month)*	**Wednesday**	**18**	**9:45 a.m.**	**Board Room**
Board of Directors Budget & Finance Committee *(Meets the 4th Wednesday Each Month)*	**Wednesday**	**25**	**9:30 a.m.**	**4th Floor Conf. Room**
Board of Directors Mobile Source Committee *(Meets 4th Thursday each Month)*	**Thursday**	**26**	**9:30 a.m.**	**4th Floor Conf. Room**

MAY 2012

TYPE OF MEETING	DAY	DATE	TIME	ROOM
Board of Directors Regular Meeting *(Meets 1st & 3rd Wednesday of each Month)*	**Wednesday**	**2**	**9:45 a.m.**	**Board Room**
Advisory Council Regular Meeting *(Meets 2nd Wednesday each Month)*	**Wednesday**	**9**	**9:00 a.m.**	**Board Room**
Special Meeting of the Board of Directors *(Meets 1st & 3rd Wednesday of each Month)*	**Wednesday**	**16**	**9:45 a.m.**	**Meeting Location:** **Board Room** **Tour Location:** **Shell Gas Station** **800 Turk Street** **San Francisco, CA 94102**
Board of Directors Executive Committee *(Meets 3rd Monday of each Month)* **- CANCELLED**	**Monday**	**21**	**9:30 a.m.**	**4th Floor Conf. Room**

May 2012 Calendar Continued on Next Page

MAY 2012

Board of Directors Stationary Source Committee *(Meets the 3rd Monday Every Other Month)* **- CANCELLED**	**Monday**	**21**	**10:00 a.m.**	**Meeting Location:** **Creekside Park Building** **10455 Miller Avenue** **Cupertino, CA 95014** **Tour Location:** **Front Parking Lot Entrance** **Lehigh Southwest Cement Company - Permanente Plant** **24001 Stevens Creek Boulevard** **Cupertino, CA 95014**
Special Meeting of the Board of Directors	**Monday**	**21**	**10:00 a.m.**	**Meeting Location:** **Creekside Park Building** **10455 Miller Avenue** **Cupertino, CA 95014** **Tour Location:** **Front Parking Lot Entrance** **Lehigh Southwest Cement Company - Permanente Plant** **24001 Stevens Creek Boulevard** **Cupertino, CA 95014**
Board of Directors Budget & Finance Committee *(Meets the 4th Wednesday Each Month)*	**Wednesday**	**23**	**9:30 a.m.**	**4th Floor Conf. Room**
Board of Directors Mobile Source Committee *(Meets 4th Thursday each Month)*	**Thursday**	**24**	**9:30 a.m.**	**4th Floor Conf. Room**
Board of Directors Public Outreach Committee *(Meets Quarterly at the Call of the Chair)*	**Thursday**	**31**	**9:30 a.m.**	**4th Floor Conf. Room**

JUNE 2012

TYPE OF MEETING	DAY	DATE	TIME	ROOM
Board of Directors Regular Meeting *(Meets 1st & 3rd Wednesday of each Month)*	**Wednesday**	**6**	**9:45 a.m.**	**Board Room**
Advisory Council Regular Meeting *(Meets 2nd Wednesday each Month)*	**Wednesday**	**13**	**9:00 a.m.**	**Board Room**
Board of Directors Executive Committee *(Meets 3rd Monday of each Month* **- STAFF RECOMMENDS CANCELLING, TO BE DETERMINED BY THE CHAIR**	**Monday**	**18**	**9:30 a.m.**	**4th Floor Conf. Room**
Board of Directors Regular Meeting *(Meets 1st & 3rd Wednesday of each Month* **- STAFF RECOMMENDS CANCELLING, TO BE DETERMINED BY THE CHAIR**	**Wednesday**	**20**	**9:45 a.m.**	**Board Room**
Board of Directors Public Outreach Committee *(Meets Quarterly at the Call of the Chair)* **- STAFF RECOMMENDS CANCELLING, TO BE DETERMINED BY THE CHAIR**	**Thursday**	**21**	**9:30 a.m.**	**4th Floor Conf. Room**
Board of Directors Budget & Finance Committee *(Meets the 4th Wednesday Each Month)*	**Wednesday**	**27**	**9:30 a.m.**	**4th Floor Conf. Room**

June 2012 Calendar Continued on Next Page

JUNE 2012

Board of Directors Mobile Source Committee *(Meets 4th Thursday each Month)*	**Thursday**	**28**	**9:30 a.m.**	**4th Floor Conf. Room**

MM – 4/11/12 (3:22 p.m.) **P/Library/Forms/Calendar/Calendar/Moncal**

AGENDA: 1

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson John Gioia and Members of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: April 10, 2012

Re: Board of Directors Draft Meeting Minutes

RECOMMENDED ACTION

Approve attached draft minutes of the Board of Directors Regular Meeting of March 21, 2012.

DISCUSSION

Attached for your review and approval are the draft minutes of the Board of Directors Regular Meeting of March 21, 2012.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Sean Gallagher
Reviewed by: Jennifer C. Cooper

Attachment

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

Board of Directors Regular Meeting
March 21, 2012

DRAFT MINUTES

CALL TO ORDER – ROLL CALL

Chairperson John Gioia called the meeting to order at 9:57 a.m.

Present: Chairperson John Gioia; Vice Chairperson Ash Kalra; Secretary Nate Miley; and Directors John Avalos, Tom Bates, Susan Garner, Susan Gorin, Carole Groom, Scott Haggerty, Jennifer Hosterman, David E. Hudson, Carol L. Klatt, Liz Kniss, Eric Mar, Katie Rice, Mark Ross, Jim Spering and Brad Wagenknecht.

Absent: Directors Mary Piepho, Ken Yeager and Shirlee Zane.

PLEDGE OF ALLEGIANCE

Director Wagenknecht led the Pledge of Allegiance.

PUBLIC COMMENT ON NON-AGENDA MATTERS

Carl Friberg addressed the Board regarding the seeming lack of Air District involvement in the high speed rail project.

CONSENT CALENDAR (Items 1 – 5)

1. **Minutes of the Board of Directors Regular Meeting of March 7, 2012;**
2. **Board Communications Received from March 7, 2012, through March 20, 2012;**
3. **Consideration of Authorization for Execution of Purchase Order in Excess of $70,000 Pursuant to Administrative Code Division II Fiscal Policies and Procedures Section 4.3 Contract Limitations;**
4. **Referral of Proposed Budget for Fiscal Year Ending (FYE) 2013 to the Budget and Finance Committee; and**
5. **Consider Reclassifying Positions.**

Board Comments: None.

Public Comments: None.

Board Action: Director Wagenknecht made a motion to approve Consent Calendar Items 1, 2, 3, 4 and 5; Director Spering seconded; unanimously approved without objection.

COMMITTEE REPORTS AND RECOMMENDATIONS

6. Report of the Public Outreach Committee Meeting of March 15, 2012
Chairperson M. Ross

The Committee met on Thursday, March 15, 2012, and upon establishing a quorum, approved the minutes of February 16, 2012.

The Committee reviewed the staff report regarding Contract Award for Spare the Air Campaigns, including background information on the organization of past contracting structure, organizational changes proposed to increase the efficiency of the consultant's collaborative efforts, a detail of the Air District's request for proposal process, and staff recommendations. The Committee recommended Board of Directors approval of staff recommendations. The Committee moved to approve Spare the Air contract award to O'Rorke Inc. with subcontractors, True North Research, Community Focus, M-Line Creative Strategies, Synapse Strategies and Interethnica Marketing Solutions.

The Committee received an Update on the Plug-In Electric Vehicle Website, including background information on the plug-in electric vehicle program, an overview of the Air District's new website dedicated to this program, and information regarding the Plug-In Electric Vehicle website launch.

The Committee received the Smoking Vehicle Campaign Update, including background information on the program, an analysis of the aim and approach of the program, a preview of a new campaign to further outreach efforts to target audiences, and a summary of the next steps.

The next meeting of the Committee is Thursday, May 31, 2012, at 9:30 a.m.

Board Comments: None.

Public Comments: None.

Board Action: Director Ross made a motion to approve the report and recommendation of the Public Outreach Committee; Director Garner seconded; carried unanimously without opposition.

7. Report of the Executive Committee Meeting of March 19, 2012
Chairperson J. Gioia

NOTED PRESENT: Director Kniss was noted present at 10:04 a.m.

The Committee met on Monday, March 19, 2012, and approved the minutes of February 15, 2012.

The Committee received the Quarterly Report of the Hearing Board: October through December 2011, including a detail summary reflecting three hearings held, eight orders issued, approximately $15,000 received in fees, and four matters withdrawn and/or dismissed.

The Committee received an Update on the Production System Replacement of Databank and IRIS by Jaime Williams, Information Systems Manager, and staff from the Engineering and Compliance &

Enforcement Divisions. The update included an overview of the District's legacy systems; background on the development process; a status update after the first phase, regarding gasoline dispensing facilities, which went live earlier this month; a project plan for its continued roll out in 2012; and live demonstrations by both the permitting and inspection teams. Staff expects to have approximately 70% of permitted facilities live in the new system by the end of the 2012 calendar year. The Committee expressed its support in moving the production system solution to other air quality management districts.

The next meeting of the Committee is Monday, April 16, 2012, at 9:30 a.m.

Chairperson Gioia noted the re-appointment of Director Garner to the Board of Directors of the Air District by the Cities Association of Santa Clara County.

Chairperson Gioia introduced staff's presentation New BAAQMD Permitting and Compliance Systems Production System Project Update.

Jack Broadbent, Executive Officer/Air Pollution Control Officer (APCO), made introductory comments. Jeffrey McKay, Deputy APCO, introduced Jaime Williams, Interim Director of Information Systems Services, who gave the staff presentation New BAAQMD Permitting and Compliance Systems Production System Project Update, including an overview of the District's legacy systems; background on the development process; a status update after the first phase, regarding gasoline dispensing facilities, which went live earlier this month; and a project plan for its continued roll out in 2012.

NOTED PRESENT: Director Mar was noted present at 10:11 a.m.

Mr. Williams introduced Pamela Leong, Senior Air Quality Engineer, and Mark Tang, Air Quality Technician, both of Engineering, who gave a live demonstration of the permit submission, review and approval process using the Production System.

Mr. Williams introduced Magen Holloway, Supervising Air Quality Specialist, and Chris Berglund, Senior Air Quality Inspector, both of Compliance and Enforcement, who gave a live demonstration of the inspector-side use of the Production System.

Board Comments: None.

Public Comments: None.

Board Action: Director Gioia made a motion to approve the report of the Executive Committee; Director Ross seconded; carried unanimously without opposition.

8. Report of the Stationary Source Committee Meeting of March 19, 2012
Chairperson J. Avalos

The Committee met on Monday, March 19, 2012, and approved the minutes of January 9, 2012.

The Committee received a report on Proposed Amendments to Regulation 9, Rule 10: NOx and CO from Boilers, Steam Generators and Process Heaters in Petroleum Refineries, including regulatory

background; nitrogen oxide limits; requirements before and after the adoption of the 1994 regulation; information regarding the development of an alternative nitrogen oxide limit and the rule development process; and a look at the next steps.

The Committee received an Update on the Lehigh Southwest Cement Plant, including background information; Title V permit status; a look at the amended U.S. Environmental Protection Agency Air Toxics Rule and other upcoming regulatory requirements; new and upcoming emission controls and monitors; an updated air toxics emissions inventory and health risk assessment; the history of compliance and air monitoring results; a look at the amendment of the quarry reclamation plan; and the next steps.

The next meeting of the Committee is May 21, 2012, tentatively at City Hall, City of Cupertino, at 10:30 a.m., followed immediately thereafter by a tentative tour of the Lehigh Southwest Cement Plant.

Board Comments: None.

Public Comments: None.

Board Action: Director Avalos made a motion to approve the report of the Stationary Source Committee; Director Spering seconded; carried unanimously without opposition.

9. Report of the Legislative Committee Meeting of March 21, 2012
Chairperson T. Bates

The Committee met on Wednesday, March 21, 2012, and approved the minutes of January 30, 2012.

The Committee discussed a number of new bills, and is recommending positions on some of them to the Board of Directors. The recommendations are:

Oppose AB 1537 Cook, AB 1613 Donnelly, AB 1721 Donnelly, AB 1922 Lara, AB 2024 Mendoza, and AB 2091 Berryhill

Watch AB 2173 Skinner.

Support AB 2234 Hill.

Oppose AB 2605 Cedillo, unless amended.

Support AB 2644 Butler.

Oppose SB 1127 Vargas, SB 1224 La Malfa, SB 1230 Runner, and SB 1545 DeSaulnier.

Additionally the Committee recommends the Board of Directors oppose efforts to increase vehicles, including kit cars, exempted from smog check.

The next meeting of the Committee is at the call of the Chair.

Board Comments:

Director Haggerty explained his absence at the Legislative Committee meeting, noting the difficulty of attending same as scheduled, and expressed his dismay regarding the format of the report in so much as neither the explanations for the recommended positions nor the positions taken by other multi-county agencies in the Bay Area are provided.

Chairperson Gioia requested that the full set of documents provided to the Legislative Committee be provided to the Board of Directors in the future and suggested that the timing of the Committee immediately prior to the Board meeting was an unfortunate exception to the norm that will be avoided whenever possible.

Director Bates noted that there was a thorough and healthy debate among the members of the Legislative Committee.

Director Hosterman said that some Directors have long commutes to attend Air District meetings so she appreciates being able to attend more than one meeting when present.

Director Haggerty recalled that the Legislative Committee meetings used to be held immediately after Board of Directors meetings to which Chairperson Gioia responded that a schedule of that sort is ideal but for when timing is critical.

Public Comments: None.

Board Action: Director Bates made a motion to approve the report and recommendations of the Legislative Committee; Director Hosterman seconded; carried unanimously with Director Haggerty abstaining.

PUBLIC HEARING(S)

10. Public Hearing to consider adoption of Regulation 8, Rule 53: Vacuum Truck Operations, amendments to Regulation 2, Rule 1: Permits, General Requirements and adoption of a CEQA Negative Declaration

Chairperson Gioia made introductory comments and asked when the second of two public hearings is scheduled to occur. Mr. Broadbent suggested the second public hearing on this topic will likely occur at the Board of Directors meeting on April 18, 2012.

William Saltz, Air Quality Specialist, gave the staff presentation Proposed Amendments to Regulation 8, Rule 53 Vacuum Truck Operations and Proposed Amendments to Regulation 2, Rule 2: General Requirements, including the uses of vacuum trucks, their functioning parts and photo examples of vacuum trucks in use; a detail of the regulatory proposal, regulated materials, proposed emission limits, various requirements; an emission reductions and cost comparison; a detail of the rule development process; and recommendations.

Board Comments:

Director Haggerty indicated that he had understood vacuum trucks to be the equipment used to empty portable toilets and asked if the proposed regulation includes this equipment or, if not, if the Air District intends to regulate them in the future. Mr. Broadbent admitted that although the equipment mentioned does deal with a source of emissions, this regulation does not cover them and that staff will look into it and return to the Board with an update.

Director Ross asked how the external pumps reduce the volatilization of the emissions. Mr. Saltz responded that they pump at such a slow rate that no mass emissions come out of the vacuum truck barrel. Director Ross asked if the pumps themselves are emissions sources to which Mr. Saltz responded in the negative. Director Ross asked if the longer operation time is part of the cost to which Mr. Saltz replied in the affirmative. Director Ross asked who would be monitoring compliance to which Mr. Saltz responded that it will vary on a case-to-case basis between staff of the operator and the Air District. Director Ross asked if the cost of monitoring was factored into the cost projection to which Mr. Saltz replied in the affirmative.

Director Bates inquired about the general scope of the proposed regulation. Mr. Saltz responded that there are five different types of facilities, totaling approximately 40 actual facilities in the Bay Area, and clarified that vacuum trucks used for storm debris clean up and the like are not significant sources of emissions and are therefore not included in the proposed regulation.

Director Spering, in reference to the letter from Guy Bjerke, Manager, Bay Area Region & State Safety Issues, Western States Petroleum Association (WSPA), dated March 9, 2012, inquired about the lack of an exception for small quantities of emissions. Mr. Saltz responded that the lack of an exception is because material often builds up in the barrel despite individual pick-ups being small quantities. Director Spering asked about WSPA's claims that the regulation will impose unnecessarily high operating costs to which Mr. Saltz replied that the use of the top of the line monitoring equipment could prove prohibitively expensive for some operations but they aren't necessary because much less expensive equipment, that requires less upkeep, may be utilized by operators. Director Spering asked if staff had mitigated or addressed all of WSPA's concerns to which Mr. Saltz replied in the affirmative.

Director Garner asked how the Air District currently regulates vacuum trucks used in conjunction with gas dispensing facilities and remediation facilities. Mr. Saltz responded that there are different regulations already in place which provide controls for uses relative to gas dispensing facilities and remediation activities and, as a result, the proposed regulation would not apply in either case.

Public Comments:

Mr. Bjerke addressed the Board, partially in support and partially neutral, explaining that the initial regulatory proposal was to cover all vacuum trucks and that staff have narrowed the focus to those sources deemed high emitters. Mr. Bjerke explained that the WSPA continues to harbor a concern regarding the staffing cost associated with complying with the monitoring requirements, particularly for small draws, noting that discussions with staff continue.

Melissa Lenhart, Vapor Control Business Unit Manager, PSC Environmental Services, addressed the Board neutrally, noting the exemption for the positive displacement pump and asked for clarification from staff.

Mr. Broadbent indicated that the matter would be continued to the next meeting of the Board of Directors, at which time staff will provide clarification to address the concerns expressed today.

Board action: None; informational only.

PRESENTATION(S)

11. Overview of the 2011/2012 Wood Smoke Reduction Program

Mr. Broadbent introduced Eric Stevenson, Director of Technical Services, who gave the initial staff presentation Overview of the 2011-12 Winter Spare the Air Season, including the potential health impacts, reduction benefits, meteorology and progress, forecasting accuracy and localized impacts.

Chairperson Gioia and Mr. Stevenson discussed the constitution of the categories "On-road vehicles" and "Off-road machinery" as referred to in slide 3, $PM_{2.5}$ Reduction Benefits.

Barbara Coler, Air Quality Program Manager of Compliance & Enforcement, gave the continued staff presentation, including a review of the wood smoke enforcement statistics and a number of enforcement highlights, a look at West Marin County's San Geronimo Valley, and shared a proposed model ordinance as a foundation for local partnerships.

Chairperson Gioia asked how the violation rates are measured. Ms. Coler replied that the number of no-burn days was counted and the result was divided into the number of notices of violation. Ms. Coler then provided some final figures from various regions.

Lisa Fasano, Director of Communications & Outreach, gave the continued staff presentation, including a summary of outreach media efforts, an example of public service messaging, a geographical analysis of public engagement events, and statistics regarding outreach results.

Ms. Fasano noted, regarding slide 12, the recent op-ed piece in the San Jose Mercury-News, authored by Mr. Broadbent, and the supportive responses that have been received by the Air District.

Mr. Stevenson concluded the staff presentation with a look to enforcement partnerships going forward and future policy considerations, noting that furthering the reach of the Air District and better enabling it to address localized concerns are the primary factors behind the push for local government partnerships. Mr. Stevenson said that if any future policy considerations are taken up, the changes would require an opening of the rule and thus would not likely take effect until Spare the Air Season in 2013-14.

Chairperson Gioia asked, regarding slide 15, Enforcement Going Forward, if the warning letter would be eliminated entirely for first-time violations and replaced with the imposition of either a fine or the option to attend wood smoke awareness school, to which Mr. Stevenson replied in the affirmative. Chairperson Gioia said that some people have reported a lack of awareness that a no-burn day was imposed and then expressed his concern as to what the legal issues may be regarding penalizing someone who is unaware of the rule and, if challenged in a court of law, what the consequences for the program may be. Mr. Broadbent responded that this very issue was contemplated by staff, suggested that some of the public comments today will be voiced in support of enhancing the penalties, and reported that increased outreach efforts are planned. Chairperson Gioia suggested the

Air District needs to explore how to increase enforcement efforts while at the same time ensuring it is being applied in an equitable manner and asked Brian Bunger, District Counsel, for his input. Mr. Bunger explained that concerns of this nature were the genesis of the warning letters and that challenges may arise in the absence of warning letters but the outcome is unknown. Chairperson Gioia agreed, noting that not all constituents are aware of the no-burn days as the Air District relies on various forms of media to disseminate the information. Mr. Broadbent suggested the option to attend wood smoke awareness school may serve in a fairly benign way to both defuse the challenges and increase public awareness. Chairperson Gioia asked what the wood smoke awareness school would entail and Mr. Broadbent and Mr. Stevenson provided an overview of the same.

Mr. Broadbent added that the Air District is working to further develop coordination efforts with neighboring air districts in an effort to engage the issue of transport emissions, most notably from the Central Valley.

Board Comments:

Chairperson Gioia asked, regarding Wood Smoke Model Ordinance Adoption by Bay Area Cities and Counties included in the Supplemental Materials, how the cities with mandatory burn prohibitions at the local level (4M) deal with enforcement. Ms. Coler responded that staff has not discovered any enforcement of 4M at the local level. Chairperson Gioia asked, in follow up, about the meaning of voluntary burn prohibitions at the local level (4V). Ms. Coler indicated that the information was not immediately available to her and she would provide it in follow up.

Chairperson Gioia stated that elimination of the warning letter would represent a significant change in how the Air District does business, noting the social justice/equity aspect of the change and asked for Board comments. Director Ross responded that the program appears to be functional and that he will discuss his concerns with staff, including how first violations are handled.

Director Hudson asked, regarding slide 3, $PM_{2.5}$ Reduction Benefits, whether secondhand smoke is part of the "Other 3%" to which Mr. Stevenson responded in the affirmative. Director Hudson suggested that secondhand smoke is a publicly accepted health risk that the Air District would be wise to highlight and correlate more closely with these efforts.

Director Garner expressed her gratitude for the region specific enforcement information provided by staff, shared her concern about the economic hardship that would be imposed upon constituents that aren't familiar with the regulations and proposed that the warning letter continue but penalties thereafter be increased. Chairperson Gioia stated that this is not a matter of individuals who lack regulatory information and claim immunity as a result, but those who lack the means to obtain the information on a daily basis. Mr. Broadbent noted that the Air District is the only air district utilizing a warning letter. Chairperson Gioia asked for a list of large air districts with programs that lack a warning letter. Mr. Broadbent said San Joaquin Valley, Sacramento Valley and South Coast and that a comprehensive list would be provided.

Director Hosterman shared in Chairperson Gioia's concern, relayed a personal story regarding her effort to seek out the alert, and asked if there is information specific to her region that details the correlation between how many trips there are to emergency rooms for respiratory problems and the number of Spare the Air Days. Mr. Broadbent said he would provide that information.

Director Rice expressed her gratitude to staff for the work in the San Leandro Valley and Marin County and for their efforts to tailor the Air District response to the unique situation found there; suggested that some compliance issues there may stem from citizen trepidation about exposing non-permitted activities in the course of working with government entities; proposed the concept of allowing fines to be applied towards the cost of retrofitting; suggested repeat offenders are the lingering problem category; and urged staff to continue work on the already successful education campaign before increasing penalties for non-compliance as the goal is compliance, not penalization.

Director Kalra stated that he agrees with taking a more aggressive approach and with most of what has been said by the Board of Directors; suggested that staff contact those air districts that do not issue warning letters to learn from them; and encouraged the Air District remain focused on the goal of improving air quality.

Public Comments:

Mr. Friberg again addressed the Board, regarding his public comment at the Board of Directors meeting on February 1, 2012, where he requested a financial hardship exemption from the wood smoke ban. Mr. Broadbent clarified the history and nature of the request, suggesting that implementing a policy of this sort will require significant work and discussion and is something that staff has a degree of trepidation about. Director Bates suggested staff look to utilities for examples. Mr. Broadbent said that staff will do the work over the next several months so addressing it before the next Spare the Air season will be difficult, noting the important aspects, both practically and in terms of policy, that the Board will need to grapple with in considering a policy change of this nature.

Director Gorin thanked staff for their presentation and asked if they would forward similar material to the Directors so they each may pass it along to staff in their respective regions.

Director Hosterman asked if a dysfunctional heater would substantiate an exemption. Mr. Bunger responded that it would for one season.

Beverly Wood, Families for Clean Air, addressed the Board regarding the disparity shown between the numbers of first and second violations, suggesting the difference to be evidence of some impropriety between the time of the first and second notices, and asked that the Air District do whatever is necessary to increase its enforcement in this regard. Ms. Wood asked the Board to consider the health-impact study provided regarding the cardiovascular and cognitive impacts of air quality.

Tracy Gant, Families for Clean Air, commended the concept of correlating secondhand smoke with the Air District's efforts in this regard and noted that while enforcement is inarguably difficult, contending with the consequences of non-enforcement is much more difficult to address. Ms. Gant provided calculations of enforcement probability and urged an increase in enforcement. Chairperson Gioia clarified that his earlier comments were not in support of decreased enforcement, only balanced and fair enforcement that takes into account the financial limitations and the challenges that poses in terms of being informed.

Ina Gottlieb, Families for Clean Air, and on behalf of Patti Wesselberg of the same, expressed her support of increased enforcement measures generally; suggested the refund of already paid fines after attending wood smoke awareness school in emulation of the process in place at the Department of

Motor Vehicles; suggested that the issues of financial hardship and community health must be balanced appropriately, keeping in mind that there are heating assistance programs available from utility companies and governing bodies; and noted the winter program is mandatory, as opposed to the voluntary summer program, and this difference should inform the Air District's approach to enforcement.

Chairperson Gioia expressed his desire to get input from the Board of Directors regarding the proposal to eliminate the warning letter and the outstanding policy question of the proper burden of knowledge. Ms. Fasano suggested that the key message is, "check before you burn," and a significant portion of the population knows this to be the case, concluding that the burden is on residents of the Bay Area just as it is the responsibility of motor vehicle operators to pay attention to the speed limit. Ms. Fasano noted that over 73% of Bay Area residents are aware of the program and, therefore by extension, their responsibility to check before burning. Mr. Broadbent thanked the Board of Directors for their input, noting that it will inform staff work going forward, and suggested the matter will likely come back to the Executive and Public Outreach Committees.

Director Garner highlighted the disparity between the number of complaints received and warning letters issued in her region and suggested that receipt of a complaint automatically trigger a notice letter. Mr. Broadbent indicated a very complicated set of equations is involved in producing the final statistics provided and that further discussion in a committee setting would be productive. Director Garner requested that it be agendized.

Board action: None; informational only.

CLOSED SESSION

The Board of Directors adjourned to Closed Session at 12:21 p.m.

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

California Building Industry Association v. Bay Area AQMD, Alameda County Superior Court, Case No. RG-10548693

OPEN SESSION

The Board of Directors resumed Open Session at 12:31 p.m. with no reportable action from the Closed Session.

PUBLIC COMMENT ON NON-AGENDA MATTERS

None.

BOARD MEMBERS' COMMENTS

None

OTHER BUSINESS

13. Report of the Executive Officer/APCO: None.

14. Chairperson's Report: None.

15. Time and Place of Next Meeting: Wednesday, April 4, 2012, Bay Area Air Quality Management District Office, 939 Ellis Street, San Francisco, CA 94109 at 9:45 a.m.

16. Adjournment: The Board of Directors meeting adjourned at 12:32 p.m.

Sean Gallagher
Clerk of the Boards

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson John Gioia and Members of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: April 10, 2012

Re: Board Communications Received from March 21, 2012 through April 17, 2012

RECOMMENDED ACTION

None; receive and file.

DISCUSSION

A list of communications directed to the Board of Directors received by the Air District from March 21, 2012 through April 17, 2012 if any, will be at each Board Member's place at the April 18, 2012 Board meeting.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Maricela Martinez
Reviewed by: Jennifer C. Cooper

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson John Gioia and Members
of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: April 2, 2012

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

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

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

The report covers the out-of-state business travel for the period March 1 through 31, 2012. Out-of-state travel is reported in the month following travel completion.

DISCUSSION

Eric Stevenson, Technical Services Division Director, attended the Environmental Protection Agency conference on Community Monitoring Technologies in Research Triangle Park, NC on March 25 through 27, 2012.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: David Glasser
Reviewed by: Jack M. Colbourn

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson John Gioia and Members
of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: April 2, 2012

Re: Consider Recommending Board of Directors' Approval to Send Board of Directors to the Air & Waste Management Association 105th Annual Conference & Exhibition

RECOMMENDED ACTION

Consider recommending Board of Directors' approval to send the following Board of Directors to the Air & Waste Management Association (A&WMA) 105th Annual Conference & Exhibition on Tuesday, June 19 through Friday, June 22, 2012 in San Antonio, Texas:

Board of Directors Chairperson, Supervisor John Gioia
Board Member, Supervisor Brad Wagenknecht
Board Member, Vice Mayor Mark Ross
Board Member, Council Member David E. Hudson

BACKGROUND

Pursuant to Division I, Section 1.2 (A) of the Air District's Administrative Code, Board Members may receive compensation for attendance at the following types of meetings other than Board and Committee meetings:

(a) Educational seminars designed to improve officials' skill and information levels;
(b) Meetings of regional, state and national organizations whose activities affect the Air District's interest with a District staff member in attendance;
(c) Air District events; and,
(d) Meetings to discuss community and/or business concerns with regard to air quality in the region.

Pursuant to Division I, Section 1.2 (B) of the Air District's Administrative Code, Board Members shall not receive compensation for attendance at meetings of any type held outside the State of California unless compensation for attendance at such meeting is approved by the Board in an open session prior to attendance at the meeting.

DISCUSSION

The A&WMA is a nonprofit, nonpartisan professional organization that enhances knowledge and expertise by providing a neutral forum for information exchange, professional development, networking opportunities, public education, and outreach to more than 8,000 environmental professionals in 65 countries. The A&WMA also promotes global environmental responsibility and increases the effectiveness of organizations to make critical decisions that benefit society. The mission of A&WMA is to assist in the professional development and critical environmental decision-making of our members to benefit society. The core purpose of A&WMA is to improve environmental knowledge and decisions by providing a neutral forum for exchanging information.

The 2012 A&WMA 105th Annual Conference & Exhibition on June 19 through June 22 in San Antonio, Texas is expected to bring together more than 2,000 environmental industry professionals for three days featuring technical programs in the industry, including 500 presentations, two poster sessions with over 150 posters displayed, over 150 exhibitors and networking events. A staff member of the Air District's Planning, Rules and Research Division and Members of the Advisory Council have been invited to participate on a panel titled "Sustainable Communities - Improving Quality of Life and Combating Climate Change." The A&WMA conference provides both an educational and networking opportunity for Board Members, and to see first-hand some of the detailed programs involving the Air District.

BUDGET CONSIDERATION / FINANCIAL IMPACT:

None. The funds were set allocated in Program 121 of the approved budget for fiscal year ending 2012 for out of state travel.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Jennifer C. Cooper

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson John Gioia and Members of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: April 4, 2012

Re: Authorize Expenditures for the Implementation of the Production System

RECOMMENDED ACTION

Recommend that the Board of Directors authorize the Executive Officer/APCO to execute an agreement for an amount not to exceed $95,074 with the following firm:

Firm	Amount	Description
IT Dependz	$95,074	Software development, automated testing and quality assurance services related implementation of Production System and on-line registration software

DISCUSSION

The Air District has used this firm in prior fiscal years to assist with the development of the Production System. Staff is recommending the continued use of proven resources familiar with Air District systems.

BUDGET CONSIDERATION/FINANCIAL IMPACT

This recommendation is funded from the approved District Information Systems fiscal year end 2012 budget.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: David Glasser
Reviewed by: Jack M. Colbourn

Air Resources Board

Mary D. Nichols, Chairman
1001 I Street • P.O. Box 2815
Sacramento, California 95812 • www.arb.ca.gov

Matthew Rodriquez
Secretary for
Environmental Protection

Edmund G. Brown Jr.
Governor

TO: Members of the Board of Directors

FROM: Ken Yeager
Board Member

DATE: April 2, 2012

SUBJECT: QUARTERLY REPORT OF MY ACTIVITIES AS AN AIR RESOURCES BOARD MEMBER

The list below summarizes my activities as an Air Resources Board member from January 1 through March 31, 2012:

January Activities

3rd	Air Resources Board staff briefings
13th	Meeting with NRDC, Union of Concerned Scientists, ALAC and Energy Independence Now re Advanced Clean Car regulations
16th	Tour of Tesla Motors, Fremont
24th	Call with Global Automakers
26th & 27th	Air Resources Board Meeting, Los Angeles

February Activities

No meeting of the Air Resources Board

March Activities

22nd	Air Resources Board Meeting, Sacramento

Attachments: Public Agendas

LOCATION:

California Environmental Protection Agency
AIR RESOURCES BOARD

Metropolitan Water District of Southern California
Board Room
700 North Alameda Street
Los Angeles, California 90012
http://www.mwdh2o.com/mwdh2o/pages/contact/images/hq01.pdf

PUBLIC MEETING AGENDA

Thursday, January 26, 2012

and

Friday, January 27, 2012

This facility is accessible by public transit. For transit information please see commuter links athttp://www.mwdh2o.com/mwdh2o/pages/contact/contact01.html (This facility is accessible to persons with disabilities.)

Webcast

TO SUBMIT WRITTEN COMMENTS ON AN AGENDA ITEM IN ADVANCE OF THE MEETING GO TO: http://www.arb.ca.gov/lispub/comm/bclist/php

Electronic Board Book

LEV III ZEV CFO

January 26, 2012
9:00 a.m.

CONSENT CALENDAR:

The item on the consent calendar will be voted on by the Board immediately after the start of the public meeting. Any item will be removed from the consent calendar either upon a Board member's request or if someone in the audience wishes to speak on that item. The following item is on the consent calendar:

Consent Item #	Agenda Topic
12-1-1	**Public Meeting to Consider Ten Research Proposals** *1. "Reducing In-Home Exposure to Air Pollution," Lawrence Berkeley National Laboratory, Proposal No. 2733-272.* Proposed Resolution with Attachment *2. "Reducing Air Pollution Exposure in Passenger Vehicles and School Buses," University of California, Los Angeles, Proposal No. 2730-272.* Proposed Resolution with Attachment *3. "Modeling the Formation and Evolution of Secondary Organic Aerosol during CalNex 2010," University of Colorado, Boulder, Proposal No. 2731-272.* Proposed Resolution with Attachment *4. "Long Range Transport of Air Pollutants into California," University of California, Davis, Proposal No. 2729-272.* Proposed Resolution with Attachment

5. "Atmospheric Measurement and Inverse Modeling to Improve Greenhouse Gas Emission Estimates," Lawrence Berkeley National Laboratory, Proposal No. 2724-272.
Proposed Resolution with Attachment

6. "Source Speciation of Central Valley GHG Emissions using In-Situ Measurements of Volatile Organic Compounds," University of California, Berkeley, Proposal No. 2732-272.
Proposed Resolution with Attachment

7. "Development of a New Methodology to Characterize Truck Body Types along California Freeways," University of California, Irvine, Proposal No. 2727-272.
Proposed Resolution with Attachment

8. "Evaluating Mitigation Options of Nitrous Oxide Emissions in California Cropping Systems," University of California, Davis, Proposal No. 2728-272.
Proposed Resolution with Attachment

9. "Assessment of the Emissions and Energy Impacts of Biomass and Biogas Use in California," University of California, Irvine, Proposal No. 2726-272.
Proposed Resolution with Attachment

10. "Black Carbon and the Regional Climate of California," University of California, San Diego, Augmentation to Contract Number 08-328.
Proposed Resolution with Attachment

DISCUSSION ITEMS:

PLEASE NOTE, the following agenda item will be discussed on Thursday, January 26th and, if not completed, will continue at 8:30 a.m. on Friday, January 27, 2012.

Agenda Item #	Agenda Topic
12-1-2	**Public Meeting to Consider the "LEV III" Amendments to the California Greenhouse Gas and Criteria Pollutant Exhaust and Evaporative Emission Standards and Test Procedures, and to the On-Board Diagnostic System Requirements for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles, and to the Evaporative Emission Requirements for Heavy-Duty Vehicles;** *More Information* *Staff Presentation* **Public Hearing to Consider the 2012 Amendments to the California Zero Emission Vehicle Regulation; and** *More Information* *Staff Presentation* **Public Hearing to Consider Amendments to the Clean Fuels Outlet Regulation** *More Information* *Staff Presentation* *Staff will present to the Board the Advanced Clean Cars (ACC) program. The ACC program combines the control of smog-causing pollutants and greenhouse gas emissions into a single coordinated package of requirements for model years 2015 through 2025 and assures the development of environmentally superior cars that will continue to deliver the performance, utility, and safety car owners have come to expect. The Zero Emission Vehicle (ZEV) regulation (as proposed for amendment) will act as the technology forcing piece of the ACC program, pushing manufacturers to produce ZEVs and PHEVs in the 2018 through 2025 model years. In addition, the ACC program also includes amendments to the Clean Fuels Outlet requirements that will assure that ultra-clean fuels such as hydrogen are available to meet vehicle demands brought on by amendments to the ZEV regulation.*

LOCATION:

California Environmental Protection Agency
AIR RESOURCES BOARD

Air Resources Board
1001 I Street, 2nd Floor
Byron Sher Auditorium
Sacramento, California 95814
http://www.calepa.ca.gov/EPAbldg/location.htm

PUBLIC MEETING AGENDA

March 22, 2012

Webcast

Electronic Board Book

This facility is accessible by public transit. For transit information, call:
(916) 321-BUSS, website http://www.sacrt.com/
(This facility is accessible to persons with disabilities.)

TO SUBMIT WRITTEN COMMENTS ON AN AGENDA ITEM IN ADVANCE OF THE MEETING SUBMIT TO:

Air Resources Board
Attn: Clerk of the Board
1001 I Street, 23rd Floor
Sacramento, California 95814

March 22, 2012
9:00 a.m.

CONSENT CALENDAR:

The following item on the consent calendar will be voted on by the Board immediately after the start of the public meeting. Any item will be removed from the consent calendar either upon a Board member's request or if someone in the audience wishes to speak on it.

Consent Item #	Agenda Topic
12-2-1	**Public Meeting to Consider Eight Research Proposals** *1. "Investigate the Durability of Diesel Engine Emissions Controls," University of Denver, Proposal No. 2734-273.* Proposed Resolution with Attachment *2. "Benefits of High Efficiency Filtration to Children with Asthma," University of California, Davis, Proposal No. 2735-273.*

Proposed Resolution with Attachment

3. *"Quantification of the Emission Reduction Benefits of Mitigation Strategies for Dairy Silage," University of California, Davis, Proposal No. 2736-273.*
Proposed Resolution with Attachment

4. *"Emissions of Potent Greenhouse Gases from Appliance and Building Waste in Landfills," California Polytechnic State University, San Luis Obispo, Proposal No. 2737-273.*
Proposed Resolution with Attachment

5. *"Quantifying the Comprehensive Greenhouse Gas Co-Benefits of Green Buildings," University of California, Berkeley, Proposal No. 2738-273.*
Proposed Resolution with Attachment

6. *"Modeling Household Vehicle and Transportation Choice and Usage," University of California, Davis, Proposal No. 2739-273.*
Proposed Resolution with Attachment

7. *"Effects of Complete Streets on Travel Behavior and Exposure to Vehicular Emissions," University of California, Los Angeles, Proposal No. 2741-273.*
Proposed Resolution with Attachment

8. *"Analyzing the Economic Benefits and Costs of Smart Growth Strategies," University of California, Berkeley, Proposal No. 2742-273.*
Proposed Resolution with Attachment

DISCUSSION ITEMS:

Note: The following agenda items may be heard in a different order at the Board meeting.

Agenda Item #	Agenda Topic
12-2-2	**Public Meeting to Hear a Report on the Air Resources Board's Program Priorities for 2012** *The Executive Officer will present to the Board a preview of anticipated Board activities in 2012.* *Staff Presentation*
12-2-4	**Public Meeting for an Informational Update on Southern California Association of Governments' Draft Sustainable Communities Strategy** *Staff will present an update to the Board on the Southern California Association of Governments' (SCAG) draft Sustainable Communities Strategy (SCS). In April 2012, the SCAG Board is scheduled to consider adoption of the draft SCS as part of its regional transportation plan. Under SB 375, the Sustainable Communities and Climate Protection Act of 2008, the Air Resources Board (ARB) established regional passenger vehicle greenhouse gas emission reduction targets for the State's metropolitan planning*

organizations (MPO). ARB is required to review each MPO's SCS to accept or reject the MPO's determination that their SCS, if implemented, will meet the greenhouse gas targets. Staff will report on the results of its evaluation of the greenhouse gas quantification in the draft SCS.

More Information *Staff Presentation*

12-2-5 **Public Meeting for an Informational Update on Sacramento Area Council of Governments' Draft Metropolitan Sustainable Communities Strategy**

Staff will present an update to the Board on the Sacramento Area Council of Governments' (SACOG) draft Sustainable Communities Strategy (SCS). In April 2012, the SACOG Board is scheduled to consider adoption of the draft SCS as part of the regional transportation plan. Under SB 375, the Sustainable Communities and Climate Protection Act of 2008, ARB established regional passenger vehicle greenhouse gas emission reduction targets for the State's metropolitan planning organizations (MPO). ARB is required to review each MPO's SCS to accept or reject the MPO's determination that their SCS, if implemented, will meet the greenhouse gas targets. Staff will report on the results of its evaluation of the greenhouse gas quantification in the draft SCS.

More Information *Staff Presentation*

12-2-6 **Public Meeting to Hear a Report on the Office of the Ombudsman**

Staff will update the Board on the implementation of the business plan for the Office of the Ombudsman and enhanced collaboration, with emphasis on California small businesses.

Staff Presentation

12-2-7 **Public Hearing to Consider Approval of Responses to Public Comments on the Environmental Analysis for the Advanced Clean Cars Regulations and to Take Final Action on These Regulations**

Pursuant to the California Environmental Quality Act, the Board will consider for approval staff's written responses to public comments raising significant environmental issues that were received during the previous public comment periods. This will occur as part of the Board's action to consider adopting Final Regulation Orders for the Low-Emission Vehicle Criteria Pollutant and Greenhouse Gas regulations, the Zero-Emission Vehicle regulation, and the Clean Fuels Outlet regulation. These Advanced Clean Car regulations were first presented to the Board at a January 26 and 27, 2012, public hearing at which the Board directed several modifications to the proposed regulations that are now complete.

More Information LEV III *More Information ZEV* *More Information CFO* *Staff Presentation*

Response to Public Comments

CLOSED SESSION– LITIGATION

The Board will hold a closed session, as authorized by Government Code section 11126(e), to confer with, and receive advice from, its legal counsel regarding the following pending or potential litigation:

Pacific Merchant Shipping Association v. Goldstene, U.S. District Court (E.D. Cal. Sacramento),
Case No. 2:09-CV-01151-MCE-EFB.

POET, LLC, et al. v. Goldstene, et al., Superior Court of California (Fresno County),
Case No. 09CECG04850.

Rocky Mountain Farmers Union, et al. v. Goldstene, U.S. District Court (E.D. Cal. Fresno),

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson John Gioia and Members of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: March 20, 2012

Re: Report of the Budget and Finance Committee Meeting of March 28, 2012

RECOMMENDED ACTION

A) None; receive and file.

B) None; receive and file.

C) None; receive and file.

BACKGROUND

The Budget and Finance Committee met on Wednesday, March 28, 2012. The Committee received the following reports:

A) Summary of Staff Fee Proposal for Fiscal Year Ending (FYE) 2013.

B) Discussion of Proposed Budget for Fiscal Year Ending (FYE) 2013.

C) Update on Production System Replacement of Databank.

Attached are the staff reports that were presented in the Budget and Finance Committee packet.

Chairperson Carole Groom will give an oral report of the meeting.

BUDGET CONSIDERATION/FINANCIAL IMPACT

A) None.

B) None.

C) None.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Sean Gallagher
Reviewed by: Jennifer C. Cooper

Attachments

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Groom and Members
of the Budget and Finance Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: March 19, 2012

Re: Summary of Draft Fee Amendments for Fiscal Year Ending (FYE) 2013

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

Staff develops amendments to the District's fee regulation as a part of the budget preparation process. On March 7, 2012, the Board of Directors adopted a Cost Recovery Policy that established a goal of increasing fee revenue sufficient to achieve 85 percent recovery of regulatory program activity costs by the end of FYE 2016. Staff estimates that, in order to achieve this goal, fee revenue will need to be increased by 6.4 percent per year over the next four years (assuming that costs increase by 2 percent per year).

DISCUSSION

Staff has prepared draft fee amendments that would increase fee revenue by approximately 6.4 percent from what would otherwise result without a fee increase. Consistent with the Cost Recovery Policy, draft amendments to specific fee schedules were made in consideration of cost recovery analyses conducted at the fee schedule-level, with larger increases being proposed for the schedules that have larger cost recovery gaps.

Existing fee schedules would be amended as follows:

(1) no change for fee schedules that are recovering greater than 96 percent of costs,
(2) 5 percent increase for fee schedules that are recovering 85 to 95 percent of costs,
(3) 7 percent increase for fee schedules that are recovering 70 to 84 percent of costs,
(4) 9 percent increase for fee schedules that are recovering less than 70 percent of costs.

Several fees that are administrative in nature (permit application filing fees, alternative compliance plan fees, and permit to operate renewal processing fees) would be increased by 7 percent. A new fee would be added for inspection of sites required to have an Asbestos Dust Mitigation Plan, and a new annual renewal fee would be added for boilers, steam generators and process heaters subject to Schedule R: Equipment Registration Fees. Finally, the amendments would clarify late fees for lapsed permits to operate.

Staff will provide the committee with additional details regarding the draft fee amendments at the committee meeting on March 28, 2012. A summary of public comments received to date, including those received at a public workshop held on February 28, 2012, will also be provided.

BUDGET CONSIDERATION/FINANCIAL IMPACT

The draft fee amendments would increase fee revenue in FYE 2013 by an estimated $1.85 million from revenue that would otherwise result without a fee increase. Fee revenue estimates will be included in the draft FYE 2013 budget.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Brian Bateman
Reveiwed by: Jeffrey McKay

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Groom and Members
of the Budget and Finance Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: March 16, 2012

Re: Discussion of Proposed Budget for Fiscal Year Ending (FYE) 2013

RECOMMENDED ACTION

The Executive Officer/APCO requests that the Budget and Finance Committee review the Proposed Budget for FYE 2013, and make any recommendations for further discussions to be held during the April 25, 2012 Budget and Finance Committee meeting. This will allow staff the necessary time to make the changes for the second review by the Committee and the first public hearing date set for May 16, 2012.

BACKGROUND

At the March 21, 2012 Regular Board of Directors meeting, the FYE 2013 Proposed Budget document was referred to the Budget and Finance Committee for review at the Committee's March 28, 2012 meeting.

DISCUSSION

Staff will present the proposed budget for FYE 2013. The proposed budget is balanced, without the use of any reserves. The proposed budget includes 2 new full-time equivalent (FTE) positions.

Staff will publish, prior to March 31, 2012, a notice to the general public that the first of two public hearings on the budget will be conducted on May 16, 2012 and that the second hearing will be conducted on June 6, 2012. Staff requests that the Budget and Finance Committee complete its review and take action on the proposed budget at the April 25, 2012 Budget and Finance Committee meeting. This will allow staff the necessary time required to amend, if necessary, the budget for the first public hearing to be held on May 16, 2012.

BUDGET CONSIDERATION/FINANCIAL IMPACT

The proposed consolidated budget for FYE 2013 is a balanced budget.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: David Glasser
Reviewed by: Jack M. Colbourn

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Groom and Members of the Budget and Finance Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: March 21, 2012

Re: Update on Production System Replacement of Databank

RECOMMENDED ACTION

None; receive and file.

DISCUSSION

Following the recent transition of Gasoline Dispensing Facilities from Databank to the new Production System, staff will review the next phases of transition from Databank. The review will include both timelines and the associated budget.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Jeffrey McKay

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson John Gioia and Members of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: March 20, 2012

Re: Report of the Personnel Committee Meeting of March 28, 2012

RECOMMENDED ACTION

A) The Personnel Committee recommends Board of Directors approval of candidate Kathryn Lyddan for appointment to the Air District's Advisory Council.

B) The Personnel Committee recommends Board of Directors approval to re-appoint the regular and alternate member positions for the attorney member category on the Air District's Hearing Board.

C) None; receive and file.

BACKGROUND

The Personnel Committee met on March 28, 2012 to:

A) Conduct Interviews and Consider Recommending Board of Directors' Approval of a Candidate for Appointment to the Air District's Advisory Council.

B) Consider Recommending Board of Directors' Approval to Re-Appoint Rolf Lindenhayn, the Regular member, and Valerie Armento, Alternate member, positions for the Attorney Member Category on the Air District's Hearing Board.

C) Meet in Closed Session regarding Public Employee Performance Evaluation of the Executive Officer/APCO.

Attached are the staff reports that were submitted to the Personnel Committee at the March 28, 2012 meeting. There is no staff report for the Closed Session item.

Chair Wagenknecht will provide an oral report of the meeting.

BUDGET CONSIDERATION/FINANCIAL IMPACTS

A) None.

B) None.

C) None.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Sean Gallagher
Reviewed by: Jennifer C. Cooper

Attachments

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Wagenknecht and Members of the Personnel Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: March 1, 2012

Re: Conduct Interviews and Consider Recommending Board of Directors' Approval of a Candidate for Appointment to the Air District's Advisory Council

RECOMMENDED ACTION

Conduct interviews and consider recommending Board of Directors' approval of a candidate for appointment to the Air District's Advisory Council.

BACKGROUND

Pursuant to Section 40261 of the California Health and Safety Code the Air District is required to maintain an Advisory Council consisting of 20 members. Further, section 40262 requires that the member categories consist of at least three representatives of public health agencies; at least four representatives of private organizations active in conservation or protection of the environment within the bay district; at least one representative of colleges or universities in the state; and at least one representative of each of the following groups within the bay district: regional park district, park and recreation commissions or equivalent agencies of any city, public mass transportation system, agriculture, industry, community planning, transportation, registered professional engineers, general contractors, architects, and organized labor. To the extent that suitable persons cannot be found for each of the specified categories, council members may be appointed from the general public. Advisory Council members serve a term of two years.

DISCUSSION

The former Advisory Council member in the agriculture category submitted his resignation. Staff initiated a recruitment effort to fill the vacancy. After extensive recruitment and outreach efforts, staff received a total of 8 applications for the vacancy in the agriculture category.

The Human Resources Office and the Executive Office have assessed the candidates' experience and education relative to the position for which the candidates applied and have selected candidates with the most relevant qualifications to interview with the Personnel Committee.

Interviews of the candidates will take place on Wednesday, March 28, 2012 and will begin at 11:00 a.m. The length of each interview will be approximately fifteen minutes. The application materials of the candidates are included for your review.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Reviewed by: Jack M. Colbourn

AGENDA: 5

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Wagenknecht and Members of the Personnel Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: March 13, 2012

Re: Consider Recommending Board of Directors' Approval to Re-Appoint the Regular And Alternate Member Positions for the Attorney Member Category on the Air District's Hearing Board

RECOMMENDED ACTION

The Committee will consider recommending Board of Directors' approval to re-appoint the regular and alternate member positions for the attorney member category on the Air District's Hearing Board.

BACKGROUND

Pursuant to Section 40800 of the California Health and Safety Code, the Air District is required to maintain a Hearing Board consisting of five members. The regular and alternate members appointed for the position must have the qualifications specified in Section 40801(a), namely, that they are admitted to the practice of law in this state.

Pursuant to Division I, Section 8.6 of the District's Administrative Code, Hearing Board Member terms are limited to twelve (12) consecutive years, with re-appointment possible after a three-year absence. If re-appointed, this will be the regular and alternate Members' third three-year terms on the Hearing Board.

DISCUSSION

The terms of office for the Attorney regular and alternate Members will expire on June 3, 2012. Of the two positions with terms expiring, both incumbents have expressed an interest in being considered for re-appointment. Therefore, staff recommends that interviews be waived and both incumbents be re-appointed to three (3) year terms of office.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Sean Gallagher
Approved by: Jennifer C. Cooper

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson John Gioia and Members of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: April 4, 2012

Re: Report of the Climate Protection Committee Meeting of April 16, 2012

RECOMMENDED ACTION

A) None; receive and file.

B) None; receive and file.

BACKGROUND

The Climate Protection Committee will meet on Monday, April 16, 2012. The Committee will receive and consider the following reports:

A) Local Climate Action Planning Update; and

B) Update on Assembly Bill (AB) 32 Implementation and U.S. Environmental Protection Agency Programs to Reduce Greenhouse Gas Emissions (GHG) Under the Federal Clean Air Act.

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

Chairperson Jennifer Hosterman will give an oral report of the meeting.

BUDGET CONSIDERATION/FINANCIAL IMPACT

A) None.

B) None.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Sean Gallagher
Reviewed by: Jennifer C. Cooper

Attachment(s)

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Hosterman and Members of the Climate Protection Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: April 2, 2012

Re: Local Government Climate Action Plan Update

RECOMMENDED ACTION:

None. Information only.

BACKGROUND

In recent years the District has provided a variety of assistance to local governments in the Bay Area to conduct greenhouse gas (GHG) emission inventories and develop strategies to reduce GHG emissions. This assistance has included grants, training workshops, data provision, guidance documents, quantification tools and one-on-one technical assistance. In 2010, the District provided guidance on how to develop local climate action plans that would support streamlining under California Environmental Quality Act (CEQA). The District's CEQA Guidelines and other documents describe how to develop a local climate action plan such that it satisfies the standard elements described in State Office of Planning and Research CEQA guidance.

The number of local jurisdictions with climate action plans is increasing, and the scope and technical rigor of these plans are growing.

DISCUSSION

Staff will provide an update on the status of climate action planning in the Bay Area, including discussion of how local governments have responded to the District's "Qualified GHG Reduction Strategy" CEQA threshold, and how local climate action plans have evolved as a result.

BUDGET CONSIDERATION / FINANCIAL IMPACT:

None.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Abby Young
Reviewed by: Henry Hilken

AGENDA: 5

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Hosterman and Members of the Climate Protection Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: March 28, 2012

Re: Update on Assembly Bill (AB) 32 Implementation and U.S. Environmental Protection Agency (EPA) Programs to Reduce Greenhouse Gas (GHG) Emissions Under the Federal Clean Air Act

RECOMMENDED ACTION:

None; receive and file.

BACKGROUND

The AB32 Scoping Plan was considered by the California Air Resources Board (CARB) in December 2008, and subsequently adopted by the Board's Executive Officer in May 2009. The Scoping Plan identified a variety of measures to reduce the State's Greenhouse Gas (GHG) emissions to 1990 levels by 2020, including a market-based cap-and-trade program. In December 2010, CARB approved a proposed cap-and-trade regulation with modifications to be finalized through a subsequent rulemaking process. This rulemaking process required CARB to finalize the regulation within one year from the date that the initial public notice was issued for the proposed regulation (i.e., by October 28, 2011).

As a result of litigation on the Scoping Plan, a California trial court found on May 20, 2011, that the environmental analysis of the alternatives to the Scoping Plan included in the Functional Equivalent Document (effectively a California Environmental Quality Act (CEQA) Environmental Impact Report (EIR)), was not sufficient under CEQA. The court issued an injunction prohibiting CARB from continuing work on the cap-and-trade regulation. CARB subsequently filed an appeal of this decision, and in June the appeals court stayed the injunction allowing CARB to continue rulemaking activities. On September 28, 2011, the state Supreme Court denied a request to lift the stay and reinstate the injunction. On August 24, 2011, CARB adopted a revised and expanded environmental analysis of project alternatives for the Scoping Plan.

On October 20, 2011, CARB adopted the final cap-and-trade regulation. This included the adoption of four detailed compliance protocols for the use of offsets in the program that cover livestock projects, ozone depleting substance projects, urban forest projects, and U.S. forest projects. The final regulation also included an amendment that delayed the time period by one year under which affected facilities must surrender their first GHG compliance obligations (by considering emissions data for the year 2013, rather than year 2012 as had been initially proposed). There were no changes made in the cap stringency (which determines the GHG

emission reductions resulting from the regulation), or the date of the end of the final compliance period (i.e., December 31, 2020).

The AB32 Scoping Plan also contains "command-and-control" regulatory measures to reduce GHG emissions from stationary sources that are not subject to the cap-and-trade program. These include several measures that focus on the use of high Global Warming Potential (GWP) gases, and a measure for landfill methane capture. The regulations for these measures have already been adopted by CARB, and are beginning to come into effect. The regulation to reduce emissions of high-GWP gases from semiconductor operations specifically identifies the air districts as the "permitting agency" responsible for implementation of the regulation. This is not the case for the other AB-32 regulations adopted by CARB, and so the air districts are working with CARB to acquire implementation responsibilities through the development of Memoranda of Understanding (MOUs). To date, the District has finalized an MOU with CARB for implementation of the landfill methane capture regulation, and discussions are continuing to develop an MOU for implementation of the regulation to reduce high-GWP gases from stationary refrigeration equipment.

In the absence of specific authorizing legislation to regulate GHG emissions at a federal level, EPA has taken steps to begin to regulate GHG emissions under the federal Clean Air Act. Regulations adopted by EPA to date include (1): GHG emission standards for newly manufactured cars and light duty trucks, (2) GHG emissions reporting for larger facilities, and (3) pre-construction and operating permitting requirements for major stationary sources of GHG emissions (under EPA's GHG "tailoring rule"). EPA has also begun rulemaking activities on New Source Performance Standards (NSPS) and emission guidelines (the latter of which covers existing sources) for reducing GHG emissions from fossil fuel-fired power plants and petroleum refineries.

DISCUSSION:

On April 16, 2012, staff will provide additional details on CARB's cap-and-trade regulation, other adopted AB 32 regulations, and EPA programs to regulate GHG emissions at the Climate Protection Committee.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Brian Bateman
Reviewed by: Jeff Mckay

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson John Gioia and Members of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: April 5, 2012

Re: Public Hearing to Receive Testimony on Proposed Amendments to Air District Regulation 3: Fees

RECOMMENDED ACTION

Staff recommends that the Board of Directors receive testimony on proposed amendments to District Regulation 3 that would apply in the upcoming Fiscal Year Ending 2013. (A second public hearing, which has been scheduled for June 6, 2012, is required prior to adoption).

BACKGROUND

Staff develops amendments to the District's fee regulation as a part of the annual budget preparation process. The Cost Recovery Policy recently adopted by the Board indicates that fee amendments should be adopted for FYE 2013 through FYE 2016 sufficient to increase the recovery of regulatory program activity costs to 85 percent by the end of this time period. Staff estimates that fee revenue will need to be increased by an average of 6.4 percent per year over the next four years in order to meet this goal (this estimate is based on the assumption that program activity costs will increase by 2 percent per year).

DISCUSSION

Staff has prepared proposed fee amendments for FYE 2013 that are consistent with provisions of the Cost Recovery Policy. The proposed fee amendments for FYE 2013 were designed to increase overall fee revenue by 6.4 percent (relative to fee revenue that would be expected without the amendments). Recently updated cost recovery analyses were used to establish amendments for each existing fee schedule based on the degree to which fee revenue recovers the regulatory program activity costs associated with the schedule. Based on this approach, the fee rates in certain fee schedules would not be increased, while other fee schedules would be increased by 5, 7, or 9 percent. Several fees that are administrative in nature (e.g., permit application filing fees and permit renewal processing fees) would be increased by 7 percent.

Two new fees are also proposed: (1) an inspection fee would be added to recover the costs of conducting inspections of sites required to have an Asbestos Dust Mitigation Plan (ADMP) under the State Asbestos Air Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations (currently, there is only a fee to recover the costs of reviewing an ADMP), and (2) an annual registration renewal fee would be added to recover the costs of

ongoing inspections of boilers, steam generators and process heaters required to register equipment with the District (currently, there is only a one-time initial registration fee to recover the costs of program development and an initial inspection).

A draft Staff Report that is enclosed with this memorandum provides additional details regarding the proposed fee amendments.

BUDGET CONSIDERATION/FINANCIAL IMPACT

The proposed fee amendments are expected to increase fee revenue in FYE 2013 by approximately $1.85 million (relative to fee revenue that would be expected without the amendments). This revenue has been included in the draft FYE 2013 budget.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Brian Bateman
Reveiwed by: Jeffrey McKay

Enclosure

BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

STAFF REPORT

PROPOSED AMENDMENTS TO BAAQMD REGULATION 3: FEES

DRAFT

APRIL 2, 2012

1. EXECUTIVE SUMMARY

District staff has prepared proposed amendments to District Regulation 3: Fees, for Fiscal Year Ending (FYE) 2013 (i.e., July 1, 2012 to June 30, 2013) that would increase revenue to enable Bay Area Air Quality Management District (the District) to continue to effectively implement and enforce regulatory programs for stationary sources of air pollution. A recently completed 2012 Cost Recovery Study (a copy of which is available on request) indicates that a significant cost recovery gap exists. For the most recently completed fiscal year (FYE 2011), fee revenue recovered just 69 percent of program activity costs.

The proposed fee amendments for FYE 2013 are consistent with the District's Cost Recovery Policy, which was adopted on March 7, 2012 by the District's Board of Directors (see Appendix A). This policy indicates that the District should amend its fee regulation in a manner sufficient to increase overall recovery of regulatory program activity costs to 85 percent by the end of FYE 2016. The policy also indicates that amendments to specific fee schedules should continue to be made in consideration of cost recovery analyses conducted at the fee schedule-level, with larger increases being adopted for the schedules that have the larger cost recovery gaps.

Staff estimates that fee revenue will need to be increased by an average of 6.4 percent per year over the next four years in order to meet the Cost Recovery Policy's 85 percent cost recovery goal (this estimate is based on the assumption that program activity costs will increase by 2 percent per year over this period). The proposed fee amendments for FYE 2013 were designed to increase fee revenue by 6.4 percent (relative to fee revenue that would be expected without the amendments).

The results of the 2012 Cost Recovery Study (a copy of which is available on request) were used to establish proposed fee amendments for each existing fee schedule based on the degree to which existing fee revenue recovers the regulatory program activity costs associated with the schedule. Based on this approach, the fee rates in certain fee schedules would not be increased, while other fee schedules would be increased by 5, 7, or 9 percent. Several fees that are administrative in nature (e.g., permit application filing fees and permit renewal processing fees) would be increased by 7 percent.

Two new fees are also proposed: (1) an inspection fee would be added to recover the costs of conducting inspections of sites required to have an Asbestos Dust Mitigation Plan (ADMP) under the State Asbestos Air Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations (currently, there is only a fee to recover the costs of reviewing an ADMP), and (2) an annual renewal fee would be added to recover the costs of ongoing inspections of boilers, steam generators and process heaters required to register equipment with the District (currently, there is only a one-time initial registration fee to recover the costs of program development and an initial inspection).

The proposed fee amendments would increase annual permit renewal fees for most

small businesses that require District permits by less than $100, with the exception of gas stations with more than four three-product (i.e., regular, mid-grade, and premium) gasoline dispensing nozzles, which would have larger fee increases (e.g., a typical gas station with 12 three-product gasoline dispensing nozzles would have an increase of $251 in annual permit renewal fees). For larger facilities, increases in annual permit renewal fees would cover a considerable range due to differences in the facility's size, type of emission sources, and emissions. District permit fees would generally remain well below those of the South Coast AQMD, where fee revenue recovers a higher percentage of associated program activity costs relative to the Bay Area AQMD.

The proposed fee amendments would increase overall District fee revenue in FYE 2013 by approximately $1.85 million relative to fee revenue that would be expected without the amendments. These revenue projections have been included in the draft FYE 2013 budget prepared by District staff.

District staff recommends that the Board of Directors adopt the proposed amendments to Regulation 3: Fees, with an effective date of July 1, 2011, and approve the filing of a CEQA Notice of Exemption, following the 2nd public hearing scheduled to consider this matter on June 6, 2012.

2. BACKGROUND

State law authorizes the District to assess fees to generate revenue to recover the reasonable costs of regulatory program activities for stationary sources of air pollution. The largest portion of District fees is collected under provisions that allow the District to impose permit fees sufficient to recover the costs of program activities related to permitted sources. The District is also authorized to assess fees for: (1) areawide or indirect sources of emissions which are regulated, but for which permits are not issued by the District, (2) sources subject to the requirements of the State Air Toxics Hot Spots Program (Assembly Bill 2588), and (3) activities related to the District's Hearing Board involving variances or appeals from District decisions on the issuance of permits. The District has established, and regularly updates, a fee regulation (District Regulation 3: Fees) under these authorities.

The District has analyzed whether fees result in the collection of a sufficient and appropriate amount of revenue in comparison to the costs of related program activities. In 1999, a comprehensive review of the District's fee structure and revenue was completed by the firm KPMG Peat Marwick LLP (*Bay Area Air Quality Management District Cost Recovery Study, Final Report: Phase One – Evaluation of Fee Revenues and Activity Costs,* KPMG Peat Marwick LLP, February 16, 1999). This 1999 Cost Recovery Study indicated that fee revenue did not nearly offset the full costs of program activities associated with sources subject to fees as authorized by State law. Property tax revenue (and in some years, reserve funds) had been used to close this cost recovery gap.

The District Board of Directors adopted an across-the-board fee increase of 15 percent,

the maximum allowed by State law for permit fees, for FYE 2000 as a step toward more complete cost recovery. The District also implemented a detailed employee time accounting system to improve the ability to track costs by program activities moving forward. In each of the next five years, the District adjusted fees only to account for inflation (with the exception of FYE 2005, in which the District also approved further increases in Title V permit fees and a new permit renewal processing fee).

In 2004, the District funded an updated Cost Recovery Study. The accounting firm Stonefield Josephson, Inc. completed this study in March 2005 (*Bay Area Air Quality Management District Cost Recovery Study, Final Report*, Stonefield Josephson, Inc., March 30, 2005). This 2005 Cost Recovery Study indicated that a significant cost recovery gap continued to exist. The study also provided cost recovery results at the level of each individual fee schedule based on detailed time accounting data. Finally, the contractor provided a model that could be used by District staff to update the analysis of cost recovery on an annual basis using a consistent methodology.

For the five years following the completion of the 2005 Cost Recovery Study (i.e., FYE 2006 through 2010), the District adopted fee amendments that increased overall projected fee revenue by an average of 8.9 percent per year. In order to address fee equity issues, the various fees were not all increased in a uniform manner. Rather, individual fee schedules were amended based on the magnitude of the cost recovery gap for that schedule, with the schedules with the more significant cost recovery gaps receiving more significant fee increases. In FYE 2009, the District's fee amendments also included a new greenhouse gas (GHG) fee schedule. The GHG fee schedule recovers costs from stationary source activities related to the District's Climate Protection Program. In FYE 2011, the District adopted an across-the-board 5 percent fee increase, except for the Title V fee schedule (Schedule P) which was increased by 10 percent (the District's 2010 Cost Recovery Study indicated that Fee Schedule P recovered only 46 percent of program activity costs).

In September 2010, the District contracted with the firm Matrix Consulting Group to complete an updated analysis of cost recovery that could be used in developing fee amendments for FYE 2012 and beyond. This study also included a review of the District's current cost containment strategies, and provided recommendations to improve the management of the District's costs and the quality of services provided to stakeholders. The study was completed in March 2011 (*Cost Recovery and Containment Study, Bay Area Air Quality Management District*, Final Report, Matrix Consulting Group, March 9, 2011). The 2011 Cost Recovery and Containment Study concluded that, for FYE 2010, overall fee revenue recovered 62 percent of related program activity costs. The study also provided cost recovery results at the level of each individual fee schedule based on detailed time accounting data, and provided a methodology for District staff to update the analysis of cost recovery on an annual basis using a consistent methodology.

The results of the 2011 Cost Recovery and Containment Study were used to establish fee amendments for FYE 2012 that were designed to increase overall fee revenue by

10 percent (relative to fee revenue that would result without the fee amendments). In order to address fee equity issues, the various fees were not all increased in a uniform manner. Rather, existing fee schedules were amended based on the magnitude of the cost recovery gap for that schedule, with the schedules with the more significant cost recovery gaps receiving more significant fee increases. Based on this approach, the fee rates in several fee schedules were not increased, while the fee rates in other fee schedules were increased by 10, 12, or 14 percent.

One of the recommendations made by Matrix Consulting Group in their 2011 Cost Recovery and Containment Study indicated that the District should consider the adoption of a Cost Recovery Policy to guide future fee amendments. District staff initiated a process to develop such a Policy in May 2011, and a Stakeholder Advisory Group was convened to provide input in this regard. A Cost Recovery Policy was adopted by the District's Board of Directors on March 7, 2012 (see Appendix A). This policy indicates that the District should amend its fee regulation in a manner sufficient to increase overall recovery of regulatory program activity costs to 85 percent by the end of FYE 2016. The policy also indicates that amendments to specific fee schedules should continue to be made in consideration of cost recovery analyses conducted at the fee schedule-level, with larger increases being adopted for the schedules that have the larger cost recovery gaps.

Staff has updated the cost recovery analysis for the most recently completed fiscal year (FYE 2011) using the methodology established by Matrix Consulting Group. This 2012 Cost Recovery Study (a copy of which is available on request) indicates that overall cost recovery increased to 69 percent in FYE 2011. The increase in cost recovery observed relative to the prior fiscal year FYE 2010 is due in large part to aggressive cost containment measures implemented by the District in response to continuing fiscal challenges.

3. PROPOSED FEE AMENDMENTS FOR FYE 2013

3.1 SUMMARY OF METHODOLOGY

For FYE 2013, District staff has developed proposed amendments to Regulation 3 that would increase fee revenue by approximately 6.4 percent (relative to fee revenue that would result without the fee amendments), or $1.85 million. Staff estimates that a 6.4 percent annual increase in fee revenue will be needed over the next four years in order to meet the recently adopted Cost Recovery Policy's goal of achieving 85 percent overall cost recovery by the end of FYE 2016. This estimate is based on projections of 72 percent overall cost recovery for FYE 2012 ($31 million in revenue and $43 million in program costs), and an increase in program costs of 2 percent per year for FYE 2013 through FYE 2016.

The results of the 2012 Cost Recovery Study (a copy of which is available on request) were used to establish proposed fee amendments for existing fee schedules based on the degree to which existing fee revenue recovers the activity costs associated with the

schedule. Based on this approach, the fee rates in certain fee schedules would not be increased, while the fee rates in other fee schedules would be increased by 5, 7, or 9 percent. The specific basis for these proposed fee amendments is summarized in Table 1 as follows.

Table 1. Proposed Fee Changes Based on Cost Recovery by Fee Schedule

Revenue from Fee Schedule as a Percentage of Program Activity Costs (from 2012 Cost Recovery Study)	Change in Fees	Affected Fee Schedules
Revenue exceeds 95% of costs	No Change	C, G-2, G-4, N, T
Revenue is 85 to 95% of costs	5% increase	B
Revenue is 70 to 84% of costs	7% increase	G-5
Revenue is less than 70% of costs	9% increase	A, D, E, F, G-1, G-3, H, I, K, L, P, Q, R, S

Note that no change is proposed for Fee Schedule M: Major Stationary Source Fees, which is not listed in Table 1 because cost recovery cannot be directly analyzed for this emissions-based schedule that applies to certain facilities with emissions of organic compounds, sulfur oxides, nitrogen oxides, and/or PM_{10}. The fee revenue associated with this schedule is distributed into source-category based fee schedules (for which program activities and costs are tracked) in proportion to the emissions from each source category.

In addition to the proposed amendments to fee schedules, District staff is proposing to increase several add-on fees that appear in the Standards section of Regulation 3 by 7 percent. This includes permit application filing fees and permit renewal processing fees. Existing permit fees are well below the point of full cost recovery, and these fee increases are proposed to help the District reduce its cost recovery gap.

Finally, two additional new fees are proposed to recover costs of activities that do not currently have a fee:

(1) A new inspection fee within Fee Schedule S: Naturally Occurring Asbestos Operations, for sites with Asbestos Dust Mitigation Plans (ADMPs). ADMP projects would be invoiced on a quarterly basis to recover the costs of inspections conducted to determine compliance with an ADMP based on a time and materials rate of $90 per hour. Currently, fees for these operations only cover the review of ADMPs (including any additional review that is needed if air monitoring is a required component of the ADMP).

(2) A new annual registration renewal fee within Fee Schedule R: Equipment Registration Fees, for small boilers and other types of combustion devices that are subject to registration requirements. Currently, the fee for these sources is a one-time initial registration fee that covers program development costs and an initial inspection. The proposed annual registration renewal fee of $65 per device is intended to recover the cost of additional inspections on an ongoing basis (one inspection every three years).

Additional details on the proposed fee amendments follow.

3.2 PROPOSED AMENDMENTS

The complete text of the proposed changes to District Regulation 3: Fees, has been prepared in strikethrough (deletion of existing text) and underline (new text) format, and is included in Appendix B. A detailed description of the proposed amendments follows.

- Section 3-302: Fees for New and Modified Sources

The proposed amendment for Section 3-302 is a 7 percent increase in the filing fee for permit applications for new/modified sources and abatement devices (subsection 3-302.3) (rounded to the nearest whole dollar), from $389 to $416.

- Section 3-310: Fees for Constructing Without a Permit

Clarifying changes are proposed for subsections 3-301.1 and 3-301.3, which specify fees that are due for sources that construct without a required permit. In the first sentence of subsections 310.1, and in subsection 310.3, the phrase “plus the risk screening fee” would be deleted because risk screening fees (if applicable) are included in the “fees for new construction pursuant to Section 3-302”, which is already specified as applying. Deletion of this phrase would clarify that the risk screening fee does not need to be paid twice. In the second sentence of subsections 310.1, which applies to modified gasoline dispensing facilities that are not required to pay an initial fee under Fee Schedule D, the phrase “fees for a modified source pursuant to Section 3-302” would be added and the phrase “plus the risk screening fee” would be deleted. Again, this should clarify that the risk screening fee (if applicable) does not need to be paid twice. (Note that, under Fee Schedule D, fees for a modified gasoline dispensing facility pursuant to Section 3-302 may include only a filing fee, and not an initial fee or permit to operate fee).

- Section 3-311: Banking

The proposed amendment for Section 3-311 is a 7 percent increase in the filing fee for banking applications (rounded to the nearest whole dollar), from $389 to $416.

- Section 3-312: Emission Caps and Alternative Compliance Plans

No change in regulatory language is proposed for subsection 3-312.1, which requires an additional annual fee equal to 15 percent of the facility's Permit to Operate fee for facilities that elect to use an Alternative Compliance Plan (ACP) for compliance with Regulation 8, or Regulation 2, Rule 2. These ACP fees would change along with the proposed changes in Permit to Operate renewal fees listed in Table 1 for sources in Schedules B, C, D, E, F, G-1, G-2, G-3, G-4, G-5, H, I, and K.

The proposed amendment for subsection 3-312.2 is a 7 percent increase in the annual fee (rounded to the nearest whole dollar) for a facility that elects to use an ACP contained in Regulation 2, Rule 9: Interchangeable Emission Reduction Credits. The fee for each source included in the ACP would be increased from $982 to $1,051, and the maximum fee would be increased from $9,827 to $10,515.

- Section 3-320: Toxic Inventory Fees

No change is proposed for the maximum toxic inventory fee for a small business specified in subsection 3-320.1. This fee is related to Schedule N: Toxic Inventory Fees, which would also not be changed based on the cost recovery methodology listed in Table 1.

- Section 3-327: Permit to Operate, Renewal Fees

The processing fees for renewal of Permits to Operate specified in subsections 3-327.1 through 3-327.6 would be increased by 7 percent (rounded to the nearest whole dollar).

- Section 3-329: Fee for Risk Screening

No change in regulatory language is proposed for Section 3-329: Fee for Risk Screening. Increases in risk screening fees are instead specified in Schedules B, C, D, E, F, G-1, G-2, G-3, G-4, G-5, H, I, and K. For each applicable fee schedule, the base fee for each application that requires a Health Risk Screening Analysis would be increased by 7 percent from $389 to $416. The portion of the risk screening fee that is based on the type of source involved would be changed along with the proposed changes in Permit to Operate renewal fees listed in Table 1 for sources in Schedules B, C, D, E, F, G-1, G-2, G-3, G-4, G-5, H, I, and K.

- Fee Schedules

<u>Schedule A: Hearing Board Fees</u>

Based on the cost recovery methodology listed in Table 1, the fees in Schedule A would be increased by 9 percent (rounded to the nearest whole dollar). The schedules of fees for excess emissions (Schedule A: Table I) and visible emissions (Schedule A: Table II) would also be increased by 9 percent.

Schedule B: Combustion of Fuel

Based on the cost recovery methodology listed in Table 1, the fees in Schedule B would be increased by 5 percent (rounded to the nearest whole dollar). The base fee for a health risk screening analysis for a source covered by Schedule B would be increased by 7 percent, from $389 to $416.

Schedule C: Stationary Containers for the Storage of Organic Liquids

Based on the cost recovery methodology listed in Table 1, the fees in Schedule C would not be changed, except for the base fee for a health risk screening analysis for a source covered by Schedule C, which would be increased by 7 percent from $389 to $416.

Schedule D: Gasoline Transfer at Gasoline Dispensing Facilities, Bulk Plants and Terminals

Based on the cost recovery methodology listed in Table 1, the fees in Schedule D would be increased by 9 percent, except for the base fee for a health risk screening analysis for a source covered by Schedule D, which would be increased by 7 percent from $389 to $416. For bulk plants, terminals or other facilities subject to Schedule D, Part B., the base fee for a health risk screening analysis is included in the Risk Screening Fee (RSF) for the first TAC source in the application.

Schedule E: Solvent Evaporating Sources

Based on the cost recovery methodology listed in Table 1, the fees in Schedule E would be increased by 9 percent, except for the base fee for a health risk screening analysis for a source covered by Schedule E, which would be increased by 7 percent from $389 to $416.

Schedule F: Miscellaneous Sources

Based on the cost recovery methodology listed in Table 1, the fees in Schedule F would be increased by 9 percent. The base fee for a health risk screening analysis for a source covered by Schedule F would be increased by 7 percent, from $389 to $416. The base fee for a health risk screening analysis in Schedule F is included in the RSF for the first TAC source in the application.

Schedule G-1: Miscellaneous Sources

Based on the cost recovery methodology listed in Table 1, the fees in Schedule G-1 would be increased by 9 percent, except for the base fee for a health risk screening analysis for a source covered by Schedule G-1, which would be increased by 7 percent from $389 to $416. The base fee for a health risk screening analysis in Schedule G-1 is included in the RSF for the first TAC source in the application.

Schedule G-2: Miscellaneous Sources

Based on the cost recovery methodology listed in Table 1, the fees in Schedule G-2 would not be changed, except for the base fee for a health risk screening analysis for a source covered by Schedule G-2 which would be increased by 7 percent from $389 to $416. The base fee for a health risk screening analysis in Schedule G-2 is included in the RSF for the first TAC source in the application.

Schedule G-3: Miscellaneous Sources

Based on the cost recovery methodology listed in Table 1, the fees in Schedule G-3 would be increased by 9 percent, except for the base fee for a health risk screening analysis for a source covered by Schedule G-3, which would be increased by 7 percent from $389 to $416. The base fee for a health risk screening analysis in Schedule G-3 is included in the RSF for the first TAC source in the application.

Schedule G-4: Miscellaneous Sources

Based on the cost recovery methodology listed in Table 1, the fees in Schedule G-4 would not be changed, except for the base fee for a health risk screening analysis for a source covered by Schedule G-4, which would be increased by 7 percent from $389 to $416. The base fee for a health risk screening analysis in Schedule G-4 is included in the RSF for the first TAC source in the application.

Schedule G-5: Miscellaneous Sources

Based on the cost recovery methodology listed in Table 1, the fees in Schedule G-5 would be increased by 7 percent. The base fee for a health risk screening analysis for a source covered by Schedule G-5 (included in the RSF for the first TAC source in the application), would also be increased by 7 percent. The base fee for a health risk screening analysis in Schedule G-5 is included in the RSF for the first TAC source in the application.

Schedule H: Semiconductor and Related Sources

Based on the cost recovery methodology listed in Table 1, the fees in Schedule H would be increased by 9 percent, except for the base fee for a health risk screening analysis for a source covered by Schedule H, which would be increased by 7 percent from $389 to $416.

Schedule I: Dry Cleaners

Based on the cost recovery methodology listed in Table 1, the fees in Schedule I would be increased by 9 percent, except for the base fee for a health risk screening analysis for a source covered by Schedule I, which would be increased by 7 percent from $389 to $416.

Schedule K: Solid Waste Disposal Sites

Based on the cost recovery methodology listed in Table 1, the fees in Schedule K would be increased by 9 percent, except for the base fee for a health risk screening analysis for a source covered by Schedule K, which would be increased by 7 percent from $389 to $416.

Schedule L: Asbestos Operations

Based on the cost recovery methodology listed in Table 1, the fees in Schedule L would be increased by 9 percent.

Schedule M: Major Stationary Source Fees

Schedule M is an emissions-based fee schedule that applies to various permitted facilities emitting 50 tons per year of organic compounds, sulfur oxides, nitrogen oxides, and/or PM_{10}. The District's time accounting system does not provide data to allow for direct analyses of cost recovery for this schedule. Rather, the fee revenue collected from Fee Schedule M is allocated to the other source category-based permit fee schedules (i.e., Fee Schedules B, C, D, E, F, H, I, and K) based on the specific sources that are subject to Schedule M fees and their level of emissions. In this manner, the cost recovery for Schedule M is indirectly accounted for in the cost recovery analyses completed for the source-category based fee schedules. District staff is proposing no change for Fee Schedule M for FYE 2013.

Schedule N: Toxic Inventory Fees

Based on the cost recovery methodology listed in Table 1, the fees in Schedule N would not be changed.

Fees for Schedule N are calculated by a formula that includes the fee revenue that is to be collected for District purposes, as well as the fee revenue that is to be passed through to the State to recover State agency costs related to the Air Toxics Hot Spots Program. The value of the variable F_T, the total amount of fees to be collected, used to calculate fees for Schedule N is proposed to be remain unchanged from FYE 2012 to FYE 2013 ($724,000).

Schedule P: Major Facility Review Fees

Based on the cost recovery methodology listed in Table 1, the fees in Schedule P would be increased by 9 percent, except for the cap on the cost of a public hearing specified under Part 5.a., which would be unchanged (the existing cap has never been exceeded).

Schedule Q: Excavation of Contaminated Soil and Removal of Underground Storage Tanks

Based on the cost recovery methodology listed in Table 1, the fee in Schedule Q would be increased by 9 percent.

Schedule R: Equipment Registration Fees

Based on the cost recovery methodology listed in Table 1, the fees in Schedule R would be increased by 9 percent.

District staff is also proposing a new fee that would be created as Schedule R, Part 4.c. This is an annual registration renewal fee that would be added to recover the costs of ongoing inspections of smaller-size boilers, steam generators and process heaters required to register equipment with the District under District Regulation 9-7-404. Currently, there is only a one-time initial registration fee for these sources (in Schedule R, Parts 4.a and 4.b) which recovers the costs of program development and an initial inspection. The new annual renewal fee is intended to recover the costs of ongoing inspections that will be conducted to determine compliance with Regulation 9-7. The proposed annual fee is $65 per device, and was derived based on an assumed inspection frequency of one inspection every three years. (It was assumed that each inspection would require 2.2 hours of time for the inspector, 0.17 hours of time for the supervisor, and 0.08 hours of time for the manager. Direct labor costs were adjusted to a fully-burdened cost by multiplying by a factor of 1.95, which was derived from cost recovery data).

Schedule S: Naturally Occurring Asbestos Operations

Based on the cost recovery methodology listed in Table 1, the fees in Schedule S would be increased by 9 percent.

District staff is also proposing a new fee that would be created as Schedule S, Part 3. This is an inspection fee that would be added to recover the costs of conducting inspections of sites required to have an Asbestos Dust Mitigation Plan (ADMP) under the State Asbestos Air Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations. Currently, there is only a fee to recover the costs of reviewing an ADMP (including the monitoring component, if required) under Schedule S, Parts 1 and 2. The proposed inspection fee is $90 per hour based on the actual time spent in conducting such inspections. (The $90 per hour time and materials rate assumes that each inspection hour will require 0.1 hours of time for the supervisor, and 0.03 hours of time for the manager. Direct labor costs were adjusted to a fully-burdened cost by multiplying by a factor of 1.95, which was derived from cost recovery data). The inspection fees for ADMP sites would be invoiced by the District on a quarterly basis and at the conclusion of dust generating activities covered under the ADMP.

Schedule T: Greenhouse Gas Fees

Based on the cost recovery methodology listed in Table 1, the fees in Schedule T would not be changed.

Schedule U: Indirect Source Review Fees

District staff is proposing no changes in Schedule U: Indirect Source Review Fees. Schedule U was adopted in 2009 to establish fees for an upcoming District Indirect Source Review (ISR) rule. The ISR rule has been included as a Land Use and Local Impact Measure in the Bay Area 2010 Clean Air Plan, and the fees in Schedule U will be considered for amendment concurrent with development of this new rule.

4. FEE REVENUE AND COSTS OF PROGRAM ACTIVITIES

On an overall basis, the 2012 Cost Recovery Study (a copy of which is available on request) concluded that, for FYE 2011, fee revenue recovered 69 percent of regulatory program activity costs, with revenue of $29,369,576 and costs of $42,747,034. This resulted in a shortfall, or cost recovery gap, of $13,377,458. For permitted sources, fees recovered 71 percent of costs, with revenue of $27,362,882 and costs of $38,645,487 (this excludes revenue and costs for non-permitted sources associated with Fee Schedules L, Q, R, and S). For non-permitted sources (covered by Fee Schedules L, Q, R, and S), fees recovered 49 percent of costs, with revenue of $2,006,694 and costs of $4,101,547.

Overall cost recovery is expected to increase slightly from FYE 2011 to the current FYE 2012. For FYE 2012, overall fee revenue was initially projected to increase by 5 percent relative to FYE 2011. However, actual fee revenue for FYE 2012 is expected to fall short of budget projections due to greater than expected decreases in activity levels at facilities and other regulated entities. Regulatory program costs are expected to decrease slightly from FYE 2011 to FYE 2012 due to implementation of cost containment measures.

The proposed fee amendments for FYE 2013 are projected to increase overall District fee revenue in FYE 2013 by approximately $1.85 million relative to fee revenue levels that would be expected without the amendments. Clearly, fee revenue in FYE 2013 will remain well below the District's regulatory program costs for both permitted and non-permitted sources. With the proposed fee amendments, overall cost recovery should increase by about 3 percent, by the end of FYE 2013 (unless fee revenue is further impacted by declining activity levels).

5. STATUTORY AUTHORITY FOR PROPOSED FEE INCREASES

The District is a regional regulatory agency, and its fees are used to recover the costs of issuing permits, performing inspections, and other associated regulatory activities. The District's fees fall into the category specified in Section 1(e) of Article XIII C of the

California Constitution which specifies that charges of this type assessed to regulated entities to recover regulatory program activity costs are not taxes. The amount of fee revenue collected by the District has been clearly shown to be much less than the costs of the District's regulatory program activities both for permitted and non-permitted sources.

The District's fee regulation, with its various fee schedules, is used to allocate regulatory program costs to fee payers in a manner which bears a fair or reasonable relationship to the payer's burden on, or benefits received from, regulatory activities. Permit fees are based on the type and size of the source being regulated, with minimum and maximum fees being set in recognition of the practical limits to regulatory costs that exist based on source size. Add-on fees are used to allocate costs of specific regulatory requirements that apply to some sources but not others (e.g., health risk screening fees, public notification fees, alternative compliance plan fees). Emissions-based fees are used to allocate costs of regulatory activities not reasonably identifiable with specific fee payers.

Since 2006, the District has used annual analyses of cost recovery performed at the fee-schedule level, which is based on data collected from a labor-tracking system, to adjust fees. These adjustments are needed as the District's regulatory program activities change over time based on changes in statutes, rules and regulations, enforcement priorities, and other factors.

State law authorizes air districts to adopt fee schedules to cover the costs of various air pollution programs. California Health and Safety Code (H&S Code) section 42311(a) provides authority for an air district to collect permit fees to cover the costs of air district programs related to permitted stationary sources. H&S Code section 42311(f) further authorizes the District to assess additional permit fees to cover the costs of programs related to toxic air contaminants. H&S Code section 41512.7 limits the allowable percentage increase in fees for authorities to construct and permits to operate to 15 percent per year.

H&S Code section 44380(a) authorizes air districts to adopt a fee schedule that recovers the costs to the air district and State agencies of the Air Toxics Hot Spots Program (AB 2588). The section provides the authority for the District to collect toxic inventory fees under Schedule N.

H&S Code section 42311(h) authorizes air districts to adopt a schedule of fees to cover the reasonable costs of the Hearing Board incurred as a result of appeals from air district decisions on the issuance of permits. Section 42364(a) provides similar authority to collect fees for the filing of applications for variances or to revoke or modify variances. These sections provide the authority for the District to collect Hearing Board fees under Schedule A.

H&S Code section 42311(g) authorizes air districts to adopt a schedule of fees to be assessed on areawide or indirect sources of emissions, which are regulated but for which permits are not issued by the air district, to recover the costs of air district

programs related to these sources. This section provides the authority for the District to collect asbestos fees (including fees for Naturally Occurring Asbestos operations), soil excavation reporting fees, registration fees for various types of regulated equipment, and fees for Indirect Source Review.

The proposed fee amendments are in accordance with all applicable authorities. Based on the results of the 2012 Cost Recovery Study (a copy of which is available on request), the District fees subject to this rulemaking are in amounts no more than necessary to cover the reasonable costs of the District's regulatory activities, and the manner in which the District fees allocate those costs to a payor bear a fair and reasonable relationship to the payor's burdens on the District regulatory activities and benefits received from those activities. Permit fee revenue (after adoption of the proposed amendments) would still be well below the District's regulatory program activity costs associated with permitted sources. Similarly, fee revenue for non-permitted areawide sources would be below the District's costs of regulatory programs related to these sources. Hearing Board fee revenue would be below the District's costs associated with Hearing Board activities related to variances and permit appeals. Fee increases for authorities to construct and permits to operate would be less than 15 percent per year.

6. ASSOCIATED IMPACTS AND OTHER RULE DEVELOPMENT REQUIREMENTS

6.1 EMISSIONS IMPACTS

There will be no direct change in air emissions as a result of the proposed amendments.

6.2 ECONOMIC IMPACTS

The District must, in some cases, consider the socioeconomic impacts and incremental costs of proposed rules or amendments. Section 40728.5(a) of the California H&S Code requires that socioeconomic impacts be analyzed whenever a district proposes the adoption, amendment, or repeal of a rule or regulation that will significantly affect air quality or emissions limitations. The proposed fee amendments will not significantly affect air quality or emissions limitations, and so a socioeconomic impact analysis is not required.

Section 40920.6 of the H&S Code specifies that an air district is required to perform an incremental cost analysis for a proposed rule, if the purpose of the rule is to meet the requirement for best available retrofit control technology or for a feasible measure. The proposed fee amendments are not best available retrofit control technology requirements, nor are they a feasible measure required under the California Clean Air Act. Therefore, an incremental cost analysis is not required.

The financial impact of the proposed fee amendments on small businesses is expected to be minor. Many small businesses operate only one or two permitted sources, and

generally pay only the minimum permit renewal fees. As is shown in Table 2, increases in annual permit and registration renewal fees for most small businesses would be under $100, with the exception of gas stations that have five or more three-product (i.e., regular, mid-grade, and premium) gasoline dispensing nozzles.

Table 2. Changes in Annual Permit / Registration Renewal Fees for Typical Small Businesses

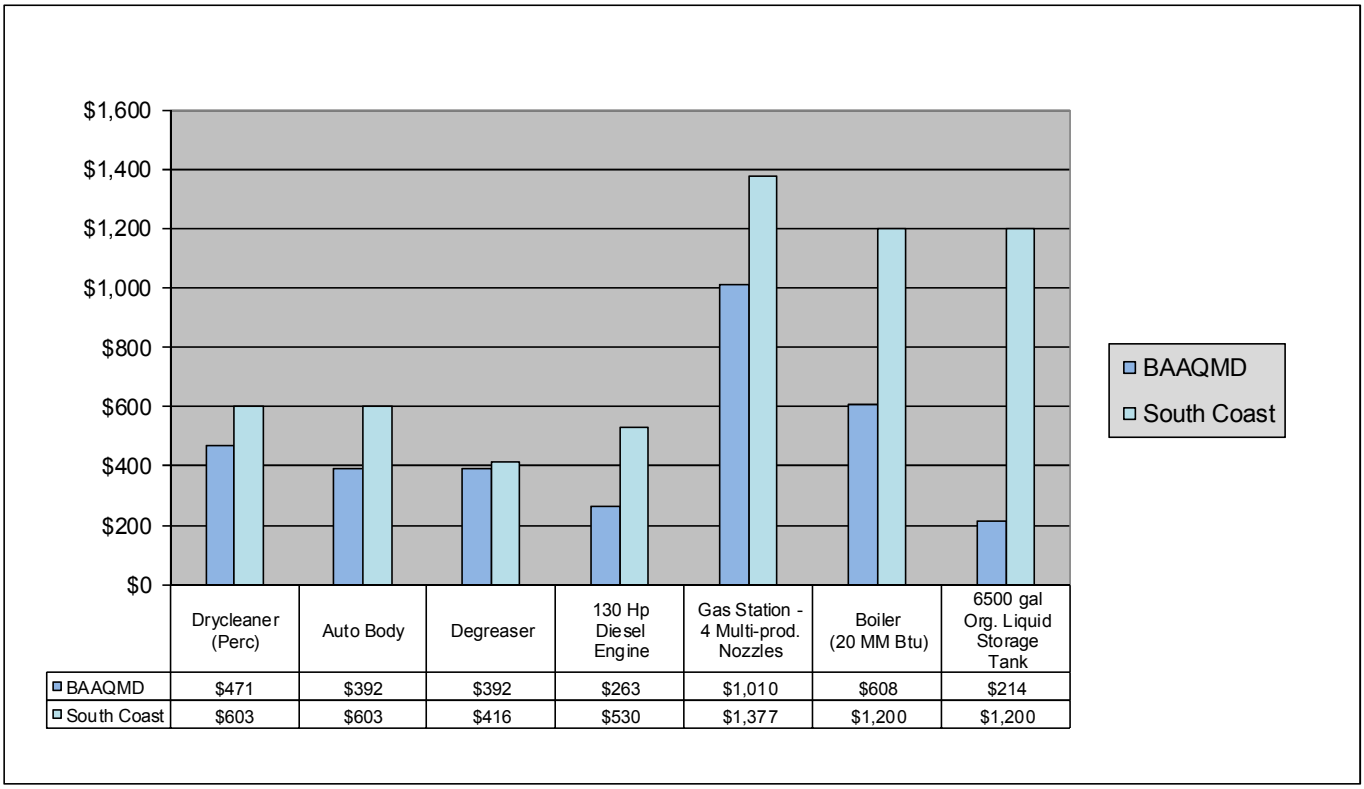
Facility Type	Facility Description	Fee Increase	Total Fee
Gas Station - medium	12 three-product gasoline nozzles	$251	$2,985
Gas Station - small	4 three-product gasoline nozzles	$87	$1,097
Auto Body Shop	2 spray booths; 500 gal./yr. paint; 200 gal./yr. cleanup solvent	$67	$848
Dry Cleaner (Perc)	1 machine; 1400 lb./yr. Perc emissions	$34	$505
Dry Cleaner (Hydrocarbon)	1 machine; 800 lb./yr. VOC emissions	$12	$146
Office Building with Back-up Generator	One 300 hp. diesel engine	$15	$297
Printing Shop	2 printing presses; 1000 lb./yr. VOC emissions	$13	$158

The fees for gas stations are higher than the fees for many other types of small businesses because the District's costs of regulating gas stations are much higher. There are a number of reasons for this including: (1) a large amount of gasoline (approximately 9 million gallons per day) is pumped in the Bay Area, (2) gasoline vapors are a significant source of ozone precursor emissions, and may also be of concern due to local community exposures to the carcinogen benzene (a component of gasoline), and so the District established vapor recovery requirements for gas stations dating back to the 1970's, (3) the emissions from gas stations are highly dependent on the effectiveness of their vapor recovery systems, and a small decrease in this effectiveness can have large emission consequences (e.g., a 5 percent decrease in control efficiency can double emissions) (4) gas station vapor recovery systems are quite complex, and have many components that can malfunction including the nozzles which are subject to significant wear and tear, (5) widespread problems with vapor

recovery systems at gas stations became so significant that, in the year 2000, the State began a 10 year program for Enhanced Vapor Recovery (EVR), (6) the EVR Program required the re-design and replacement of most gas vapor recovery systems, and established much more detailed monitoring requirements for them. Due to these issues, the District maintains a dedicated team comprised of 12 members that is continuously inspecting gas stations throughout the Bay Area.

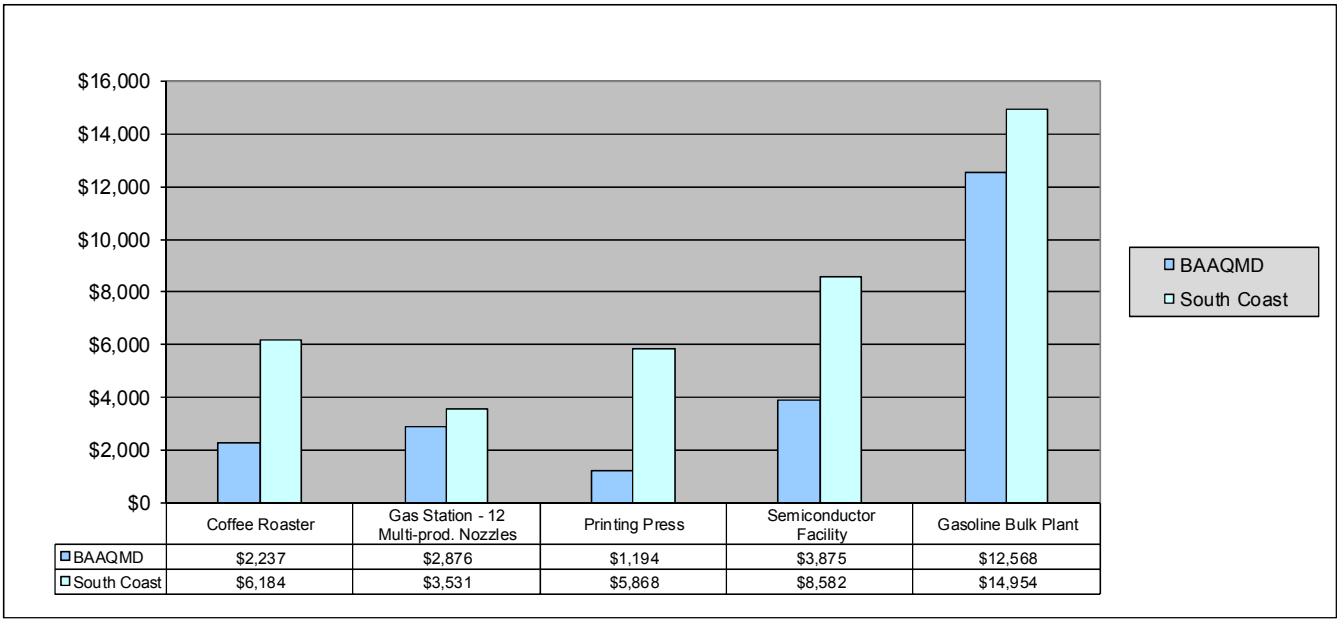
For reference, District permit fees are generally well below that of the South Coast AQMD, the other major metropolitan air district in the state with a cost of living similar to that of the Bay Area. South Coast AQMD staff have indicated that their fee revenue recovers a much higher percentage of associated program activity costs (i.e., about 90 percent) relative to the Bay Area AQMD. A comparison of permit renewal fees recently completed by District staff for 12 different categories of small and medium-sized sources indicated that South Coast AQMD fees are approximately 2.3 times higher than District fees, on average. These fee comparisons are provided in Figures 1 and 2 as follows.

Figure 1. Comparison of FYE 2012 Bay Area AQMD and South Coast AQMD Permit Renewal Fees for Various Small Sources



	Drycleaner (Perc)	Auto Body	Degreaser	130 Hp Diesel Engine	Gas Station - 4 Multi-prod. Nozzles	Boiler (20 MM Btu)	6500 gal Org. Liquid Storage Tank
BAAQMD	$471	$392	$392	$263	$1,010	$608	$214
South Coast	$603	$603	$416	$530	$1,377	$1,200	$1,200

Figure 2. Comparison of FYE 2012 Bay Area AQMD and South Coast AQMD Permit Renewal Fees for Various Medium-sized Sources



	Coffee Roaster	Gas Station - 12 Multi-prod. Nozzles	Printing Press	Semiconductor Facility	Gasoline Bulk Plant
BAAQMD	$2,237	$2,876	$1,194	$3,875	$12,568
South Coast	$6,184	$3,531	$5,868	$8,582	$14,954

For larger facilities, increases in annual permit renewal fees would cover a considerable range due to differences in the facility's size, type of emission sources, and emissions. The annual permit renewal fees for the five Bay Area refineries, the District's highest fee payers, would increase within an estimated range of 3.1 to 4.7 percent ($49,000 to $111,300).

District staff is sympathetic to businesses that are impacted by the prolonged economic downturn, but feel that additional revenue is needed to continue the District's core regulatory programs and other air quality initiatives. In general, District fee increases are expected to have a minor financial impact on businesses relative to other factors (e.g., the costs of property and labor).

6.3 ENVIRONMENTAL IMPACTS

The California Environmental Quality Act (CEQA), Public Resources Code section 21000 et seq., and the CEQA Guidelines, 14 CCR 15000 et seq., require a government agency that undertakes or approves a discretionary project to prepare documentation addressing the potential impacts of that project on all environmental media. Certain types of agency actions are, however, exempt from CEQA requirements. The proposed fee amendments are exempt from the requirements of the CEQA under Section 15273 of the CEQA Guidelines, which state: "CEQA does not apply to the establishment, modification, structuring, restructuring, or approval of rates, tolls, fares, and other charges by public agencies...." (See also Public Resources Code Section 21080(b)(8)).

Section 40727.2 of the H&S Code imposes requirements on the adoption, amendment,

or repeal of air district regulations. It requires an air district to identify existing federal and air district air pollution control requirements for the equipment or source type affected by the proposed change in air district rules. The air district must then note any differences between these existing requirements and the requirements imposed by the proposed change. This fee proposal does not impose a new standard, make an existing standard more stringent, or impose new or more stringent administrative requirements. Therefore, section 40727.2 of the H&S Code does not apply.

6.4 STATUTORY FINDINGS

Pursuant to H&S Code section 40727, regulatory amendments must meet findings of necessity, authority, clarity, consistency, non-duplication, and reference. The proposed amendments to Regulation 3:

- Are necessary to fund the District's efforts to attain and maintain federal and state air quality standards, and to reduce public exposure to toxic air contaminants;
- Are authorized by H&S Code sections 42311, 42311.2, 41512.7, 42364, 44380 and 40 CFR Part 70.9;
- Are clear, in that the amendments are written so that the meaning can be understood by the affected parties;
- Are consistent with other District rules, and not in conflict with any state or federal law;
- Are not duplicative of other statutes, rules or regulations; and
- Reference H&S Code sections 42311, 42311.2, 41512.7, 42364, 44380 and 40 CFR Part 70.9.

7. RULE DEVELOPMENT PROCESS

On February 3, 2012, the District issued a notice for a public workshop to discuss with interested parties an initial proposal to increase District fees. Distribution of this notice included all District-permitted and registered facilities, asbestos contractors, sites required to have Asbestos Dust Mitigation Plans (ADMPs), and a number of other potentially interested stakeholders. The notice was also posted on the District website.

A public workshop was held on February 28, 2012 to discuss the initial fee proposal. Nine members of the public attended the workshop. On March 28, 2012, District staff provided a briefing on the proposed amendments to the District Board of Directors' Budget and Finance Committee.

Under H&S Code section 41512.5, the adoption or revision of fees for non-permitted sources requires two public hearings that are held at least 30 days apart from one another. This provision applies to Schedule L: Asbestos Operations, Schedule Q: Excavation of Contaminated Soil and Removal of Underground Storage Tanks, Schedule R: Equipment Registration Fees, and Schedule S: Naturally Occurring Asbestos Operations. A Public Hearing Notice for the proposed Regulation 3 amendments was published on March 19, 2012. An initial public hearing to consider testimony on the proposed fee amendments has been scheduled for April 18, 2012. A

second public hearing, to consider adoption of the proposed fee amendments, has been scheduled for June 6, 2012. If adopted, the amendments would be made effective on July 1, 2012, which is the beginning of FYE 2013.

8. PUBLIC COMMENTS

As of the date of this report, three sets of written comments were received on the staff fee proposal as follows: (1) David Sahagun of Pacific Heights Chevron, (2) Alex Gaviola of Bay Area Oil Supply (via Sunny Campbell of California Service Station and Automotive Repair Association), and (3) Michael Vukelich of Michael J. Vukelich & Associates Professional Consultants. In addition, verbal comments were provided at the March 7, 2012 Board of Directors' meeting (on an item to consider adoption of a Cost Recovery Policy) by Sunny Campbell of the California Service Station and Automotive Repair Association. A summary of the comments received, and District staff responses to these comments, follows.

David Sahagun Comments: The commenter indicates that the small business community is opposed to the fee increases, and has been significantly impacted by the economy, banks, oil companies and the government. The commenter indicates that District fee increases should not be seen in isolation from all the other fees and taxes that small businesses must pay. A list of the various fees and taxes paid by a gas station is provided (some of which specific annual dollar amounts are specified, and which total over $50,000).

Response: District staff acknowledges the difficulties that the commenter and other businesses are having due to the lingering economic downturn, but believe that the proposed fee increases are needed to maintain core regulatory programs and move towards more complete cost recovery as specified in the District's Cost Recovery Policy.

Because of the importance of minimizing emissions from gas stations, the District maintains a rigorous gas station enforcement program, including 12 full-time dedicated inspection staff members. The District's regulatory costs for gas stations have increased over the last decade due to numerous problems with vapor recovery systems at stations that necessitated a statewide program of Enhanced Vapor Recovery (EVR). The EVR Program required the re-design and replacement of most gas vapor recovery systems, and established much more detailed monitoring requirements for them. The fee revenue received from gas stations currently covers less than 50 percent of the District's regulatory program costs. Under the staff proposal, fee schedules that recover less than 70 percent of program costs would all be increased by 9 percent. The annual permit renewal fee for a small gas station with four three-product gasoline dispensing nozzles would increase by less than $100. A more typical retail gas station with 12 three-product nozzles would have an increase in annual permit renewal fees of $251.

Alex Gaviola Comments: The commenter provides a list of annual District, City, County, and State fees that he indicates applies to one of his gas station sites in San Jose. The

total of these fees is $13,561, of which the District permit fee is $2,023.

Response: See previous response to comments from David Sahagun.

Michael Vukelich Comments: The commenter raises a number of issues that are not directly related to the staff fee proposal. He asserts that: (1) EPA is unconstitutional, (2) the District is illegal and should be disbanded, (2) outdoor air is clean and the District has covered up indoor air pollution which is more polluted, (3) wood smoke has no effect on health, (4) District rules and regulations and fees are killing jobs, and (5) county health departments can control air pollution.

Response: District staff disagrees with most of the points raised by the commenter. Neither the EPA nor the District are "unconstitutional" or "illegal". California air districts are specifically provided with legal authority to regulate stationary sources of air pollution. Although significant progress has been made in improving air quality, emissions must continue to be reduced in order to meet health-based ambient air quality standards for ozone and fine particulate matter, and to further reduce health risks associated with exposures to toxic air contaminants. Many studies have shown that air pollution control programs provide significant economic benefits in terms of reducing health care costs. Substantial epidemiological evidence indicates that fine particulate matter (e.g., from wood smoke) contributes to significant adverse health effects with associated costs. District staff acknowledges the difficulties that many businesses are having in the economic downturn, but believe that the proposed fee increases are needed to maintain core regulatory programs. Annual fee increases for most small businesses regulated by the District would be under $100.

Sunny Campbell Comments: The commenter indicates his trade association's opposition to the proposed fee increases for gas stations. He cites the difficult economic times, and the costs of increasing fees from the District and other agencies.

Response: See previous response to comments from David Sahagun.

9. CONCLUSIONS

District staff finds that the proposed fee amendments meet the findings of necessity, authority, clarity, consistency, non-duplication and reference specified in H&S Code section 40727. The proposed amendments:

- Are necessary to fund the District's efforts to attain and maintain federal and state air quality standards, and to reduce public exposure to toxic air contaminants;
- Are authorized by H&S Code sections 42311, 42311.2, 41512.7, 42364, 44380 and 40 CFR Part 70.9;
- Are clear, in that the amendments are written so that the meaning can be understood by the affected parties;
- Are consistent with other District rules, and not in conflict with any state or federal

law;
- Are not duplicative of other statutes, rules or regulations; and
- Reference H&S Code sections 42311, 42311.2, 41512.7, 42364, 44380 and 40 CFR Part 70.9.

The proposed fee amendments will be used by the District to recover the costs of issuing permits, performing inspections, and other associated regulatory activities. Based on the results of the 2012 Cost Recovery Study (a copy of which is available on request), the District fees subject to this rulemaking are in amounts no more than necessary to cover the reasonable costs of the District's regulatory activities, and the manner in which the District fees allocate those costs to a payor bear a fair and reasonable relationship to the payor's burdens on the District regulatory activities and benefits received from those activities. Permit fee revenue (after adoption of the proposed amendments) would still be well below the District's regulatory program activity costs associated with permitted sources. Similarly, fee revenue for non-permitted sources would be below the District's costs of regulatory programs related to these sources. Fee increases for authorities to construct and permits to operate would not exceed 15 percent per year as required under H&S Code section 41512.7.

The proposed amendments to Regulation 3 are exempt from the requirements of the CEQA under Section 15273 of the CEQA Guidelines.

District staff recommends that the Board of Directors adopt the proposed amendments to Regulation 3: Fees, with an effective date of July 1, 2011, and approve the filing of a CEQA Notice of Exemption, following the 2nd public hearing scheduled to consider this matter on June 6, 2012.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

STAFF REPORT

PROPOSED AMENDMENTS TO BAAQMD REGULATION 3: FEES

APPENDIX A
COST RECOVERY POLICY
(Adopted March 7, 2012)

DRAFT

APRIL 2, 2012

COST RECOVERY POLICY FOR BAY AREA AIR QUALITY MANAGEMENT DISTRICT REGULATORY PROGRAMS

PURPOSE

WHEREAS, the District has the primary authority for the control of air pollution from all sources of air emissions located in the San Francisco Bay Area, other than emissions from motor vehicles, in accordance with the provisions of Health & Safety Code sections 39002 and 40000.

WHEREAS, the District is responsible for implementing and enforcing various District, State, and federal air quality regulatory requirements that apply to non-vehicular sources.

WHEREAS, the District's regulatory programs involve issuing permits, performing inspections, and other associated activities.

WHEREAS, the District is authorized to assess fees to regulated entities for the purpose of recovering the reasonable costs of regulatory program activities, and these authorities include those provided for in California Health and Safety Code sections 42311, 42364, and 44380.

WHEREAS, the District's fees fall within the categories provided in Section 1(e) of Article XIII C of the California Constitution, which indicates that charges assessed to regulated entities to recover regulatory program activity costs, and charges assessed to cover the cost of conferring a privilege or providing a service, are not taxes.

WHEREAS, the District has adopted, and periodically amends, a fee regulation for the purpose of recovering regulatory program activity costs, and this regulation with its various fee schedules, is used to allocate costs to fee payers in a manner which bears a fair or reasonable relationship to the payer's burden on, or benefits received from, regulatory activities.

WHEREAS, the District analyzes whether assessed fees result in the collection of sufficient revenue to recover the costs of related program activities; these analyses have included contractor-conducted fee studies completed in 1999, 2005, and 2011, and annual District staff-conducted cost recovery updates completed in 2006 through 2010. Each fee study and cost recovery update completed revealed that District fee revenue falls significantly short of recovering the costs of related program activities.

WHEREAS, the District's most recently completed fee study (*Cost Recovery*

and Containment Study, Bay Area Air Quality Management District, Final Report, Matrix Consulting Group, March 9, 2011) concluded that in Fiscal Year Ending (FYE) 2010, the District recovered approximately 62 percent of its fee-related activity costs, resulting in an under-recovery of costs (i.e., a cost recovery gap), and a subsidy to fee payers, of approximately $16.8 million, and that this cost recovery gap resulted despite the implementation of a number of strategies to contain costs.

WHEREAS, cost recovery analyses have indicated that the District's Fee Schedule P: Major Facility Review Fees, which establishes fees for program activities associated with the Title V permit program, has under-recovered costs by an average of $3.4 million per year over the period FYE 2004 through FYE 2010.

WHEREAS, the District's Board of Directors has recognized since 1999 that the District's cost recovery gap has been an issue that needs to be addressed, and since that time has adopted annual fee amendments in order to increase fee revenue.

WHEREAS, in addition to fee revenue, the District receives revenue from Bay Area counties that is derived from property taxes, and a large portion of this tax revenue has historically been used on an annual basis to fill the cost recovery gap.

WHEREAS, the tax revenue that the District receives varies on a year-to-year basis, and cannot necessarily be relied on to fill the cost recovery gap and also cover other District expenses necessitating, in certain years, the use of reserve funds.

WHEREAS, tax revenue that the District receives, to the extent that it is not needed to fill the cost recovery gap, can be used to fund initiatives or programs that may further the District's mission but that lack a dedicated funding source.

WHEREAS, it may be appropriate as a matter of policy to establish specific fee discounts for small businesses, green businesses, or other regulated entities or members of the public, where tax revenue is used to cover a portion of regulatory program activity costs, and the District's existing fee regulation contains several fee discounts of this type.

POLICY

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Bay Area Air Quality Management District that:

(1) Cost Containment –In order to ensure that the costs of its regulatory programs remain reasonable, the District should continue to implement feasible cost containment measures, including the use of appropriate best management practices, without compromising the District's effective implementation and enforcement of applicable regulatory requirements. The District's annual budget documents should include a summary of cost containment measures that are being implemented.

(2) Analysis of Cost Recovery – The District should continue to analyze the extent to which fees recover regulatory program activity costs, both on an overall basis, and at the level of individual fee schedules. These cost recovery analyses should be periodically completed by a qualified District contactor, and should be updated on an annual basis by District staff using a consistent methodology.

(3) Cost Recovery Goals – It is the general policy of the District, except as otherwise noted below, that the costs of regulatory program activities be fully recovered by assessing fees to regulated entities. In order to move towards this goal, the District should amend its fee regulation over the next four years, in conjunction with the adoption of budgets for Fiscal Year Ending (FYE) 2013 through FYE 2016, in a manner sufficient to increase overall recovery of regulatory program activity costs to 85 percent. Amendments to specific fee schedules should also be made in consideration of cost recovery analyses conducted at the fee schedule-level, with larger increases being adopted for the schedules that have the larger cost recovery gaps. This includes Fee Schedule P: Major Facility Review Fees, which has been determined to under-recover costs by a significant amount. Newly adopted regulatory measures should include fees that are designed to recover increased regulatory program activity costs associated with the measure, unless the Board of Directors determines that a portion of those costs should be covered by tax revenue. Tax revenue should also continue to be used to subsidize existing fee discounts that the District provides (e.g., for small businesses, green businesses, and third-party permit appeals), and to cover the cost of the District's wood smoke enforcement program.

BE IT FURTHER RESOLVED that this resolution is non-binding in the case of unforeseen financial circumstances, and may also be reconsidered or updated by the District's Board of Directors.

BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

STAFF REPORT

PROPOSED AMENDMENTS TO BAAQMD REGULATION 3: FEES

APPENDIX B
PROPOSED REGULATORY LANGUAGE

DRAFT

APRIL 2, 2012

REGULATION 3
FEES

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REGULATION 3
FEES

(Adopted June 18, 1980)

3-100 GENERAL

3-101 Description: This regulation establishes fees to be charged for Hearing Board filings, for permits, banking, renewal of permits, costs of environmental documentation, asbestos operations, air toxics inventories, equipment registrations, soil excavation and underground tank removals, and indirect source review.

(Amended 7/6/83; 11/2/83; 2/21/90; 12/16/92; 8/2/95; 12/2/98; 5/21/03; 5/21/08; 5/20/09)

3-102 Deleted July 12, 1989

3-103 Exemption, Abatement Devices: Installation, modification, or replacement of abatement devices on existing sources are subject to fees pursuant to Section 3-302.3. All abatement devices are exempt from annual permit renewal fees. However, emissions from abatement devices, including any secondary emissions, shall be included in facility-wide emissions calculations when determining the applicability of and the fees associated with Schedules M, N, P, and T.

(Amended 6/4/86; 7/1/98; 6/7/00; 5/21/08)

3-104 Deleted August 2, 1995

3-105 Exemption, Excavation of Contaminated Soil and Removal of Underground Storage Tank Operation Fees: Fees shall not be required, pursuant to Section 3-322, for operations associated with the excavation of contaminated soil and the removal of underground storage tanks if one of the following is met:

105.1 The tank removal operation is being conducted within a jurisdiction where the APCO has determined that a public authority has a program equivalent to the District program and persons conducting the operations have met all the requirements of the public authority.

105.2 Persons submitting a written notification for a given site have obtained an Authority to Construct or Permit to Operate in accordance with Regulation 2, Rule 1, Section 301 or 302. Evidence of the Authority to Construct or the Permit to Operate must be provided with any notification required by Regulation 8, Rule 40.

(Adopted 1/5/94; Amended 5/21/03)

3-106 Deleted December 2, 1998

3-107 Exemption, Sources Exempt from Permit Requirements: Any source that is exempt from permit requirements pursuant to Regulation 2, Rule 1, Sections 103 through 128 is exempt from permit fees. However, emissions from exempt sources shall be included in facility-wide emissions calculations when determining the applicability of and the fees associated with Schedules M, N, and P.

(Adopted June 7, 2000)

3-200 DEFINITIONS

3-201 Cancelled Application: Any application which has been withdrawn by the applicant or cancelled by the APCO for failure to pay fees or to provide the information requested to make an application complete.

(Amended 6/4/86; 4/6/88)

3-202 Gasoline Dispensing Facility: Any stationary facility which dispenses gasoline directly into the fuel tanks of vehicles, such as motor vehicles, aircraft or boats. The facility shall be treated as a single source which includes all necessary equipment for the exclusive use of

the facility, such as nozzles, dispensers, pumps, vapor return lines, plumbing and storage tanks.

(Amended February 20, 1985)

3-203 **Filing Fee:** A fixed fee for each source in an authority to construct.

(Amended June 4, 1986)

3-204 **Initial Fee:** The fee required for each new or modified source based on the type and size of the source. The fee is applicable to new and modified sources seeking to obtain an authority to construct. Operation of a new or modified source is not allowed until the permit to operate fee is paid.

(Amended June 4, 1986)

3-205 **Authority to Construct:** Written authorization from the APCO, pursuant to Section 2-1-301, for a source to be constructed or modified or for a source whose emissions will be reduced by the construction or modification of an abatement device.

(Amended June 4, 1986)

3-206 **Modification:** See Section 1-217 of Regulation 1.

3-207 **Permit to Operate Fee:** The fee required for the annual renewal of a permit to operate or for the first year of operation (or prorated portion thereof) of a new or modified source which received an authority to construct.

(Amended 6/4/86; 7/15/87; 12/2/98; 6/7/00)

3-208 **Deleted June 4, 1986**

3-209 **Small Business:** A business with no more than 10 employees and gross annual income of no more than $750,000 that is not an affiliate of a non-small business.

(Amended 6/4/86; 6/6/90; 6/7/00; 6/15/05; 6/16/10)

3-210 **Solvent Evaporating Source:** Any source utilizing organic solvent, as part of a process in which evaporation of the solvent is a necessary step. Such processes include, but are not limited to, solvent cleaning operations, painting and surface coating, rotogravure coating and printing, flexographic printing, adhesive laminating, etc. Manufacture or mixing of solvents or surface coatings is not included.

(Amended July 3, 1991)

3-211 **Source:** See Section 1-227 of Regulation 1.

3-212 **Deleted August 2, 1995**

3-213 **Major Stationary Source:** For the purpose of Schedule M, a major stationary source shall be any District permitted plant, building, structure, stationary facility or group of facilities under the same ownership, leasehold, or operator which, in the base calendar year, emitted to the atmosphere organic compounds, oxides of nitrogen (expressed as nitrogen dioxide), oxides of sulfur (expressed as sulfur dioxide), or PM_{10} in an amount calculated by the APCO equal to or exceeding 50 tons per year.

(Adopted 11/2/83; Amended 2/21/90; 6/6/90; 8/2/95; 6/7/00)

3-214 **Deleted October 20, 1999, effective March 1, 2000**

3-215 **Deleted October 20, 1999, effective March 1, 2000**

3-216 **Deleted October 20, 1999, effective March 1, 2000**

3-217 **Deleted October 20, 1999, effective March 1, 2000**

3-218 **Deleted October 20, 1999, effective March 1, 2000**

3-219 **Deleted October 20, 1999, effective March 1, 2000**

3-220 **Deleted October 20, 1999, effective March 1, 2000**

3-221 **Deleted October 20, 1999, effective March 1, 2000**

3-222 **Deleted October 20, 1999, effective March 1, 2000**

3-223 **Start-up Date:** Date when new or modified equipment under an authority to construct begins operating. The holder of an authority to construct is required to notify the APCO of this date at least 3 days in advance. For new sources, or modified sources whose authorities to construct have expired, operating fees are charged from the startup date.

(Adopted 6/4/86; Amended 6/6/90)

3-224 **Permit to Operate:** Written authorization from the APCO pursuant to Section 2-1-302.

(Adopted 6/4/86; Amended 6/7/00)

3-225 **Minor Modification:** Any physical change or alteration to a source listed on Schedules G-3, G-4, or G-5 that will not increase emissions of any air contaminant. Such modifications may include alterations to improve energy and operational efficiency and those that reduce emissions. Alterations to increase actual or maximum production capacity shall not be considered minor modifications. Final determination of the applicability of this section shall be made by the APCO.

(Adopted 6/6/90; Amended 5/4/11)

3-226 **Air Toxics "Hot Spots" Information and Assessment Act of 1987:** The Air Toxics "Hot Spots" Information and Assessment Act of 1987 directs the California Air Resources Board and the Air Quality Management Districts to collect information from industry on emissions of potentially toxic air contaminants and to inform the public about such emissions and their impact on public health. It also directs the Air Quality Management District to collect fees sufficient to cover the necessary state and District costs of implementing the program.

(Adopted 10/21/92; Amended 6/15/05)

3-227 **Toxic Air Contaminant, or TAC:** An air pollutant that may cause or contribute to an increase in mortality or in serious illness or that may pose a present or potential hazard to human health. For the purposes of this rule, TACs consist of the substances listed in Table 2-5-1 of Regulation 2, Rule 5.

(Adopted 10/21/92; Amended 6/15/05)

3-228 **Deleted December 2, 1998**

3-229 **Deleted December 2, 1998**

3-230 **Deleted December 2, 1998**

3-231 **Deleted December 2, 1998**

3-232 **Deleted December 2, 1998**

3-233 **Deleted December 2, 1998**

3-234 **Deleted December 2, 1998**

3-235 **Deleted December 2, 1998**

3-236 **Deleted December 2, 1998**

3-237 **PM_{10}:** See Section 2-1-229 of Regulation 2, Rule 1.

(Adopted June 7, 2000)

3-238 **Risk Screening Fee:** Fee for a new or modified source of toxic air contaminants for which a health risk screening analysis (HRSA) is required under Regulation 2-5-401, or for an HRSA prepared for other purposes (e.g., for determination of permit exemption in accordance with Regulations 2-1-316, 2-5-301 and 2-5-302; or for determination of exemption from emission control requirements pursuant to Regulation 8-47-113 and 8-47-402).

(Adopted June 15, 2005)

3-239 **Toxic Surcharge**: Fee paid in addition to the permit to operate fee for a source that emits one or more toxic air contaminants at a rate which exceeds a chronic trigger level listed in Table 2-5-1.

(Adopted June 15, 2005)

3-240 **Biogenic Carbon Dioxide:** Carbon dioxide emissions resulting from materials that are derived from living cells, excluding fossil fuels, limestone and other materials that have been transformed by geological processes. Biogenic carbon dioxide originates from carbon (released in the form of emissions) that is present in materials that include, but are not limited to, wood, paper, vegetable oils, animal fat, and food, animal and yard waste.

(Adopted May 21, 2008)

3-241 **Green Business:** A business or government agency that has been certified under the Bay Area Green Business Program coordinated by the Association of Bay Area Governments and implemented by participating counties.

(Adopted June 16, 2010)

3-300 STANDARDS

3-301 Hearing Board Fees: Applicants for variances or appeals or those seeking to revoke or modify variances or abatement orders or to rehear a Hearing Board decision shall pay the applicable fees, including excess emission fees, set forth in Schedule A.

(Amended June 7, 2000)

3-302 Fees for New and Modified Sources: Applicants for authorities to construct and permits to operate new sources shall pay for each new source: a filing fee of~~$389~~$416, the initial fee, the risk screening fee, the permit to operate fee, and toxic surcharge (given in Schedules B, C, D, E, F, H, I or K). Applicants for authorities to construct and permits to operate modified sources shall pay for each modified source, a filing fee of ~~$389~~$416, the initial fee, the risk screening fee, and any incremental increase in permit to operate and toxic surcharge fees. Where more than one of the schedules is applicable to a source, the fee paid shall be the highest of the applicable schedules. Except for gasoline dispensing facilities (Schedule D) and semiconductor facilities (Schedule H), the size to be used for a source when applying the schedules shall be the maximum size the source will have after the construction or modification. Where applicable, fees for new or modified sources shall be based on maximum permitted usage levels or maximum potential to emit including any secondary emissions from abatement equipment. The APCO may reduce the fees for new and modified sources by an amount deemed appropriate if the owner or operator of the source attends an Industry Compliance School sponsored by the District.

302.1 Small Business Discount: If an applicant qualifies as a small business and the source falls under schedules B, C, D (excluding gasoline dispensing facilities), E, F, H, I or K, the filing fee, initial fee, and risk screening fee shall be reduced by 50%. All other applicable fees shall be paid in full.

302.2 Deleted July 3, 1991

302.3 Fees for Abatement Devices: Applicants for an authority to construct and permit to operate abatement devices where there is no other modification to the source shall pay a ~~$389~~$416 filing fee and initial and risk screening fees that are equivalent to 50% of the initial and risk screening fees for the source being abated. For abatement devices abating more than one source, the initial fee shall be 50% of the initial fee for the source having the highest initial fee.

302.4 Fees for Reactivated Sources: Applicants for a Permit to Operate reactivated, previously permitted equipment shall pay the full filing, initial, risk screening, permit, and toxic surcharge fees.

302.5 Schedule G Fees: Applicants for minor modifications to permitted sources subject to Schedules G-3, G-4, or G-5 shall pay filing, initial, risk screening, permit to operate, and toxic surcharge fees specified under Schedule G-2. Permit renewal fees will continue to be charged under Schedules G-3, G-4, and G-5.

302.6 Green Business Discount: If an applicant qualifies as a green business, the filing fee, initial fee, and risk screening fee shall be reduced by 10%. All other applicable fees shall be paid in full.

(Amended 5/19/82; 7/6/83; 6/4/86; 7/15/87; 6/6/90; 7/3/91; 6/15/94; 10/8/97; 7/1/98; 5/19/99; 6/7/00; 6/6/01, 5/1/02; 5/21/03; 6/2/04; 6/15/05; 6/7/06; 5/2/07; 5/21/08; 5/20/09; 6/16/10; 5/4/11)

3-303 Back Fees: An applicant required to obtain a permit to operate existing equipment in accordance with District regulations shall pay back fees equal to the permit to operate fees and toxic surcharges given in the appropriate Schedule (B, C, D, E, F, H, I or K) prorated from the effective date of permit requirements. Where more than one of these schedules is applicable to a source, the fee paid shall be the highest of the applicable schedules. The applicant shall also pay back fees equal to toxic inventory fees pursuant to Section 3-320 and Schedule N. The maximum back fee shall not exceed a total of five years' permit, toxic surcharge, and toxic inventory fees. An owner/operator required to register existing

equipment in accordance with District regulations shall pay back fees equal to the annual renewal fee given in Schedule R prorated from the effective date of registration requirements, up to a maximum of five years.

(Amended 5/19/82; 7/6/83; 6/4/86; 7/15/87, 6/6/90; 7/3/91; 10/8/97; 6/15/05; 5/20/09)

3-304 Alteration: An applicant to alter an existing permitted source shall pay only the filing fee, provided that the alteration does not result in an increase in emissions of any regulated air pollutant.

(Amended 6/4/86; 11/15/00; 6/2/04)

3-305 Cancellation or Withdrawal: There will be no refund of initial, risk screening, and filing fees if an application is cancelled or withdrawn. However, if an application for identical equipment is submitted within six months of the date of cancellation or withdrawal, the initial fee will be credited in full against the fee for the new application.

(Amended 7/6/83; 4/6/88; 10/8/97; 6/15/05)

3-306 Change in Conditions: If an applicant applies to change the conditions on an existing authority to construct or permit to operate, the applicant will pay the following fees. There will be no change in anniversary date.

306.1 Administrative Condition Changes: An applicant applying for an administrative change in permit conditions shall pay a fee equal to the filing fee for a single source, provided the following criteria are met:

1.1 The condition change applies to a single source or a group of sources with shared permit conditions.

1.2 The condition change does not subject the source(s) to any District Regulations or requirements that were not previously applicable.

1.3 The condition change does not result in any increase in emissions of POC, NPOC, NO_x, CO, SO_2, or PM_{10} at any source or the emission of a toxic air contaminant above the trigger levels identified in Table 2-5-1

1.4 The condition change does not require a public notice.

306.2 Other Condition Changes: Applicant shall pay the filing, initial, and risk screening fees required for new and modified equipment under Section 3-302. If the condition change will result in higher permit to operate fees, the applicant shall also pay any incremental increases in permit to operate fees and toxic surcharges.

(Amended 7/6/83; 6/4/86; 6/6/90; 10/8/97; 6/7/00; 6/15/05)

3-307 Transfers: The owner/operator of record is the person to whom a permit is issued or, if no permit has yet been issued to a facility, the person who applied for a permit. Permits are valid only for the owner/operator of record. Permits are re-issued to the new owner/operator of record with no change in expiration dates.

(Amended 2/20/85; 6/4/86; 11/5/86; 4/6/88; 10/8/97, 5/1/02; 5/21/03; 6/02/04)

3-308 Change of Location: An applicant who wishes to move an existing source, which has a permit to operate, shall pay no fee if the move is on the same facility. If the move is not on the same facility, the source shall be considered a new source and subject to Section 3-302. This section does not apply to portable permits meeting the requirements of Regulation 2-1-220 and 413.

(Amended 7/6/83; 6/4/86; 6/15/05)

3-309 Duplicate Permit: An applicant for a duplicate permit to operate shall pay a fee of $72 per permit.

(Amended 5/19/99, 5/1/02; 5/21/03; 6/02/04; 6/15/05; 6/7/06; 5/2/07; 5/21/08; 5/20/09; 6/16/10)

3-310 Fee for Constructing Without a Permit: An applicant for an authority to construct and a permit to operate a source, which has been constructed or modified without an authority to construct, shall pay the following fees:

310.1 Sources subject to permit requirements on the date of initial operation shall pay fees for new construction pursuant to Section 3-302, any back fees pursuant to Section 3-303, and a late fee equal to 100% of the initial fee~~, plus the risk screening fee~~. A

modified gasoline dispensing facility subject to Schedule D that is not required to pay an initial fee shall pay fees for a modified source pursuant to Section 3-302, back fees, and a late fee equal to 100% of the filing fee~~, plus the risk screening fee~~.

310.2 Sources previously exempt from permit requirements that lose their exemption due to changes in District, state, or federal regulations shall pay a permit to operate fee and toxic surcharge for the coming year and any back fees pursuant to Section 3-303.

310.3 Sources previously exempt from permit requirements that lose their exemption due to a change in the manner or mode of operation, such as an increased throughput, shall pay fees for new construction pursuant to Section 3-302. In addition, sources applying for permits after commencing operation in a non-exempt mode shall also pay a late fee equal to 100% of the initial fee ~~plus the risk screening fee~~ and any back fees pursuant to Section 3-303.

310.4 Sources modified without a required authority to construct shall pay fees for modification pursuant to Section 3-302 and a late fee equal to 100% of the initial fee.

(Amended 7/6/83; 4/18/84; 6/4/86; 6/6/90; 7/3/91; 8/2/95; 10/8/97; 6/02/04; 6/15/05)

3-311 Banking: Any applicant who wishes to bank emissions for future use, or convert an ERC into an IERC, shall pay a filing fee of ~~$389~~$416 per source plus the initial fee given in Schedules B, C, D, E, F, H, I or K. Where more than one of these schedules is applicable to a source, the fee paid shall be the highest of the applicable schedules. Any applicant for the withdrawal of banked emissions shall pay a fee of ~~$389~~$416.

(Amended 7/6/83; 6/4/86; 7/15/87; 7/3/91; 6/15/94; 7/1/98; 5/19/99; 6/7/00; 6/6/01; 5/1/02; 5/21/03; 6/02/04; 6/15/05; 6/7/06; 5/2/07; 5/21/08; 5/20/09; 6/16/10; 5/4/11)

3-312 Emission Caps and Alternative Compliance Plans: Any facility which elects to use an alternative compliance plan contained in:

312.1 Regulation 8 ("bubble") to comply with a District emission limitation or to use an annual or monthly emission limit to acquire a permit in accordance with the provisions of Regulation 2, Rule 2, shall pay an additional annual fee equal to fifteen percent of the total plant permit to operate fee.

312.2 Regulation 2, Rule 9 shall pay an annual fee of ~~$982~~$1,051 for each source included in the alternative compliance plan, not to exceed ~~$9,827~~$10,515.

(Adopted 5/19/82; Amended 6/4/86; 5/19/99; 6/7/00; 6/6/01; 5/1/02; 5/23/03 6/2/04; 6/15/05; 6/7/06; 5/2/07; 5/21/08; 5/20/09; 6/16/10; 5/4/11)

3-313 Deleted May 19, 1999

3-314 Deleted August 2, 1995

3-315 Costs of Environmental Documentation: An applicant for an Authority to Construct a project which is subject to review under the California Environmental Quality Act (Public Resources Code, Section 21000, et seq.) shall pay, in addition to the fees required under Section 3-302 and in any applicable schedule, the District's costs of performing all environmental evaluation required pursuant to the California Environmental Quality Act, the District's costs in preparing any environmental study or Environmental Impact Report (including the costs of any outside consulting assistance which the District may employ in connection with the preparation of any such study or report), as well as the District's reasonable internal costs (including overhead) of processing and reviewing the required environmental documentation.

(Adopted 12/18/85; Amended 5/1/02)

3-316 Deleted June 6, 1990

3-317 Asbestos Operation Fees: After July 1, 1988, persons submitting a written plan, as required by Regulation 11, Rule 2, Section 401, to conduct an asbestos operation shall pay the fee given in Schedule L.

(Adopted 7/6/88; Renumbered 9/7/88; Amended 8/2/95)

3-318 Public Notice Fee, Schools: Pursuant to Section 42301.6(b) of the Health and Safety Code, an applicant for an authority to construct or permit to operate subject to the public

notice requirements of Regulation 2-1-412 shall pay, in addition to the fees required under Section 3-302 and in any applicable schedule, a fee to cover the expense of preparing and distributing the public notices to the affected persons specified in Regulation 2-1-412 as follows:

318.1 A fee of $2100 per application, and

318.2 The District's cost exceeding $2100 of preparing and distributing the public notice.

318.3 The District shall refund to the applicant the portion of any fee paid under this Section that exceeds the District's cost of preparing and distributing the public notice.

(Adopted 11/1/89; Amended 10/8/97; 7/1/98; 5/19/99; 6/7/00; 5/21/03; 6/2/04; 6/16/10)

3-319 Major Stationary Source Fees: Any major stationary source emitting 50 tons per year of organic compounds, sulfur oxides, nitrogen oxides, or PM_{10} shall pay a fee based on Schedule M. This fee is in addition to permit and other fees otherwise authorized to be collected from such facilities and shall be included as part of the annual permit renewal fees.

(Adopted 6/6/90; Amended 8/2/95; 6/7/00)

3-320 Toxic Inventory Fees: Any facility that emits one or more toxic air contaminants in quantities above a minimum threshold level shall pay an annual fee based on Schedule N. This fee will be in addition to permit to operate, toxic surcharge, and other fees otherwise authorized to be collected from such facilities.

320.1 An applicant who qualifies as a small business under Regulation 3-209 shall pay a Toxic Inventory Fee as set out in Schedule N up to a maximum fee of $8,944 per year.

(Adopted 10/21/92; Amended 5/19/99; 5/21/03; 6/2/04; 6/15/05; 6/7/06; 5/2/07; 5/20/09; 6/16/10; 5/4/11)

3-321 Deleted December 2, 1998

3-322 Excavation of Contaminated Soil and Removal of Underground Storage Tank Operation Fees: Persons submitting a written notification for a given site to conduct either excavation of contaminated soil or removal of underground storage tanks as required by Regulation 8, Rule 40, Section 401, 402, 403 or 405 shall pay a fee based on Schedule Q.

(Adopted 1/5/94; Amended 8/2/95; 5/21/03)

3-323 Pre-Certification Fees: An applicant seeking to pre-certify a source, in accordance with Regulation 2, Rule 1, Section 415, shall pay the filing fee, initial fee and permit to operate fee given in the appropriate schedule.

(Adopted June 7, 1995)

3-324 Deleted June 7, 2000

3-325 Deleted December 2, 1998

3-326 Deleted December 2, 1998

3-327 Permit to Operate, Renewal Fees: After the expiration of the initial permit to operate, the permit to operate shall be renewed on an annual basis or other time period as approved by the APCO. The fee required for the renewal of a permit to operate is the permit to operate fee and toxic surcharge listed in Schedules B, C, D, E, F, H, I, and K, prorated for the period of coverage. When more than one of the schedules is applicable to a source, the fee paid shall be the highest of the applicable schedules. This renewal fee is applicable to all sources required to obtain permits to operate in accordance with District regulations. The permit renewal invoice shall also specify any applicable major stationary source fees based on Schedule M, toxic inventory fees based on Schedule N, major facility review fees based on Schedule P, and greenhouse gas fees based on Schedule T. Where applicable, renewal fees shall be based on actual usage or emission levels that have been reported to or calculated by the District. In addition to these renewal fees for the sources at a facility, the facility shall also pay a processing fee at the time of renewal as follows:

327.1 ~~$77~~$82 for facilities with one permitted source, including gasoline dispensing facilities,

327.2 ~~$151~~$162 for facilities with 2 to 5 permitted sources,

327.3 ~~$301~~$322 for facilities with 6 to 10 permitted sources,

327.4 ~~$452~~$484 for facilities with 11 to 15 permitted sources,
327.5 ~~$601~~$643 for facilities with 16 to 20 permitted sources,
327.6 ~~$752~~$805 for facilities with more than 20 permitted sources.

(Adopted 6/7/00; Amended 6/2/04; 6/16/04; 6/15/05; 6/7/06; 5/2/07; 5/21/08; 5/20/09; 6/16/10; 5/4/11)

3-328 **Fee for OEHHA Risk Assessment Reviews:** Any facility that submits a health risk assessment to the District in accordance with Section 44361 of the California Health and Safety Code shall pay any fee requested by the State Office of Environmental Health Hazard Assessment (OEHHA) for reimbursement of that agency's costs incurred in reviewing the risk assessment.

(Adopted June 7, 2000)

3-329 **Fee for Risk Screening**: A health risk screening analysis (HRSA) required pursuant to Regulation 2, Rule 5 shall be subject to an appropriate Risk Screening Fee pursuant to Regulation 3-302 and Schedules B, C, D, E, F, H, I or K. In addition, any person that requests that the District prepare or review an HRSA (e.g., for determination of permit exemption in accordance with Regulations 2-1-316, 2-5-301 and 2-5-302; or for determination of exemption from emission control requirements pursuant to Regulation 8-47-113 and 8-47-402) shall pay a Risk Screening Fee.

(Adopted June 15, 2005)

3-330 **Fee for Renewing an Authority to Construct:** An applicant seeking to renew an authority to construct in accordance with Regulation 2-1-407 shall pay a fee of 50% of the initial fee in effect at the time of the renewal. If the District determines that an authority to construct cannot be renewed, any fees paid under this section shall be credited in full against the fee for a new authority to construct for functionally equivalent equipment submitted within six months of the date the original authority to construct expires.

(Adopted June 15, 2005)

3-331 **Registration Fees:** Any person who is required to register equipment under District rules shall submit a registration fee, and any annual fee thereafter, as set out in Schedule R. The APCO may reduce registration fees by an amount deemed appropriate if the owner or operator of the equipment attends an Industry Compliance School sponsored by the District.

(Adopted June 6, 2007; Amended 6/16/10)

3-332 **Naturally Occurring Asbestos Fees**: After July 1, 2007, any person required to submit an Asbestos Dust Mitigation Plan (ADMP) pursuant to Title 17 of the California Code of Regulations, Section 93105, Asbestos Air Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations shall pay the fee(s) set out in Schedule S.

(Adopted June 6, 2007)

3-333 **Major Facility Review (MFR) and Synthetic Minor Application Fees**: Any facility that applies for, or is required to undergo, an initial MFR permit, an amendment to an MFR permit, a minor or significant revision to an MFR permit, a reopening of an MFR permit, a renewal of an MFR permit, an initial synthetic minor operating permit, or a revision to a synthetic minor operating permit, shall pay the applicable fees set forth in Schedule P.

(Adopted May 21, 2008)

3-334 **Greenhouse Gas Fees:** Any permitted facility with greenhouse gas emissions shall pay a fee based on Schedule T. This fee is in addition to permit and other fees otherwise authorized to be collected from such facilities, and shall be included as part of the annual permit renewal fees.

(Adopted May 21, 2008)

3-335 **Indirect Source Review Fees:** Applicants that must file an Air Quality Impact Assessment pursuant to District rules for a project that is deemed to be an indirect source shall pay a fee based on Schedule U.

(Adopted May 20, 2009)

3-400 ADMINISTRATIVE REQUIREMENTS

3-401 Permits: Definitions, standards, and conditions contained in Regulation 2, Permits, are applicable to this regulation.

3-402 Single Anniversary Date: The APCO may assign a single anniversary date to a facility on which all its renewable permits to operate expire and will require renewal. Fees will be prorated to compensate for different time periods resulting from change in anniversary date.

3-403 Change in Operating Parameters: See Section 2-1-404 of Regulation 2, Rule 1.

3-404 Deleted June 7, 2000

3-405 Fees Not Paid: If an applicant or owner/operator fails to pay the fees specified on the invoice by the due date, the following procedure(s) shall apply:

405.1 Authority to Construct: The application will be cancelled, but can be reactivated upon payment of fees.

405.2 New Permit to Operate: The Permit to Operate shall not be issued, and the facility will be notified that operation, including startup, is not authorized.

2.1 Fees received during the first 30 days following the due date must include an additional late fee equal to 10 percent of all fees specified on the invoice.

2.2 Fees received more than 30 days after the due date must include an additional late fee equal to 50 percent of all fees specified on the invoice.

405.3 Renewal of Permit to Operate: The facility will be notified that the permit has lapsed and that further operation is no longer authorized. Reinstatement of lapsed Permits to Operate will require the payment of reinstatement fees in addition to all fees specified on the invoice. Fees shall be calculated using fee schedules in effect at either the time of reinstatement or at the time additional fees are assessed under subsection 3-405.2.

3.1 Fees received during the first 30 days following the due date must include all fees specified on the invoice plus a reinstatement fee equal to 10 percent of all fees specified on the invoice.

3.2 Fees received more than 30 days after the due date, but less than one year after the due date, must include all fees specified on the invoice plus a reinstatement fee equal to 50 percent of all fees specified on the invoice.

405.4 Other Fees: Persons who have not paid the fee by the invoice due date, shall pay a late fee in addition to the original invoiced fee. Fees shall be calculated using fee schedules in effect at the time of the fees' original determination.

4.1 Fees received more than 30 days after the invoice due date must include a late fee of 10 percent of the original invoiced fee.

(Amended 7/6/83; 6/4/86; 11/5/86; 2/15/89; 6/6/90; 7/3/91; 8/2/95; 12/2/98; 6/15/05; 6/7/06)

3-406 Deleted June 4, 1986

3-407 Deleted August 2, 1995

3-408 Permit to Operate Valid for 12 Months: A Permit to Operate is valid for 12 months from the date of issuance or other time period as approved by the APCO.

(Amended 6/4/86; Amended 6/7/00)

3-409 Deleted June 7, 2000

3-410 Deleted August 2, 1995

3-411 Advance Deposit of Funds: The APCO may require that at the time of the filing of an application for an Authority to Construct for a project for which the District is a lead agency under the California Environmental Quality Act (Public Resources Code, Section 21000, et seq.), the applicant shall make an advance deposit of funds, in an amount to be specified by the APCO, to cover the costs which the District estimates to incur in connection with the District's performance of its environmental evaluation and the preparation of any required environmental documentation. In the event the APCO requires such an estimated advance payment to be made, the applicant will be provided with a full accounting of the costs actually

incurred by the District in connection with the District's performance of its environmental evaluation and the preparation of any required environmental documentation.

(Adopted 12/18/85; Amended 8/2/95)

3-412 Deleted December 2, 1998

3-413 Toxic "Hot Spots" Information and Assessment Act Revenues: No later than 120 days after the adoption of this regulation, the APCO shall transmit to the California Air Resources Board, for deposit into the Air Toxics "Hot Spots" Information and Assessment Fund, the revenues determined by the ARB to be the District's share of statewide Air Toxics "Hot Spot" Information and Assessment Act expenses.

(Adopted October 21, 1992)

3-414 Deleted December 2, 1998

3-415 Failure to Pay - Further Actions: When an applicant or owner/operator fails to pay the fees specified on the invoice by the due date, the APCO may take the following actions against the applicant or owner/operator:

415.1 Issuance of a Notice to Comply.

415.2 Issuance of a Notice of Violation.

415.3 Revocation of an existing Permit to Operate. The APCO shall initiate proceedings to revoke permits to operate for any person who is delinquent for more than one month. The revocation process shall continue until payment in full is made or until permits are revoked.

415.4 The withholding of any other District services as deemed appropriate until payment in full is made.

(Adopted 8/2/95; Amended 12/2/98; 6/15/05)

3-416 Adjustment of Fees: The APCO or designees may, upon finding administrative error by District staff in the calculation, imposition, noticing, invoicing, and/or collection of any fee set forth in this rule, rescind, reduce, increase, or modify the fee. A request for such relief from an administrative error, accompanied by a statement of why such relief should be granted, must be received within two years from the date of payment.

(Adopted October 8, 1997)

3-417 Temporary Amnesty for Unpermitted and Unregistered Sources: The APCO has the authority to declare an amnesty period, during which the District may waive all or part of the back fees and/or late fees for sources that are currently operating without valid Permits to Operate and/or equipment registrations.

(Adopted June 16, 2010)

SCHEDULE A
HEARING BOARD FEES[1]

Established by the Board of Directors December 7, 1977 Resolution No. 1046
(Code section references are to the California Health & Safety Code, unless otherwise indicated)

		Large Companies	Small Business	Third Party
1.	For each application for variance exceeding 90 days, in accordance with §42350, including applications on behalf of a class of applicants, which meet the requirements of the Hearing Board Rules for a valid and proper class action for variance	~~$2744~~	~~$410~~	
	Plus, for each hearing in addition to the first hearing necessary to dispose of said variance application in accordance with §42350, the additional sum of	$2991	$447	
		~~$1373~~	~~$138~~	
		$1497	$150	
2.	For each application for variance not exceeding 90 days, in accordance with §42350, including applications on behalf of a class of applicants, which meet the requirements of the Hearing Board Rules for a valid and proper class action for variance	~~$1648~~	~~$410~~	
	Plus, for each hearing in addition to the first hearing necessary to dispose of said variance application, in accordance with §42350, the additional sum of	$1796	$447	
		~~$822~~	~~$138~~	
		$896	$150	
3.	For each application to modify a variance in accordance with §42356 ...	~~$1094~~	~~$138~~	
	Plus, for each hearing in addition to the first hearing on said application to modify a variance, in accordance with §42345, necessary to dispose of the application, the additional sum of.....	$1192	$150	
		~~$822~~	~~$138~~	
		$896	$150	
4.	For each application to extend a variance, in accordance with §42357 ..	~~$1094~~	~~$138~~	
	Plus, for each hearing in addition to the first hearing on an application to extend a variance, in accordance with §42357, necessary to dispose of the application, the additional sum of.....	$1192	$150	
		~~$822~~	~~$138~~	
		$896	$150	
5.	For each application to revoke a variance	~~$1648~~	~~$138~~	
		$1796	$150	
6.	For each application for approval of a Schedule of Increments of Progress in accordance with §41703.....	~~$1094~~	~~$138~~	
		$1192	$150	
7.	For each application for variance in accordance with §41703, which exceeds 90 days	~~$2744~~	~~$410~~	
	Plus, for each hearing in addition to the first hearing on said application for variance in accordance with §41703, the additional sum of.....	$2991	$447	
		~~$1373~~	~~$138~~	
		$1497	$150	

		Large Companies	Small Business	Third Party
8.	For each application for variance in accordance with §41703, not to exceed 90 days ..... Plus, for each hearing in addition to the hearing on said application for a variance in accordance with §41703, the additional sum of	~~$1648~~ $1796 ~~$822~~ $896	~~$410~~ $447 ~~$138~~ $150	
9.	For each Appeal (Permit, Banking, Title V).....	~~$2744~~ $2991 per hearing day	~~$1373~~ $1497 per hearing day	~~$1373~~ $1497 for entire appeal period
10.	For each application for intervention in accordance with Hearing Board Rules §§2.3, 3.6 & 4.6.....	~~$1373~~ $1497	~~$276~~ $301	
11.	For each application to Modify or Terminate an abatement order.....	~~$2744~~ $2991 per hearing day	~~$1373~~ $1497 per hearing day	
12.	For each application for an interim variance in accordance with §42351	~~$1373~~ $1497	~~$276~~ $301	
13.	For each application for an emergency variance in accordance with §42359.5	~~$685~~ $747	~~$138~~ $150	
14.	For each application to rehear a Hearing Board decision in accordance with §40861.....	100% of previous fee charged	100% of previous fee charged	
15.	Excess emission fees.....	See Attachment I	See Attachment I	
16.	Miscellaneous filing fee for any hearing not covered above	~~$1373~~ $1497	~~$410~~ $447	~~$410~~ $447
17.	For each published Notice of Public Hearing.....	Cost of Publication	$0	$0
18.	Court Reporter Fee (to be paid only if Court Reporter required for hearing)	Actual Appearance and Transcript costs per hearing solely dedicated to one Docket	$0	Actual Appearance and Transcript costs per hearing solely dedicated to one Docket

NOTE 1 Any applicant who believes they have a hardship for payment of fees may request a fee waiver from the Hearing Board pursuant to Hearing Board Rules.

(Amended 10/8/97; 5/19/99; 6/7/00; 6/6/01, 5/1/02; 5/21/03; 6/2/04; 6/15/05; 6/7/06; 5/2/07; 5/21/08; 5/20/09; 6/16/10; 5/4/11)

SCHEDULE A
ATTACHMENT I
EXCESS EMISSION FEE

A. General

(1) Each applicant or petitioner for a variance from these Rules and Regulations shall pay to the Clerk or Deputy Clerk of the Hearing Board, in addition to the other filing fees required in Schedule A, an emission fee based on the total weight of emissions discharged, per source or product, other than those described in division (B) below, during the variance period in excess of that allowed by these rules in accordance with the schedule set forth in Table I.

(2) Where the total weight of emission discharged cannot be easily calculated, the petitioner shall work in concert with District staff to establish the amount of excess emissions to be paid.

(3) In the event that more than one rule limiting the discharge of the same contaminant is violated, the excess emission fee shall consist of the fee for violation which will result in the payment of the greatest sum. For the purposes of this subdivision, opacity rules and particulate mass emissions shall not be considered rules limiting the discharge of the same contaminant.

B. Excess Visible Emission Fee

Each applicant or petitioner for a variance from Regulation 6 or Health and Safety Code Section 41701 shall pay to the Clerk or Deputy Clerk of the Hearing Board, in addition to the filing fees required in Schedule A and the excess emission fees required in (A) above (if any), an emission fee based on the difference between the percent opacity allowed by Regulation 6 and the percent opacity of the emissions allowed from the source or sources operating under the variance, in accordance with the schedule set forth in Table II.

In the event that an applicant or petitioner is exempt from the provisions of Regulation 6, the applicant or petitioner shall pay a fee calculated as described herein above, but such fee shall be calculated based upon the difference between the opacity allowed under the variance and the opacity allowed under the provisions of Health and Safety Code Section 41701, in accordance with the schedule set forth in Table II.

C. Applicability

The provisions of subdivision (A) shall apply to all variances that generate excess emissions.

D. Fee Determination

(1) The excess emission fees shall be calculated by the petitioner based upon the requested number of days of operation under variance multiplied by the expected excess emissions as set forth in subdivisions (A) and (B) above. The calculations and proposed fees shall be set forth in the petition.

(2) The Hearing Board may adjust the excess emission fee required by subdivisions (A) and (B) of this rule based on evidence regarding emissions presented at the time of the hearing.

E. Small Businesses

(1) A small business shall be assessed twenty percent (20%) of the fees required by subdivisions (A) and (B), whichever is applicable. "Small business" is defined in the Fee Regulation.

(2) Request for exception as a small business shall be made by the petitioner under penalty of perjury on a declaration form provided by the Executive Officer which shall be submitted to the Clerk or Deputy Clerk of the Hearing Board at the time of filing a petition for variance.

F. Group, Class and Product Variance Fees

Each petitioner included in a petition for a group, class or product variance shall pay the filing fee specified in Schedule A, and the excess emission fees specified in subdivisions (A) and (B), whichever is applicable.

G. Adjustment of Fees

If after the term of a variance for which emission fees have been paid, petitioner can establish, to the satisfaction of the Executive Officer/APCO, that emissions were actually less than those upon which the fee was based, a pro rata refund shall be made.

H. Fee Payment/Variance Invalidation

(1) Excess emission fees required by subdivisions (A) and (B), based on an estimate provided during the variance Hearing, are due and payable within fifteen (15) days of the granting of the variance. The petitioner shall be notified in writing of any adjustment to the amount of excess emission fees due, following District staff's verification of the estimated emissions. Fee payments to be made as a result of an adjustment are due and payable within fifteen (15) days of notification of the amount due.

(2) Failure to pay the excess emission fees required by subdivisions (A) and (B) within fifteen (15) days of notification that a fee is due shall automatically invalidate the variance. Such notification may be given by personal service or by deposit, postpaid, in the United States mail and shall be due fifteen (15) days from the date of personal service or mailing. For the purpose of this rule, the fee payment shall be considered to be received by the District if it is postmarked by the United States Postal Service on or before the expiration date stated on the billing notice. If the expiration date falls on a Saturday, Sunday, or a state holiday, the fee payment may be postmarked on the next business day following the Saturday, Sunday, or the state holiday with the same effect as if it had been postmarked on the expiration date.

TABLE I
SCHEDULE OF EXCESS EMISSIONS FEES

Air Contaminants	All at ~~$2.63~~$2.87 Per Pound

Organic gases, except methane and those containing sulfur
Carbon Monoxide
Oxides of nitrogen (expressed as nitrogen dioxide)
Gaseous sulfur compounds (expressed as sulfur dioxide)
Particulate matter

Toxic Air Contaminants	All at ~~$13.08~~$14.26 Per Pound

Asbestos
Benzene
Cadmium
Carbon tetrachloride
Chlorinated dioxins and dibenzofurans (15 species)
Ethylene dibromide
Ethylene dichloride
Ethylene oxide
Formaldehyde
Hexavalent chromium
Methylene chloride
Nickel
Perchloroethylene
1,3-Butadiene
Inorganic arsenic
Beryllium
Polynuclear aromatic hydrocarbons (PAH)
Vinyl chloride
Lead
1,4-Dioxane
Trichloroethylene

TABLE II
SCHEDULE OF EXCESS VISIBLE EMISSION FEE

For each source with opacity emissions in excess of twenty percent (20%), but less than forty percent (40%) (where the source is in violation of Regulation 6, the fee is calculated as follows:

Fee = (Opacity* equivalent - 20) x number of days allowed in variance x ~~$2.93~~$3.19

For each source with opacity emissions in excess of forty percent (40%) (where the source is in violation of Regulation 6 and California Health and Safety Code Section 41701), the fee is calculated as follows:

Fee = (Opacity* equivalent - 40) x number of days allowed by variance x ~~$2.93~~$3.19

* Where "Opacity" equals maximum opacity of emissions in percent (not decimal equivalent) allowed by the variance. Where the emissions are darker than the degree of darkness equivalent to the allowed Ringelmann number, the percentage equivalent of the excess degree of darkness shall be used as "opacity."

(Adopted 6/7/00; Amended 5/1/02; 5/21/03; 6/2/04; 6/15/05; 6/7/06; 5/2/07; 5/21/08; 5/20/09; 6/16/10; 5/4/11)

SCHEDULE B
COMBUSTION OF FUEL
(Adopted June 18, 1980)

For each source that burns fuel, which is not a flare and not exempted by Regulation 2, Rule 1, the fee shall be computed based on the maximum gross combustion capacity (expressed as higher heating value, HHV) of the source.

1. INITIAL FEE: ~~$48.91~~$51.36 per MM BTU/HOUR
   a. The minimum fee per source is: ~~$261~~$274
   b. The maximum fee per source is: ~~$91,266~~$95,829
2. RISK SCREENING FEE (RSF) is only applicable for new and modified sources of toxic air contaminants (TACs) for which a health risk screening analysis is required under Regulation 2-5-401.
   a. RSF for first TAC source in application: ~~$389~~$416 plus ~~$48.91~~$51.36 per MM BTU/hr
   b. Minimum RSF for first TAC source: ~~$650~~$690
   c. RSF for each additional TAC source: ~~$48.91~~$51.36 per MM BTU/hr *
   d. Minimum RSF per additional TAC source: ~~$261~~$274 *
   e. Maximum RSF per source is: ~~$91,266~~$95,829
   * RSF for additional TAC sources is only applicable to those sources that emit one or more TACs at a rate that exceeds a trigger level listed in Table 2-5-1
3. PERMIT TO OPERATE FEE: ~~$24.45~~$25.67 per MM BTU/HOUR
   a. The minimum fee per source is: ~~$186~~$195
   b. The maximum fee per source is: ~~$45,631~~$47,913
4. TOXIC SURCHARGE is only applicable for a source that emits one or more TACs at a rate that exceeds a chronic trigger level listed in Table 2-5-1: the permit to operate fee shall be raised by ten percent. This fee shall not be assessed for TACs not listed in Table 2-5-1.
5. ROUNDING: Fees for each source will be rounded to the nearest dollar. The fee for sources will be rounded up to the nearest dollar for 51 cents and above, and amounts 50 cents and lower will be rounded down to the nearest dollar.
6. Applicants for an authority to construct and permit to operate a project, which burns municipal waste or refuse-derived fuel, shall pay in addition to all required fees, an additional fee to cover the costs incurred by the State Department of Health Services, and/or a qualified contractor designated by the State Department of Health Services, in reviewing a risk assessment as required under H&S Code Section 42315. The fee shall be transmitted by the District to the Department of Health Services and/or the qualified contractor upon completion of the review and submission of comments in writing to the District.
7. A surcharge equal to 100% of all required initial and permit to operate fees shall be charged for sources permitted to burn one or more of the following fuels: coke, coal, wood, tires, black liquor, and municipal solid waste.

NOTE: MM BTU is million BTU of higher heat value
One MM BTU/HR = 1.06 gigajoules/HR

(Amended 6/5/85; 6/4/86; 3/4/87; 6/6/90; 7/3/91; 6/15/94; 10/8/97; 7/1/98; 7/1/98; 5/19/99; 6/7/00; 6/6/01, 5/1/02; 5/21/03; 6/2/04; 6/15/05; 6/7/06; 5/2/07; 5/21/08; 5/20/09; 6/16/10; 5/4/11)

SCHEDULE C
STATIONARY CONTAINERS FOR THE STORAGE OF ORGANIC LIQUIDS
(Adopted June 18, 1980)

For each stationary container of organic liquids which is not exempted from permits by Regulation 2 and which is not part of a gasoline dispensing facility, the fee shall be computed based on the container volume, as follows:

1. INITIAL FEE: 0.173 cents per gallon
   a. The minimum fee per source is: $191
   b. The maximum fee per source is: $26,046
2. RISK SCREENING FEE (RSF) is only applicable for new and modified sources of toxic air contaminants (TACs) for which a health risk screening analysis is required under Regulation 2-5-401.
   a. RSF for first TAC source in application: ~~$389~~$416 plus 0.173 cents per gallon
   b. Minimum RSF for first TAC source: ~~$545~~$607
   c. RSF for each additional TAC source: 0.173 cents per gallon *
   d. Minimum RSF per additional TAC source: $191 *
   e. Maximum RSF per source is: $26,046
   * RSF for additional TAC sources is only applicable to those sources that emit one or more TACs at a rate that exceeds a trigger level listed in Table 2-5-1
3. PERMIT TO OPERATE FEE: 0.087 cents per gallon
   a. The minimum fee per source is: $137
   b. The maximum fee per source is: $13,023
4. TOXIC SURCHARGE is only applicable for a source that emits one or more TACs at a rate that exceeds a chronic trigger level listed in Table 2-5-1: the permit to operate fee shall be raised by ten percent. This fee shall not be assessed for TACs not listed in Table 2-5-1.
5. ROUNDING: Fees for each source will be rounded to the nearest dollar. The fee for sources will be rounded up to the nearest dollar for 51 cents and above, and amounts 50 cents and lower will be rounded down to the nearest dollar.

(Amended 2/20/85; 6/5/85; 6/4/86; 7/3/91; 6/15/94; 7/1/98; 5/19/99; 6/7/00; 6/6/01, 5/1/02; 5/21/03; 6/2/04; 6/15/05; 6/7/06; 5/2/07; 5/20/09; 6/16/10)

SCHEDULE D
GASOLINE TRANSFER AT GASOLINE DISPENSING FACILITIES, BULK PLANTS AND TERMINALS
(Adopted June 18, 1980)

A. All gasoline dispensing facilities shall pay the following fees:

1. INITIAL FEE: ~~$198.64~~$216.52 per single product nozzle (spn)
~~$198.64~~$216.52 per product for each multi-product nozzle (mpn)

2. PERMIT TO OPERATE FEE: ~~$76.08~~$82.93 per single product nozzle (spn)
~~$76.08~~$82.93 per product for each multi-product nozzle (mpn)

3. Initial fees and permit to operate fees for hardware modifications at a currently permitted gasoline dispensing facility shall be consolidated into a single fee calculated according to the following formula:

~~$274.72~~$299.44 × {[($mpn_{proposed}$)(products per nozzle) + $spn_{proposed}$] – [($mpn_{existing}$)(products per nozzle) + $spn_{existing}$]}

mpn = multi-product nozzles
spn = single product nozzles

The above formula includes a toxic surcharge.

If the above formula yields zero or negative results, no initial fees or permit to operate fees shall be charged.

For the purposes of calculating the above fees, a fuel blended from two or more different grades shall be considered a separate product.

Other modifications to facilities' equipment, including but not limited to tank addition/replacement/conversion, vapor recovery piping replacement, moving or extending pump islands, will not be subject to initial fees or permit to operate fees.

4. RISK SCREENING FEE (RSF) of ~~$389~~$416 per application is only applicable to projects for which a health risk screening analysis is required under Regulation 2-5-401 [including increases in permitted throughput for which a health risk screening analysis is required.]

5. Nozzles used exclusively for the delivery of diesel fuel or other fuels exempt from permits shall pay no fee. Multi-product nozzles used to deliver both exempt and non-exempt fuels shall pay fees for the non-exempt products only.

B. All bulk plants, terminals or other facilities using loading racks to transfer gasoline or gasohol into trucks, railcars or ships shall pay the following fees:

1. INITIAL FEE: ~~$2,609~~$2,844 per single product loading arm
~~$2,609~~$2,844 per product for multi-product arms

2. RISK SCREENING FEE (RSF) is only applicable for new and modified sources of toxic air contaminants (TACs) for which a health risk screening analysis is required under Regulation 2-5-401.
   a. RSF for first TAC source in application: ~~$2,998~~$3,268
   b. RSF for each additional TAC source: ~~$2,609~~$2,844 *
      * RSF for additional TAC sources is only applicable to those sources that emit one or more TACs at a rate that exceeds a trigger level listed in Table 2-5-1

3. PERMIT TO OPERATE FEE: ~~$727~~$792 per single product loading arm

~~$727~~$792 per product for multi-product arms

4. TOXIC SURCHARGE is only applicable for a source that emits one or more TACs at a rate that exceeds a chronic trigger level listed in Table 2-5-1: the permit to operate fee shall be raised by ten percent. This fee shall not be assessed for TACs not listed in Table 2-5-1.

C. Fees in (A) above are in lieu of tank fees. Fees in (B) above are in addition to tank fees.

D. Fees for each source will be rounded to the nearest dollar. The fee for sources will be rounded up to the nearest dollar for 51 cents and above, and amounts 50 cents and lower will be rounded down to the nearest dollar.

(Amended 2/20/85; 6/5/85; 6/4/86; 7/3/91; 6/15/94; 10/8/97; 7/1/98; 5/19/99; 6/7/00; 6/6/01; 5/1/02; 5/21/03; 6/2/04; 6/15/05; 6/7/06; 5/2/07; 5/21/08; 5/20/09; 6/16/10; 5/4/11)

SCHEDULE E
SOLVENT EVAPORATING SOURCES
(Adopted June 18, 1980)

For each solvent evaporating source, as defined in Section 3-210 except for dry cleaners, the fee shall be computed based on the net amount of organic solvent processed through the sources on an annual basis (or anticipated to be processed, for new sources) including solvent used for the cleaning of the sources.

1. INITIAL FEE:
   a. The minimum fee per source is: ~~$437~~$476
   b. If usage is not more than 1,000 gallons/year: ~~$437~~$476
   c. If usage is more than 1,000 gallons/year: ~~$879~~$958 per 1,000 gallons
   d. The maximum fee per source is: ~~$34,935~~$38,079

2. RISK SCREENING FEE (RSF) is only applicable for new and modified sources of toxic air contaminants (TACs) for which a health risk screening analysis is required under Regulation 2-5-401.
   a. RSF for first TAC source in application: ~~$389~~$416 plus initial fee
   b. Minimum RSF for first TAC source: ~~$826~~$892
   c. RSF for each additional TAC source: equal to initial fee *
   d. Minimum RSF per additional TAC source: ~~$437~~$476 *
   e. Maximum RSF per source is: ~~$34,935~~$38,079
      * RSF for additional TAC sources is only applicable to those sources that emit one or more TACs at a rate that exceeds a trigger level listed in Table 2-5-1

3. PERMIT TO OPERATE FEE:
   a. The minimum fee per source is: ~~$315~~$343
   b. If usage is not more than 1,000 gallons/year: ~~$315~~$343
   c. If usage is more than 1,000 gallons/year: ~~$437~~$476 per 1,000 gallons
   d. The maximum fee per source is: ~~$17,466~~$19,038

4. TOXIC SURCHARGE is only applicable for a source that emits one or more TACs at a rate that exceeds a chronic trigger level listed in Table 2-5-1: the permit to operate fee shall be raised by ten percent. This fee shall not be assessed for TACs not listed in Table 2-5-1.

5. Fees for each source will be rounded to the nearest dollar. The fee for sources will be rounded up to the nearest dollar for 51 cents and above, and amounts 50 cents and lower will be rounded down to the nearest dollar.

(Amended 5/19/82; 10/17/84; 6/5/85; 6/4/86; 10/8/87; 7/3/91; 6/15/94; 7/1/98; 5/19/99; 6/7/00; 6/6/01, 5/1/02, 5/21/03; 6/2/04; 6/15/05; 6/7/06; 5/2/07; 5/21/08; 5/20/09; 6/16/10; 5/4/11)

SCHEDULE F
MISCELLANEOUS SOURCES
(Adopted June 18, 1980)

For each source not governed by Schedules B, C, D, E, H or I, (except for those sources in the special classification lists, G-1 - G-5) the fees are:

1. INITIAL FEE: ~~$378~~$412

2. RISK SCREENING FEE (RSF) is only applicable for new and modified sources of toxic air contaminants (TACs) for which a health risk screening analysis is required under Regulation 2-5-401.

   a. RSF for first TAC source in application: ~~$767~~$828
   b. RSF for each additional TAC source: ~~$378~~$412 *
      * RSF for additional TAC sources is only applicable to those sources that emit one or more TACs at a rate that exceeds a trigger level listed in Table 2-5-1

3. PERMIT TO OPERATE FEE: ~~$274~~$299

4. TOXIC SURCHARGE is only applicable for a source that emits one or more TACs at a rate that exceeds a chronic trigger level listed in Table 2-5-1: the permit to operate fee shall be raised by ten percent. This fee shall not be assessed for TACs not listed in Table 2-5-1. List of special classifications requiring graduated fees is shown in Schedules G-1, G-2, G-3, G-4, and G-5.

G-1 FEES FOR SCHEDULE G-1. For each source in a G-1 classification, fees are:

1. INITIAL FEE: ~~$2,374~~$2,588

2. RISK SCREENING FEE (RSF) is only applicable for new and modified sources of toxic air contaminants (TACs) for which a health risk screening analysis is required under Regulation 2-5-401.

   a. RSF for first TAC source in application: ~~$2,763~~$3,004
   b. RSF for each additional TAC source: ~~$2,374~~$2,588 *
      * RSF for additional TAC sources is only applicable to those sources that emit one or more TACs at a rate that exceeds a trigger level listed in Table 2-5-1

3. PERMIT TO OPERATE FEE: ~~$1,185~~$1,292

4. TOXIC SURCHARGE is only applicable for a source that emits one or more TACs at a rate that exceeds a chronic trigger level listed in Table 2-5-1: the permit to operate fee shall be raised by ten percent. This fee shall not be assessed for TACs not listed in Table 2-5-1.

G-2 FEES FOR SCHEDULE G-2. For each source in a G-2 classification, fees are:

1. INITIAL FEE: $3,417

2. RISK SCREENING FEE (RSF) is only applicable for new and modified sources of toxic air contaminants (TACs) for which a health risk screening analysis is required under Regulation 2-5-401.

   a. RSF for first TAC source in application: ~~$3,806~~$3,833
   b. RSF for each additional TAC source: $3,417 *
      * RSF for additional TAC sources is only applicable to those sources that emit one or more TACs at a rate that exceeds a trigger level listed in Table 2-5-1

3. PERMIT TO OPERATE FEE: $1,707

4. TOXIC SURCHARGE is only applicable for a source that emits one or more TACs at a rate that exceeds a chronic trigger level listed in Table 2-5-1: the permit to operate fee shall be raised by ten percent. This fee shall not be assessed for TACs not listed in Table 2-5-1.

G-3 FEES FOR SCHEDULE G-3. For each source in a G-3 classification, fees are:

1. INITIAL FEE: ~~$19,828~~$21,613

2. RISK SCREENING FEE (RSF) is only applicable for new and modified sources of toxic air contaminants (TACs) for which a health risk screening analysis is required under Regulation 2-5-401.

   a. RSF for first TAC source in application: ~~$20,217~~$22,029
   b. RSF for each additional TAC source: ~~$19,828~~$21,613 *
      * RSF for additional TAC sources is only applicable to those sources that emit one or more TACs at a rate that exceeds a trigger level listed in Table 2-5-1

3. PERMIT TO OPERATE FEE: ~~$9,913~~$10,805

4. TOXIC SURCHARGE is only applicable for a source that emits one or more TACs at a rate that exceeds a chronic trigger level listed in Table 2-5-1: the permit to operate fee shall be raised by ten percent. This fee shall not be assessed for TACs not listed in Table 2-5-1.

G-4 FEES FOR SCHEDULE G-4. For each source in a G-4 classification, fees are:

1. INITIAL FEE: $49,702

2. RISK SCREENING FEE (RSF) is only applicable for new and modified sources of toxic air contaminants (TACs) for which a health risk screening analysis is required under Regulation 2-5-401.

   a. RSF for first TAC source in application: ~~$50,091~~$50,118
   b. RSF for each additional TAC source: $49,702 *
      * RSF for additional TAC sources is only applicable to those sources that emit one or more TACs at a rate that exceeds a trigger level listed in Table 2-5-1

3. PERMIT TO OPERATE FEE: $24,850

4. TOXIC SURCHARGE is only applicable for a source that emits one or more TACs at a rate that exceeds a chronic trigger level listed in Table 2-5-1: the permit to operate fee shall be raised by ten percent. This fee shall not be assessed for TACs not listed in Table 2-5-1.

G-5 FEES FOR SCHEDULE G-5. For each source in a G-5 classification, fees are:

1. INITIAL FEE: ~~$43,050~~$46,064

2. RISK SCREENING FEE (RSF) is only applicable for new and modified sources of toxic air contaminants (TACs) for which a health risk screening analysis is required under Regulation 2-5-401.

   a. RSF for first TAC source in application: ~~$43,439~~$46,480
   b. RSF for each additional TAC source: ~~$43,050~~$46,064 *
      * RSF for additional TAC sources is only applicable to those sources that emit one or more TACs at a rate that exceeds a trigger level listed in Table 2-5-1

3. PERMIT TO OPERATE FEE: ~~$21,524~~$23,031

4. TOXIC SURCHARGE is only applicable for a source that emits one or more TACs at a rate that exceeds a chronic trigger level listed in Table 2-5-1: the permit to operate

fee shall be raised by ten percent. This fee shall not be assessed for TACs not listed in Table 2-5-1.

(Amended 5/19/82; 6/5/85; 6/4/86; 6/6/90; 7/3/91; 6/15/94; 10/8/97; 7/1/98; 5/19/99; 6/7/00 6/6/01, 5/1/02, 5/21/03; 6/2/04; 6/15/05; 6/7/06; 5/2/07; 5/21/08; 5/20/09; 6/16/10; 5/4/11)

SCHEDULE G-1
(Adopted June 18, 1980)

Equipment or Process Description	Materials Processed or Produced
Asphalt Roofing Manufacturing – Asphalt Dipping	Asphalt Roofing or Related Materials
Calcining Kilns, excluding those processing cement, lime, or coke (see G-4 for cement, lime, or coke Calcining Kilns)	Any Materials except cement, lime, or coke
Chemical Manufacturing, Inorganic – Processing Units with a Capacity of 1000 Gallons/Hour or more	Any Inorganic Materials
Chemical Manufacturing, Inorganic – Processing Units with a Capacity of 5 Tons/Hour or more	Any Inorganic Materials
Chemical Manufacturing, Inorganic – Reactors with a Capacity of 1000 Gallons or more	Any Inorganic Materials
Chemical Manufacturing, Organic – Latex Dipping	Any latex materials
Chemical Manufacturing, Organic – Processing Units with a Capacity of 1000 Gallons/Hour or more	Any Organic Materials
Chemical Manufacturing, Organic – Processing Units with a Capacity of 5 Tons/Hour or more	Any Organic Materials
Chemical Manufacturing, Organic – Reactors with a Capacity of 1000 Gallons or more	Any Organic Materials
Compost Operations – Windrows, Static Piles, Aerated Static Piles, In-Vessel, or similar methods	Any waste materials such as yard waste, food waste, agricultural waste, mixed green waste, bio-solids, animal manures, etc.
Crushers	Any minerals or mineral products such as rock, aggregate, cement, concrete, or glass; waste products such as building or road construction debris; and any wood, wood waste, green waste; or similar materials
Electroplating Equipment	Hexavalent Decorative Chrome with permitted capacity greater than

	Equipment or Process Description	Materials Processed or Produced
		500,000 amp-hours per year or Hard Chrome
	Foil Manufacturing – Any Converting or Rolling Lines	Any Metal or Alloy Foils
	Galvanizing Equipment	Any
	Glass Manufacturing – Batching Processes including storage and weigh hoppers or bins, conveyors, and elevators	Any Dry Materials
	Glass Manufacturing – Mixers	Any Dry Materials
	Glass Manufacturing – Molten Glass Holding Tanks	Any molten glass
	Grinders	Any minerals or mineral products such as rock, aggregate, cement, concrete, or glass; waste products such as building or road construction debris; and any wood, wood waste, green waste; or similar materials
	Incinerators – Crematory	Human and/or animal remains
	Incinerators – Flares	Any waste gases
	Incinerators – Other (see G-2 for hazardous or municipal solid waste incinerators, see G-3 for medical or infectious waste incinerators)	Any Materials except hazardous wastes, municipal solid waste, medical or infectious waste
	Incinerators – Pathological Waste (see G-3 for medical or infectious waste incinerators)	Pathological waste only
	Loading and/or Unloading Operations – Bulk Plants and Bulk Terminals, excluding those loading gasoline or gasohol (see Schedule D for Bulk Plants and Terminals loading gasoline or gasohol)	Any Organic Materials except gasoline or gasohol
	Petroleum Refining – Alkylation Units	Any Hydrocarbons
	Petroleum Refining – Asphalt Oxidizers	Any Hydrocarbons
	Petroleum Refining – Benzene Saturation Units/Plants	Any Hydrocarbons
	Petroleum Refining – Catalytic Reforming Units	Any Hydrocarbons
	Petroleum Refining – Chemical Treating Units including alkane, naphthenic acid, and naptha merox treating, or similar processes	Any Hydrocarbons

	Equipment or Process Description	Materials Processed or Produced
	Petroleum Refining – Converting Units including Dimersol Plants, Hydrocarbon Splitters, or similar processes	Any Hydrocarbons
	Petroleum Refining – Distillation Units, excluding crude oil units with capacity > 1000 barrels/hour (see G-3 for > 1000 barrels/hour crude distillation units)	Any Hydrocarbons
	Petroleum Refining – Hydrogen Manufacturing	Hydrogen or Any Hydrocarbons
	Petroleum Refining – Hydrotreating or Hydrofining	Any Hydrocarbons
	Petroleum Refining – Isomerization	Any Hydrocarbons
	Petroleum Refining – MTBE Process Units/Plants	Any Hydrocarbons
	Petroleum Refining – Sludge Converter	Any Petroleum Waste Materials
	Petroleum Refining – Solvent Extraction	Any Hydrocarbons
	Petroleum Refining – Sour Water Stripping	Any Petroleum Process or Waste Water
	Petroleum Refining – Storage (enclosed)	Petroleum Coke or Coke Products
	Petroleum Refining – Waste Gas Flares (not subject to Regulation 12, Rule 11)	Any Petroleum Refining Gases
	Petroleum Refining – Miscellaneous Other Process Units	Any Hydrocarbons
	Remediation Operations, Groundwater – Strippers	Contaminated Groundwater
	Remediation Operations, Soil – Any Equipment	Contaminated Soil
	Spray Dryers	Any Materials
	Sterilization Equipment	Ethylene Oxide
	Wastewater Treatment, Industrial – Oil-Water Separators, excluding oil-water separators at petroleum refineries (see G-2 for Petroleum Refining - Oil-Water Separators)	Wastewater from any industrial facilities except petroleum refineries
	Wastewater Treatment, Industrial – Strippers including air strippers, nitrogen strippers, dissolved air flotation units, or similar equipment and excluding strippers at petroleum refineries (see G-2 for Petroleum Refining – Strippers)	Wastewater from any industrial facilities except petroleum refineries
	Wastewater Treatment, Industrial - Storage Ponds, excluding storage ponds at petroleum refineries (see G-2 for Petroleum Refining – Storage Ponds)	Wastewater from any industrial facilities except petroleum refineries
	Wastewater Treatment, Municipal –	Municipal Wastewater

	Equipment or Process Description	Materials Processed or Produced
	Preliminary Treatment	
	Wastewater Treatment, Municipal – Primary Treatment	Municipal Wastewater
	Wastewater Treatment, Municipal – Digesters	Municipal Wastewater
	Wastewater Treatment, Municipal – Sludge Handling Processes, excluding sludge incinerators (see G-2 for sludge incinerators)	Sewage Sludge

(Amended 6/4/86; 6/6/90; 5/19/99; 6/7/00; 6/2/04; 6/15/05)

SCHEDULE G-2
(Adopted June 6, 1990)

Equipment or Process Description	Materials Processed or Produced
Asphalt Roofing Manufacturing – Asphalt Blowing	Asphalt Roofing or Related Materials
Asphaltic Concrete Manufacturing – Aggregate Dryers	Any Dry Materials
Asphaltic Concrete Manufacturing – Batch Mixers	Any Asphaltic Concrete Products
Asphaltic Concrete Manufacturing – Drum Mixers	Any Asphaltic Concrete Products
Asphaltic Concrete Manufacturing – Other Mixers and/or Dryers	Any Dry Materials or Asphaltic Concrete Products
Concrete or Cement Batching Operations – Mixers	Any cement, concrete, or stone products or similar materials
Furnaces – Electric	Any Mineral or Mineral Product
Furnaces – Electric Induction	Any Mineral or Mineral Product
Furnaces – Glass Manufacturing	Soda Lime only
Furnaces – Reverberatory	Any Ores, Minerals, Metals, Alloys, or Related Materials
Incinerators – Hazardous Waste including any unit required to have a RCRA permit	Any Liquid or Solid Hazardous Wastes
Incinerators – Solid Waste, excluding units burning human/animal remains or pathological waste exclusively (see G-1 for Crematory and Pathological Waste Incinerators)	Any Solid Waste including Sewage Sludge (except human/animal remains or pathological waste)
Metal Rolling Lines, excluding foil rolling lines (see G-1 for Foil Rolling Lines)	Any Metals or Alloys
Petroleum Refining – Stockpiles (open)	Petroleum Coke or coke products only
Petroleum Refining, Wastewater Treatment – Oil-Water Separators	Wastewater from petroleum refineries only
Petroleum Refining, Wastewater Treatment – Strippers including air strippers, nitrogen strippers, dissolved air flotation units, or similar equipment	Wastewater from petroleum refineries only
Petroleum Refining, Wastewater Treatment – Storage Ponds	Wastewater from petroleum refineries only
Pickling Lines or Tanks	Any Metals or Alloys
Sulfate Pulping Operations – All Units	Any
Sulfite Pulping Operations – All Units	Any

(Amended June 7, 2000)

SCHEDULE G-3
(Adopted June 18, 1980)

Equipment or Process Description	Materials Processed or Produced
Furnaces – Electric Arc	Any Metals or Alloys
Furnaces – Electric Induction	Any Metals or Alloys
Incinerators – Medical Waste, excluding units burning pathological waste exclusively (see G-1 for Pathological Waste Incinerators)	Any Medical or Infectious Wastes
Loading and/or Unloading Operations – Marine Berths	Any Organic Materials
Petroleum Refining – Cracking Units including hydrocrackers and excluding thermal or fluid catalytic crackers (see G-4 for Thermal Crackers and Catalytic Crackers)	Any Hydrocarbons
Petroleum Refining – Distillation Units (crude oils) including any unit with a capacity greater than 1000 barrels/hour (see G-1 for other distillation units)	Any Petroleum Crude Oils
Phosphoric Acid Manufacturing – All Units (by any process)	Phosphoric Acid

(Amended 5/19/82; Amended and renumbered 6/6/90; Amended 6/7/00; 6/15/05; 5/2/07)

SCHEDULE G-4
(Adopted June 6, 1990)

Equipment or Process Description	Materials Processed or Produced
Acid Regeneration Units	Sulfuric or Hydrochloric Acid only
Annealing Lines (continuous only)	Metals and Alloys
Calcining Kilns (see G-1 for Calcining Kilns processing other materials)	Cement, Lime, or Coke only
Fluidized Bed Combustors	Solid Fuels only
Nitric Acid Manufacturing – Any Ammonia Oxidation Processes	Ammonia or Ammonia Compounds
Petroleum Refining - Coking Units including fluid cokers, delayed cokers, flexicokers, and coke kilns	Petroleum Coke and Coke Products
Petroleum Refining - Cracking Units including fluid catalytic crackers and thermal crackers and excluding hydrocrackers (see G-3 for Hydrocracking Units)	Any Hydrocarbons
Petroleum Refining - Sulfur Removal including any Claus process or any other process requiring caustic reactants	Any Petroleum Refining Gas
Sulfuric Acid Manufacturing – Any Chamber or Contact Process	Any Solid, Liquid or Gaseous Fuels Containing Sulfur

(Amended June 7, 2000)

SCHEDULE G-5

Equipment or Process Description	Materials Processed or Produced
Petroleum Refinery Flares (subject to Regulation 12, Rule 11)	Any Petroleum Vent Gas (as defined in section 12-11-210 and section 12-12-213)

(Adopted May 2, 2007)

SCHEDULE H
SEMICONDUCTOR AND RELATED OPERATIONS
(Adopted May 19, 1982)

All of the equipment within a semiconductor fabrication area will be grouped together and considered one source. The fee shall be as indicated:

1. INITIAL FEE:

   a. The minimum fee per source is: ~~$382~~$416

   b. The maximum fee per source is: ~~$30,522~~$33,269

   The initial fee shall include the fees for each type of operation listed below, which is performed at the fabrication area:

   c. SOLVENT CLEANING OPERATIONS, such as usage of:

   Solvent Sinks (as defined in Regulation 8-30-214);
   Solvent Spray Stations (as defined in Regulation 8-30-221);
   Solvent Vapor Stations (as defined in Regulation 8-30-222); and
   Wipe Cleaning Operation (as defined in Regulation 8-30-225).

   The fee is based on the gross throughput of organic solvent processed through the solvent cleaning operations on an annual basis (or anticipated to be processed, for new sources):

   i. If gross throughput is not more than 3,000 gallons/year: ~~$382~~$416
   ii. If gross throughput is more than 3,000 gallons/year: ~~$258~~$281 per 1,000 gallon

   d. COATING OPERATIONS, such as application of:

   Photoresist (as defined in Regulation 8-30-215); other wafer coating;
   Solvent-Based Photoresist Developer (as defined in Regulation 8-30-219); and other miscellaneous solvent usage.

   The fee is based on the gross throughput of organic solvent processed through the coating operations on an annual basis (or anticipated to be processed, for new sources):

   i. If gross throughput is not more than 1,000 gallons/year: ~~$382~~$416
   ii. If gross throughput is more than 1,000 gallons/year: ~~$767~~$836 per 1,000 gallon

2. RISK SCREENING FEE (RSF) is only applicable for new and modified sources of toxic air contaminants (TACs) for which a health risk screening analysis is required under Regulation 2-5-401.

   a. RSF for first TAC source in application: ~~$389~~$416 plus initial fee

   b. Minimum RSF for first TAC source: ~~$771~~$832

   c. RSF for each additional TAC source: equal to initial fee *

   d. Minimum RSF per additional TAC source: ~~$382~~$416 *

   e. Maximum RSF per source is: ~~$30,522~~$33,269

   * RSF for additional TAC sources is only applicable to those sources that emit one or more TACs at a rate that exceeds a trigger level listed in Table 2-5-1

3. PERMIT TO OPERATE FEE:

   a. The minimum fee per source is: ~~$276~~$301

b. The maximum fee per source is: ~~$15,259~~$16,632

The permit to operate fee shall include the fees for each type of operation listed below, which is performed at the fabrication area:

c. SOLVENT CLEANING OPERATIONS, such as usage of:

Solvent Sinks (as defined in Regulation 8-30-214);
Solvent Spray Stations (as defined in Regulation 8-30-221);
Solvent Vapor Stations (as defined in Regulation 8-30-222); and
Wipe Cleaning Operation (as defined in Regulation 8-30-225).

The fee is based on the gross throughput of organic solvent processed through the solvent cleaning operations on an annual basis (or anticipated to be processed, for new sources):

i. If gross throughput is not more than 3,000 gal/year: ~~$276~~$301
ii. If gross throughput is more than 3,000 gallons/year: ~~$129~~$141 per 1,000 gallon

d. COATING OPERATIONS, such as application of:

Photoresist (as defined in Regulation 8-30-215); other wafer coating;
Solvent-Based Photoresist Developer (as defined in Regulation 8-30-219); and other miscellaneous solvent usage.
The fee is based on the gross throughput of organic solvent processed through the coating operations on an annual basis (or anticipated to be processed, for new sources):

i. If gross throughput is not more than 1,000 gal/year: ~~$276~~$301
ii. If gross throughput is more than 1,000 gallons/year: ~~$382~~$416 per 1,000 gallon

4. TOXIC SURCHARGE is only applicable for a source that emits one or more TACs at a rate that exceeds a chronic trigger level listed in Table 2-5-1: the permit to operate fee shall be raised by ten percent. This fee shall not be assessed for TACs not listed in Table 2-5-1.

5. The fee for each source will be rounded to the whole dollar. Fees for sources will be rounded up to the nearest dollar for 51 cents and above, and amounts 50 cents and lower will be rounded down to the nearest dollar.

(Amended 1/9/85; 6/5/85; 6/4/86; 7/3/91; 6/15/94; 10/8/97; 7/1/98; 5/19/99; 10/20/99; 6/7/00; 6/6/01, 5/1/02, 5/21/03; 6/2/04; 6/15/05; 6/7/06; 5/2/07; 5/21/08; 5/20/09; 6/16/10; 5/4/11)

SCHEDULE I
DRY CLEANERS
(Adopted July 6, 1983)

For dry cleaners, the fee shall be computed based on each cleaning machine, except that machines with more than one drum shall be charged based on each drum, regardless of the type or quantity of solvent, as follows:

1. INITIAL FEE FOR A DRY CLEANING MACHINE (per drum):
   a. If the washing or drying capacity is no more than 100 pounds: ~~$392~~$427
   b. If the washing or drying capacity exceeds 100 pounds: ~~$392~~$427 plus
      For that portion of the capacity exceeding 100 pounds: ~~$11.71~~$12.76 per pound

2. RISK SCREENING FEE (RSF) is only applicable for new and modified sources of toxic air contaminants (TACs) for which a health risk screening analysis is required under Regulation 2-5-401.
   a. RSF for first TAC source in application: ~~$389~~$416 plus initial fee
   b. Minimum RSF for first TAC source: ~~$781~~$843
   c. RSF for each additional TAC source: equal to initial fee *
   d. Minimum RSF per additional TAC source: ~~$392~~$427 *

   * RSF for additional TAC sources is only applicable to those sources that emit one or more TACs at a rate that exceeds a trigger level listed in Table 2-5-1

3. PERMIT TO OPERATE FEE FOR A DRY CLEANING MACHINE (per drum):
   a. If the washing or drying capacity is no more than 100 pounds: ~~$284~~$310
   b. If the washing or drying capacity exceeds 100 pounds: ~~$284~~$310 plus
      For that portion of the capacity exceeding 100 pounds: ~~$5.88~~$6.41 per pound

4. TOXIC SURCHARGE is only applicable for a source that emits one or more TACs at a rate that exceeds a chronic trigger level listed in Table 2-5-1: the permit to operate fee shall be raised by ten percent. This fee shall not be assessed for TACs not listed in Table 2-5-1.

5. Fees for each source will be rounded to the nearest dollar. The fee for sources will be rounded up to the nearest dollar for 51 cents and above, and amounts 50 cents and lower will be rounded down to the nearest dollar.

(Amended 10/17/84; 6/5/85; 6/4/86; 7/3/91; 6/15/94; 10/8/97; 7/1/98; 5/19/99; 6/7/00; 6/6/01; 5/1/02, 5/21/03; 6/02/04; 6/15/05; 6/7/06; 5/2/07; 5/21/08; 5/20/09; 6/16/10; 5/4/11)

SCHEDULE K
SOLID WASTE DISPOSAL SITES
(Adopted July 15, 1987)

1. INITIAL FEE:

a.	Landfill (Decomposition Process)	~~$2,617~~$2,853
b.	Active Landfill (Waste and Cover Material Dumping Process)	~~$1,309~~$1,427
c.	Active Landfill (Excavating, Bulldozing, and Compacting Processes)	~~$1,309~~$1,427

2. RISK SCREENING FEE (RSF) is only applicable for new and modified sources of toxic air contaminants (TACs) for which a health risk screening analysis is required under Regulation 2-5-401.

a.	RSF for first TAC source in application:	~~$389~~$416 plus initial fee
b.	RSF for each additional TAC source:	equal to initial fee *

* RSF for additional TAC sources is only applicable to those sources that emit one or more TACs at a rate that exceeds a trigger level listed in Table 2-5-1

3. PERMIT TO OPERATE FEE:

a.	Landfill (Decomposition Process)	~~$1,309~~$1,427
b.	Active Landfill (Waste and Cover Material Dumping Process)	~~$654~~$713
c.	Active Landfill (Excavating, Bulldozing, and Compacting Processes)	~~$654~~$713

4. TOXIC SURCHARGE is only applicable for a source that emits one or more TACs at a rate that exceeds a chronic trigger level listed in Table 2-5-1: the permit to operate fee shall be raised by ten percent. This fee shall not be assessed for TACs not listed in Table 2-5-1.

5. Evaluation of Reports and Questionnaires:

a.	Evaluation of Solid Waste Air Assessment Test Report as required by Health & Safety Code Section 41805.5(g)	$1,573
b.	Evaluation of Inactive Site Questionnaire as required by Health & Safety Code Section 41805.5(b)	$789
c.	Evaluation of Solid Waste Air Assessment Test Report in conjunction with evaluation of Inactive Site Questionnaire as required by Health & Safety Code Section 41805.5(b)	$789
d.	Evaluation of Initial or Amended Design Capacity Reports as required by Regulation 8, Rule 34, Section 405	$579
e.	Evaluation of Initial or Periodic NMOC Emission Rate Reports as required by Regulation 8, Rule 34, Sections 406 or 407	$1,659
f.	Evaluation of Closure Report as required by Regulation 8, Rule 34, Section 409	$579
g.	Evaluation of Annual Report as required by Regulation 8, Rule 34, Section 411	$1,452

6. Fees for each source will be rounded off to the nearest dollar. The fee for sources will be rounded up or down to the nearest dollar.

7. For the purposes of this fee schedule, landfill shall be considered active, if it has accepted solid waste for disposal at any time during the previous 12 months or has plans to accept solid waste for disposal during the next 12 months.

(Amended 7/3/91; 6/15/94; 10/8/97; 7/1/98; 5/19/99; 10/6/99; 6/7/00; 6/6/01; 5/1/02; 5/21/03; 6/2/04; 6/15/05; 6/7/06; 5/2/07; 5/21/08; 5/20/09; 6/16/10; 5/4/11)

SCHEDULE L
ASBESTOS OPERATIONS
(Adopted July 6, 1988)

1. Asbestos Operations conducted at single family dwellings are subject to the following fees:
   a. OPERATION FEE: ~~$130~~$142 for amounts 100 to 500 square feet or linear feet.
   ~~$479~~$523 for amounts 501 square feet or linear feet to 1000 square feet or linear feet.
   ~~$698~~$761 for amounts 1001 square feet or liner feet to 2000 square feet or linear feet.
   ~~$959~~$1045 for amounts greater than 2000 square feet or linear feet.
   b. Cancellation: ~~$63~~$69 of above amounts non-refundable for notification processing.

2. Asbestos Operations, other than those conducted at single family dwellings, are subject to the following fees:
   a. OPERATION FEE: ~~$370~~$403 for amounts 100 to 159 square feet or 100 to 259 linear feet or 35 cubic feet
   ~~$533~~$581 for amounts 160 square feet or 260 linear feet to 500 square or linear feet or greater than 35 cubic feet.
   ~~$775~~$845 for amounts 501 square feet or linear feet to 1000 square feet or linear feet.
   ~~$1,144~~$1,247 for amounts 1001 square feet or liner feet to 2500 square feet or linear feet.
   ~~$1,630~~$1,777 for amounts 2501 square feet or linear feet to 5000 square feet or linear feet.
   ~~$2,238~~$2,439 for amounts 5001 square feet or linear feet to 10000 square feet or linear feet.
   ~~$2,847~~$3103 for amounts greater than 10000 square feet or linear feet.
   b. Cancellation: ~~$175~~$191 of above amounts non-refundable for notification processing.

3. Demolitions (including zero asbestos demolitions) conducted at a single-family dwelling are subject to the following fee:
   a. OPERATION FEE: ~~$63~~$69
   b. Cancellation: ~~$63~~$69 (100% of fee) non-refundable, for notification processing.

4. Demolitions (including zero asbestos demolitions) other than those conducted at a single family dwelling are subject to the following fee:
   a. OPERATION FEE: ~~$262~~$286
   b. Cancellation: ~~$175~~$191 of above amount non-refundable for notification processing.

5. Asbestos operations with less than 10 days prior notice (excluding emergencies) are subject to the following additional fee:
   a. OPERATION FEE: ~~$437~~$476

6. Asbestos demolition operations for the purpose of fire training are exempt from fees.

7. Floor mastic removal using mechanical buffers and solvent is subject to the following fee:
   a. OPERATION FEE: ~~$262~~$286
   b. Cancellation: ~~$175~~$191 of above amount non-refundable for notification processing.

(Amended 9/5/90; 1/5/94; 8/20/97; 10/7/98; 7/19/00; 8/1/01, 6/5/02, 7/2/03; 6/2/04; 6/6/07; 5/21/08;

5/20/09; 6/16/10; 6/15/2011)

SCHEDULE M
MAJOR STATIONARY SOURCE FEES
(Adopted June 6, 1990)

For each major stationary source emitting 50 tons per year or more of Organic Compounds, Sulfur Oxides, Nitrogen Oxides, and/or PM_{10}, the fee shall be based on the following:

1.	Organic Compounds	$105.81 per ton
2.	Sulfur Oxides	$105.81 per ton
3.	Nitrogen Oxides	$105.81 per ton
4.	PM_{10}	$105.81 per ton

Emissions calculated by the APCO shall be based on the data reported for the most recent 12-month period prior to billing. In calculating the fee amount, emissions of Organic Compounds, Sulfur Oxides, Nitrogen Oxides, or PM_{10}, if occurring in an amount less than 50 tons per year, shall not be counted.

(Amended 7/3/91; 6/15/94; 7/1/98; 5/9/99; 6/7/00; 6/6/01, 5/1/02, 5/21/03; 6/2/04; 6/15/05; 6/7/06; 5/2/07; 5/21/08; 5/20/09; 6/16/10)

SCHEDULE N
TOXIC INVENTORY FEES
(Adopted October 21, 1992)

For each stationary source emitting substances covered by California Health and Safety Code Section 44300 *et seq.*, the Air Toxics "Hot Spots" Information and Assessment Act of 1987, which have trigger levels listed in Table 2-5-1, a fee based on the weighted emissions of the facility shall be assessed based on the following formulas:

1. A fee of $5 for each gasoline product dispensing nozzle in the facility, if the facility is a Gasoline Dispensing Facility; or
2. A fee of $82 if the facility has emissions in the current Toxic Emissions Inventory which are greater than or equal to 50 weighted pounds per year and less than 1000 weighted pounds per year; or
3. A fee of $82 + $S_L \times (w_i - 1000)$ if the facility has emissions in the current Toxic Emissions Inventory which are greater than or equal to 1000 weighted pounds per year;

   where the following relationships hold:

   w_i = facility weighted emissions for facility j; where the weighted emission for the facility shall be calculated as a sum of the individual emissions of the facility multiplied by either the inhalation cancer potency factor (CPF, in kilogram-day/milligram) for the substance times 28.6 if the emission is a carcinogen, or by the reciprocal of the inhalation chronic reference exposure level (REL_C) for the substance (in cubic meters/microgram) if the emission is not a carcinogen [use CPF and REL as listed in Table 2-5-1]:

   w_j = Facility Weighted Emission = $\sum_{i=1}^{n} E_i * Q_i$ where

   n = number of toxic substances emitted by facility
   E_i = amount of substance i emitted by facility in lbs/year
   Q_i = 28.6 * CPF, if i is a carcinogen; or
   Q_i = $[REL]^{-1}$, if i is not a carcinogen

   F_T = Total amount of fees to be collected by the District to cover District and State of California AB 2588 costs as most recently adopted by the Board of Directors of the California Environmental Protection Agency, Air Resources Board, and set out in the most recently published "Amendments to the Air Toxics "Hot Spots" Fee Regulation," published by that agency.

   N_L = Number of facilities with emissions in current District Toxic Emissions Inventory greater than 1000 weighted pounds per year.

   N_S = Number of facilities with emissions in current District Toxic Emissions Inventory greater than 50 weighted pounds per year and less than 1000 weighted pounds per year.

   N_{NOZ} = Number of gasoline-product-dispensing nozzles in currently permitted Gasoline Dispensing Facilities.

   S_L = Surcharge per pound of weighted emissions for each pound in excess of 1000 weighted pounds per year, where S_L is given by the following formula:

$$S_L = \frac{F_T - (82 \times N_S) - (82 \times N_L) - (5 \times N_{NOZ})}{\sum_{j=1}^{N_L} (w_j - 1000)}$$

(Amended 12/15/93; 6/15/05; 5/2/07; 6/16/10; 5/4/11)

SCHEDULE P
MAJOR FACILITY REVIEW FEES
(Adopted November 3, 1993)

1. MFR / SYNTHETIC MINOR ANNUAL FEES

Each facility, which is required to undergo major facility review in accordance with the requirements of Regulation 2, Rule 6, shall pay annual fees (1a and 1b below) for each source holding a District Permit to Operate. These fees shall be in addition to and shall be paid in conjunction with the annual renewal fees paid by the facility. However, these MFR permit fees shall not be included in the basis to calculate Alternative Emission Control Plan (bubble) or toxic air contaminant surcharges. If a major facility applies for and obtains a synthetic minor operating permit, the requirement to pay the fees in 1a and 1b shall terminate as of the date the APCO issues the synthetic minor operating permit.

a. MFR SOURCE FEE ..... ~~$456~~$497 per source

b. MFR EMISSIONS FEE..... ~~$17.98~~$19.60 per ton of regulated air pollutants emitted

Each MFR facility and each synthetic minor facility shall pay an annual monitoring fee (1c below) for each pollutant measured by a District-approved continuous emission monitor or a District-approved parametric emission monitoring system.

c. MFR/SYNTHETIC MINOR MONITORING FEE~~$4,566~~$4,977 per monitor per pollutant

2. SYNTHETIC MINOR APPLICATION FEES

Each facility that applies for a synthetic minor operating permit or a revision to a synthetic minor operating permit shall pay application fees according to 2a and either 2b (for each source holding a District Permit to Operate) or 2c (for each source affected by the revision). If a major facility applies for a synthetic minor operating permit prior to the date on which it would become subject to the annual major facility review fee described above, the facility shall pay, in addition to the application fee, the equivalent of one year of annual fees for each source holding a District Permit to Operate.

a. SYNTHETIC MINOR FILING FEE ..... ~~$636~~$693 per application

b. SYNTHETIC MINOR INITIAL PERMIT FEE..... ~~$446~~$486 per source

c. SYNTHETIC MINOR REVISION FEE..... ~~$446~~$486 per source modified

3. MFR APPLICATION FEES

Each facility that applies for or is required to undergo: an initial MFR permit, an amendment to an MFR permit, a minor or significant revision to an MFR permit, a reopening of an MFR permit or a renewal of an MFR permit shall pay, with the application and in addition to any other fees required by this regulation, the applicable fees according to 3a-h below. The fees in 3b and 3g apply to each source in the initial or renewal permit, while the fees in 3d-f apply to each source affected by the revision or reopening.

a. MFR FILING FEE ..... ~~$636~~$693 per application

b. MFR INITIAL PERMIT FEE..... ~~$616~~$671 per source

c. MFR ADMINISTRATIVE AMENDMENT FEE..... ~~$180~~$196 per application

d. MFR MINOR REVISION FEE ..... ~~$903~~$984 per source modified

e. MFR SIGNIFICANT REVISION FEE ..... ~~$1,684~~$1,836 per source modified

f. MFR REOPENING FEE..... ~~$552~~$602 per source modified

g. MFR RENEWAL FEE..... ~~$268~~$292 per source

Each facility that requests a permit shield or a revision to a permit shield under the provisions of Regulation 2, Rule 6 shall pay the following fee for each source (or group of sources, if the

requirements for these sources are grouped together in a single table in the MFR permit) that is covered by the requested shield. This fee shall be paid in addition to any other applicable fees.

h. MFR PERMIT SHIELD FEE..... ~~$950~~$1,036 per shielded source or group of sources

4. MFR PUBLIC NOTICE FEES

Each facility that is required to undergo a public notice related to any permit action pursuant to Regulation 2-6 shall pay the following fee upon receipt of a District invoice.

MFR PUBLIC NOTICE FEE ..... Cost of Publication

5. MFR PUBLIC HEARING FEES

If a public hearing is required for any MFR permit action, the facility shall pay the following fees upon receipt of a District invoice.

a. MFR PUBLIC HEARING FEE ..... Cost of Public Hearing not to exceed $10,968

b. NOTICE OF PUBLIC HEARING FEE ..... Cost of distributing Notice of Public Hearing

6. POTENTIAL TO EMIT DEMONSTRATION FEE

Each facility that makes a potential to emit demonstration under Regulation 2-6-312 in order to avoid the requirement for an MFR permit shall pay the following fee:

a. PTE DEMONSTRATION FEE... ~~$108~~$118 per source, not to exceed ~~$10,682~~$11,643

(Amended 6/15/94; 10/8/97; 7/1/98; 5/19/99; 6/7/00; 6/6/01, 5/1/02, 5/21/03; 6/2/04; 6/15/05; 6/7/06; 5/2/07; 5/21/08; 5/20/09; 6/16/10; 5/4/11)

SCHEDULE Q
EXCAVATION OF CONTAMINATED SOIL AND REMOVAL OF UNDERGROUND STORAGE TANKS

(Adopted January 5, 1994)

1. Persons excavating contaminated soil or removing underground storage tanks subject to the provisions of Regulation 8, Rule 40, Section 401, 402, 403 or 405 are subject to the following fee:

   a. OPERATION FEE: ~~$144~~$157

(Amended 7/19/00; 8/1/01; 6/5/02; 7/2/03; 6/2/04; 6/6/07; 5/21/08; 5/20/09; 6/16/10; 6/15/11)

SCHEDULE R
EQUIPMENT REGISTRATION FEES

1. Persons operating commercial cooking equipment who are required to register equipment as required by District rules are subject to the following fees:

   a. Conveyorized Charbroiler REGISTRATION FEE: ~~$386~~$421 per facility

   b. Conveyorized Charbroiler ANNUAL RENEWAL FEE: ~~$107~~$117 per facility

   c. Under-fired Charbroiler REGISTRATION FEE: ~~$386~~$421 per facility

   d. Under-fired Charbroiler ANNUAL RENEWAL FEE: ~~$107~~$117 per facility

2. Persons operating non-halogenated dry cleaning equipment who are required to register equipment as required by District rules are subject to the following fees:

   a. Dry Cleaning Machine REGISTRATION FEE: ~~$193~~$210

   b. Dry Cleaning Machine ANNUAL RENEWAL FEE: ~~$134~~$146

3. Persons operating diesel engines who are required to register equipment as required by District or State rules are subject to the following fees:

   a. Diesel Engine REGISTRATION FEE: ~~$129~~$141

   b. Diesel Engine ANNUAL RENEWAL FEE: ~~$86~~$94

   c. Diesel Engine ALTERNATIVE COMPLIANCE PLAN FEE (for each plan submitted under District Regulation 11-17-402): ~~$129~~$141

4. Persons operating boilers, steam generators and process heaters who are required to register equipment by District Regulation 9-7-404 are subject to the following fees:

   a. Each facility operating a boiler, steam generator or process heater subject to Regulation 9-7-404 ~~ONE-TIME~~ REGISTRATION FEE ~~$455~~$496 per facility

   b. Each boiler, steam generator or process heater subject to Regulation 9-7-404, after the first ~~ONE-TIME~~ REGISTRATION FEE ~~$54~~$59 per device

   c. ANNUAL RENEWAL FEE: $65 per device

5. Persons owning or operating graphic arts operations who are required to register equipment by District Regulation 8-20-408 are subject to the following fees:

   a. REGISTRATION FEE: ~~$231~~$252

   b. ANNUAL RENEWAL FEE: ~~$145~~$158

6. Persons owning or operating mobile refinishing operations who are required to register by District Regulation 8-45-4 are subject to the following fees:

   a. REGISTRATION FEE ~~$107~~$117

   b. ANNUAL RENEWAL FEE ~~$64~~$70

(Adopted 7/6/07; Amended 12/5/07; 5/21/08; 7/30/08; 11/19/08; 12/3/08; 5/20/09; 6/16/10; 6/15/11)

SCHEDULE S
NATURALLY OCCURRING ASBESTOS OPERATIONS

1. ASBESTOS DUST MITIGATION PLAN PROCESSING FEE:

   Any person submitting an Asbestos Dust Mitigation Plan (ADMP) for review of a Naturally Occurring Asbestos (NOA) project shall pay the following fee (including NOA Discovery Notifications which would trigger an ADMP review): ~~$319~~$348

2. AIR MONITORING PROCESSING FEE:

   NOA projects requiring an Air Monitoring component as part of the ADMP approval are subject to the following fee in addition to the ADMP fee: ~~$2,835~~$3,090

3. INSPECTION FEE:

   The owner of any property for which an ADMP is required shall pay fees to cover the costs incurred by the District after July 1, 2012 in conducting inspections to determine compliance with the ADMP on an ongoing basis. Inspection fees shall be invoiced by the District on a quarterly basis, and at the conclusion of dust generating activities covered under the ADMP, based on the actual time spent in conducting such inspections, and the following time and materials rate: $90 per hour

(Adopted 6/6/07; Amended 5/21/08; 5/20/09; 6/16/10; 6/15/11)

SCHEDULE T
GREENHOUSE GAS FEES

For each permitted facility emitting greenhouse gases, the fee shall be based on the following:

1. Carbon Dioxide Equivalent (CDE) Emissions $0.048 per metric ton

Emissions calculated by the APCO shall be based on the data reported for the most recent 12-month period prior to billing. The annual emissions of each greenhouse gas (GHG) listed below shall be determined by the APCO for each permitted (i.e., non-exempt) source. For each emitted GHG, the CDE emissions shall be determined by multiplying the annual GHG emissions by the applicable Global Warming Potential (GWP) value. The GHG fee for each facility shall be based on the sum of the CDE emissions for all GHGs emitted by the facility, except that no fee shall be assessed for emissions of biogenic carbon dioxide.

Direct Global Warming Potential Relative to Carbon Dioxide*

GHG	GWP**
Carbon Dioxide	1
Methane	21
Nitrous Oxide	310
HCFC-22	1,500
HCFC-123	90
HCFC-124	470
HCFC-142b	1,800
HFC-23	11,700
HFC-32	650
HFC-125	2,800
HFC-134a	1,300
HFC-143a	3,800
HFC-152a	140
HFC-227ea	2,900
HFC-236fa	6,300
HFC-43-10-mee	1,300
PFC-14	6,500
PFC-116	9,200
PFC-218	7,000
PFC-318	8,700
PFC-3-1-10	7,000
PFC-5-1-14	7,400
Sulfur Hexafluoride	23,900

* Source: Intergovernmental Panel on Climate Change (Second Assessment Report: Climate Change 1995).

** GWPs compare the integrated radiative forcing over a specified period (i.e., 100 years) from a unit mass pulse emission to compare the potential climate change associated with emissions of different GHGs.

(Adopted 5/21/08; Amended 5/20/09; 6/16/10)

SCHEDULE U
INDIRECT SOURCE REVIEW FEES

The applicant for any project deemed an indirect source pursuant to District rules shall be subject to the following fees:

1. APPLICATION FILING FEE

   When an applicant files an Air Quality Impact Assessment as required by District rules, the applicant shall pay a non-refundable Application Filing Fee as follows:

   a. Residential project: $560
   b. Non-residential or mixed use project: $836

2. APPLICATION EVALUATION FEE

   Every applicant who files an Air Quality Impact Assessment as required by District rules shall pay an evaluation fee for the review of an air quality analysis and the determination of Offsite Emission Reduction Fees necessary for off-site emission reductions. The Application Evaluation fee will be calculated using the actual staff hours expended and the prevailing weighted labor rate. The Application Filing fee, which assumes eight hours of staff time for residential projects and twelve hours of staff time for non-residential and mixed use projects, shall be credited towards the actual Application Evaluation Fee.

3. OFFSITE EMISSION REDUCTION FEE

   (To be determined)

(Adopted 5/20/09; Amended 6/16/10)

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson John Gioia and Members of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: April 4, 2012

Re: Second of Two Public Hearings to Consider Adoption of Proposed Regulation 8: Organic Compounds, Rule 53: Vacuum Truck Operations; Amendments to Regulation 2 Permits, Rule 1: General Requirements; and Adoption of a Negative Declaration pursuant to the California Environmental Quality Act

RECOMMENDED ACTION

Staff recommends that the Board of Directors take the following actions:

- Because amendments were made to the text of the rule that was originally made available to the public, conduct a second public hearing on April 18, 2012 to hear any further discussion on proposed Regulation 8, Rule 53: Vacuum Truck Operations, amendments to Regulation 2, Rule 1: General Requirements and the Negative Declaration, and take any additional public comment;

- Close the public hearing and take the following actions:

    - Adopt proposed Regulation 8, Rule 53: Vacuum Truck Operations;
    - Adopt proposed amendments to Regulation 2, Rule 1: General Requirements; and
    - Adopt a Negative Declaration pursuant to the California Environmental Quality Act (CEQA) for the proposed rule and amendments.

BACKGROUND

The proposed rule will implement control measure SSM-5 in the 2010 Clean Air Plan. Regulation 8, Rule 53 will limit organic vapor emissions from vacuum trucks when loading materials with high volatility.

The Board of Directors held a public hearing on this item on March 21, 2012. At the March 21, 2012 public hearing, the Board continued the hearing to allow for any further discussion of regulatory language that was changed after the proposed rule was made available to the public on February 17, 2012.

CHANGES TO THE RULE SINCE PUBLICATION

Subsequent to noticing the rule, staff received comments from US EPA, and from the Western States Petroleum Association (WSPA). Most comments requested clarifications in the rule, and, as a result of the comments, staff proposes some changes to the proposed rule published on February 17, 2012. After the March 21 public hearing, staff met again with WSPA to discuss regulatory language. As a result of that meeting, staff incorporated additional revisions in order to further clarify the rule. All revisions are noted in the attached regulatory draft. Additions are denoted by underlines, and deletions are denoted by strikethroughs. The revisions that followed the March 21 Board meeting are denoted by double underlines and strikethroughs.

The revisions to the regulatory language serve to clarify the intent of Regulation 8, Rule 53, and add compliance flexibility. They do not create additional requirements, make the rule less stringent, add compliance costs or change the anticipated emissions reductions.

BUDGET CONSIDERATIONS/FINANCIAL IMPACTS

None. The Air District already inspects the affected facilities for compliance with other rules. The adoption of this rule will not require additional District resources.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: William Thomas Saltz
Reviewed by: Henry Hilken

Attachments:

Proposed amendments to Regulation 8, Rule 53: Vacuum Truck Operations
Proposed amendments to Regulation 2, Rule 1: Permits, General Requirements
Staff Report, including Appendices:

A. Emissions Inventory
B. Comments and Responses
C. Socioeconomic Analysis
D. CEQA Initial Study and Negative Declaration

REGULATION 8
ORGANIC COMPOUNDS
RULE 53

VACUUM TRUCK OPERATIONS

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REGULATION 8
ORGANIC COMPOUNDS
RULE 53
VACUUM TRUCK OPERATIONS

8-53-100 GENERAL

8-53-101 Description: The purpose of this rule is to limit the emissions of organic compounds from the use of vacuum trucks to move materials at petroleum refineries, bulk plants, bulk terminals, marine terminals, and organic liquid pipeline facilities.

8-53-102 Applicability: This rule applies to the following facilities:

102.1 Petroleum refineries;
102.2. Bulk plants;
102.3 Bulk terminals;
102.4 Marine terminals;
102.5 Organic liquid pipeline facilities.

8-53-103 Exemption, Emergencies: Vacuum trucks responding to spills, equipment failures, and other emergency situations shall be exempt from the requirements of this rule, provided that (1) use of equipment capable of complying with the rule would delay the response, and (2) the delay would pose a risk of significant harm to facility equipment, personnel, the public, or the environment.

8-53-104 Limited Exemption, Positive Displacement Pump or Gravity Feed Loading: A loading event in which gravity or a positive displacement pump is used to move regulated materials into a vacuum truck shall be exempt from the requirements of Sections 8-53-301 and 8-53-501.

8-53-105 Exemption, Secondary Treatment Processes: Vacuum truck activities at secondary treatment processes, as defined in Regulation 8, Rule 8, Section 208, shall be exempt from this rule.

8-53-200 DEFINITIONS

8-53-201 Air Mover: A specialized type of vacuum truck that uses a combination of vacuum and air flow to load a variety of material types into the truck.

8-53-202 Affected Facility: A facility to which this rule applies pursuant to Section 8-53-102.

8-53-203 Aviation Gas: Gasoline suitable for use in piston-driven aircraft.

8-53-204 Background Concentration: The ambient concentration of TOC determined at least 3 meters (10 feet) upwind from the vacuum truck blower exhaust, as determined by a hydrocarbon analyzer pursuant to Section 8-53-501.

8-53-205 Bulk Plant: A distribution facility that is subject to Regulation 8, Rule 39 or to Section 302 of Regulation 8, Rule 6.

8-53-206 Bulk Terminal: A distribution facility that is subject to Regulation 8, Rule 33 or to Section 301 of Regulation 8, Rule 6.

8-53-207 Control Equipment: Equipment used to reduce TOC emissions from vacuum truck operations in order to comply with emission limits set forth in Section 8-53-301 of this rule, including, but not limited to, carbon adsorption systems, internal combustion engines, thermal oxidizers, refrigerated condenser systems, and liquid scrubbers.

8-53-208 Crude Oil: A naturally occurring mixture consisting predominantly of hydrocarbons and/or sulfur, nitrogen and oxygen derivatives of hydrocarbons that is removed from the earth in a liquid state or is capable of being so removed.

8-53-209 Gasoline: Any petroleum-derived, volatile mixture of hydrocarbons suitable for use as a fuel in a spark-ignited, internal combustion engine.

8-53-210 Gasoline Blending Stock: Any organic liquid used as a component of gasoline, including, but not limited to aromatic or alcohol octane boosters and oxygenates, isomerate, reformate, alkylate, straight run gasoline, cat gasoline, pyrolysis gasoline, FCC gasoline and light hydrocrackate.

8-53-211 **Loading Event:** The loading at a single location within an affected facility of regulated materials into a vacuum truck or other container through a vacuum truck operation. The resumption of loading at the same location after an interruption shall not be considered a separate loading event.

8-53-212 **Marine Terminal**: Any facility or structure constructed to load or unload organic liquid bulk cargo into or off of marine tank vessels.

8-53-213 **Naphtha**: A general term for a variety of crude oil fractions in the gasoline boiling range that are used as feeds and products including but not limited to straight run naphtha, coker naphtha, cat cracked naphtha, and hydrocracked naphtha.

8-53-214 **Organic Compound:** Any compound of carbon, excluding methane, carbon monoxide, carbonic acid, metallic carbides or carbonates and ammonium carbonate.

8-53-215 **Organic Liquid Pipeline Facility:** Any pipeline used to transport petroleum, petroleum products, or petroleum product blending stock, along with any associated breakout stations.

8-53-216 **Petroleum Refinery:** Any facility that processes petroleum products as defined in North American Industry Classification System code number 32411, Petroleum Refineries.

8-53-217 **Positive Displacement Pump:** Equipment that, for each cycle of operation, draws in fluid at a constant volume and then forces that exact volume of fluid into a discharge line. For the purposes of this rule, a diaphragm pump is considered to be a positive displacement pump.

8-53-218 **Regulated Material:** A regulated material is any of the following:

218.1 Gasoline, aviation gasoline, gasoline blending stock, naphtha;

218.2 Transmix, slop, or any other hydrocarbon mixture that includes a material listed in Section 8-53-218.1~~; or~~ if

2.1 For a mixture without significant water content, the true vapor pressure of the mixture is greater than 25.8 mmHg (0.5 psia) as determined pursuant to Section 8-53-602, or

2.2 For a mixture with significant water content, the water content is less than 90% as determined pursuant to Section 8-53-603.

~~218.3 Any material collected during dewatering of a tank storing any material listed in Sections 8-53-218.1 or 8-53-218.2.~~

Crude oil is not a regulated material.

8-53-219 **Slop:** Any mixture of petroleum materials that does not meet product specifications and may not be used or distributed without further processing.

~~**8-53-220 Splash Loading:** A method of transferring material into a tank, vessel, or other type of container in which the transferred material exits the transfer pipe, hose, or other outlet above the level of the container's contents during all or most of the transfer.~~

~~**8-53-221 Tank Dewatering:** The process of drawing water from storage tanks via a valve or similar device.~~

8-53-22~~2~~0 **Total Organic Compounds (TOC):** Organic compounds and methane.

8-53-22~~3~~1 **Transmix:** A mixture of hydrocarbons resulting from (1) the sequential transmission of batches of materials through a pipeline and mixing at the interface between different materials, or (2) the collection for re-refining of material that is not loaded, typically because it does not meet a fuel specification or has become contaminated.

8-53-22~~4~~2 **Vacuum Truck:** Portable equipment with an affixed barrel or tank that relies on the creation of a pressure differential, typically through use of a pump or blower, to pneumatically load materials into the barrel or tank of the equipment.

8-53-22~~5~~3 **Vacuum Truck Operation:** The movement of regulated material into a vacuum truck or into any other container through use of a vacuum truck. For purposes of this rule, the use of other means, typically gravity feed or an auxiliary pump, to push or pull materials into a vacuum truck shall be considered a vacuum truck operation.

8-53-300 STANDARDS

8-53-301 **Emission Limit:** Effective ~~January~~ April 1, 2013, for any loading event, the owner or operator of a facility subject to this rule shall control emissions ~~so that~~ to meet the

requirements of Section 8-53-301.1 or, as an alternative, the requirements of Section 8-53-301.2.

301.1 T~~t~~he TOC concentration does not exceed 500 ppmv, expressed as methane (C1), above background, as measured at the exhaust outlet of a vacuum truck operation or, if an auxiliary control device is used to control emissions from a vacuum truck operation, at the exhaust outlet of the control device unless:

~~30~~1.1 A second concentration reading taken within 60 seconds fails to confirm the exceedance, or

~~30~~1.2 A second concentration reading taken within 60 seconds confirms a TOC concentration in excess of 500 ppmv, but the loading event is shut down within 3 minutes after the second reading.

301.2 TOC emissions are controlled with an abatement device with an abatement efficiency of at least 95 percent.

8-53-302 Liquid Leaks: Effective ~~January~~ April 1, 2013, for any loading event, the owner or operator of a facility subject to this rule shall not use a vacuum truck or associated equipment that leaks liquid at a rate in excess of three drops per minute unless the leak is discovered by the operator and eliminated within 3 minutes of discovery or unless the loading event is shut down within 3 minutes of the discovery of the leak. This does not apply to disconnect leaks provided procedures for minimizing disconnect leaks are used.

8-53-303 Vapor Leaks: Effective ~~January~~ April 1, 2013, for any loading event, the owner or operator of a facility subject to this rule shall not use a vacuum truck or associated abatement device that leaks organic vapor in excess of 500 ppmv, expressed as methane (C_1), above background unless the leak is discovered by the operator and minimized to a concentration below 500 ppmv within 3 minutes after discovery or unless the loading event is shut down within 3 minutes after the discovery of the leak.

8-53-304 Unloading of Regulated Material: Effective ~~January~~ April 1, 2013, the owner or operator of a facility subject to this rule shall meet the following requirements for unloading of regulated material from a vacuum truck at the facility where the vacuum truck was loaded:

304.1 ~~If regulated material is unloaded into a tank, vessel or other type of container, splash loading shall not be employed~~ Regulated ~~M~~material shall be unloaded into a tank, vessel or sump that meets the control requirements in Regulation 8, Rule 5 or Regulation 8, Rule 8, or

304.2 If regulated material is unloaded into a tank, vessel or sump that does not meet the control requirements of Regulation 8, Rule 5 or Regulation 8, Rule 8, regulated material shall be unloaded using a submerged fill pipe that complies with the submerged fill pipe discharge requirements of Regulation 8, Rule 5, Secion 302 ~~promptly cleaned from the sump,~~ and ~~sump contents shall be~~ promptly pumped into storage.

8-53-400 ADMINISTRATIVE REQUIREMENTS

8-53-401 Loading Event Schedule Reporting Requirements: Effective ~~January~~ April 1, 2013, upon request by the APCO or the designee of the APCO, the owner or operator of an affected facility subject to this rule shall provide a list of scheduled loading events and the following information, if available at the time of request, for each event:

401.1 Loading event start date and time;

401.2 Facility name, plant number (if applicable), and source number (if applicable), tank, pipeline, or reservoir address, and equipment location;

401.3 Vacuum truck company name, owner/operator's name, and telephone number;

401.4 Control equipment company name, control equipment type, operator's name and telephone number if the control equipment is operated by someone other than the vacuum truck owner/operator; and,

401.5 Tank, pipeline, box, container, or reservoir capacity, estimated volume and type of material to be loaded.

The list shall include loading events that are scheduled within thirty (30) days. The list shall be provided to District staff within three (3) working days and may be provided via hard copy or electronically. Changes to loading event schedules shall be reported to District staff no less than 24 hours prior to loading events.

8-53-500 MONITORING AND RECORDS

8-53-501 Emissions Monitoring Requirement: Effective ~~January~~ April 1, 2013, the owner or operator of an affected facility using a vacuum truck operation shall monitor and record emissions as follows:

501.1 ~~When~~ To demonstrate compliance with Section 8-53-301.1 when controlling TOC emissions from a vacuum truck operation ~~are controlled primarily by~~ with technology other than a carbon adsorption system, emission concentrations from the control device shall be measured using the method specified in Section 8-53-601 and recorded as follows:

1.1 Conduct one measurement for each loading event before the ~~barrel~~ vacuum truck is approximately 20% full. Conduct an additional measurement before the ~~barrel~~ vacuum truck is approximately 60% full. If a vacuum truck is already 20% full prior to a loading event, conduct an initial measurement as soon as possible after the start of the loading event and an additional measurement before the ~~barrel~~ vacuum truck is approximately 60% full. If a vacuum truck is already 60% full prior to a loading event, conduct one measurement as soon as possible after the start of the loading event.

1.2 Record the information required by Section 8-53-502.

501.2 ~~When~~ To demonstrate compliance with Section 8-53-301.1 when controlling TOC emissions from a vacuum truck operation ~~are controlled primarily by~~ with a carbon adsorption system, emission concentrations from the control device shall be measured using the method specified in Section 8-53-601 and recorded as follows:

2.1 Commence emission measurements within 2 minutes of startup for each loading event. Additional measurements shall be performed approximately every 10 minutes during loading thereafter;

2.2 When a TOC ~~S~~stream is switched to a back-up or replacement carbon vessel, a new TOC emission measurement must occur within 2 minutes of the carbon vessel replacement.

2.3 Record the information required by Section 8-53-502.

501.3 To demonstrate compliance with Section 8-53-301.2, the owner or operator of an affected facility shall perform a source test verifying the required abatement efficiency during the vacuum truck operation or, for abatement devices that combust emissions to achieve the required efficiency, the owner or operator may instead show that a source test on the abatement device verifying the required abatement efficiency was completed within the 12 months prior to the commencement of the vacuum truck operation.

501.4 An alternative monitoring plan may be submitted and approved by the APCO.

501.~~3~~5 The owner or operator of an affected facility shall retain records and lists required by this Section for two years and shall make them available for inspection by the APCO upon request.

8-53-502 Recordkeeping Requirement: A person subject to this rule shall keep the following records:

502.1 Effective ~~January~~ April 1, 2013, record the following information for each loading event:

1.1 The date, time of commencement, and duration of the loading event;

1.2 The type and volume of regulated materials loaded;

1.3 Whether loading was by vacuum, positive displacement pump, or gravity;

1.4 Where vacuum truck control equipment or external control equipment is used, record the make and model of the control equipment, the results of

the emission measurements required by Section 8-53-501, and the make, model, and serial number of the device used to measure the TOC concentrations;

1.5 Where loading was by positive displacement pump, the make and model of the pump.

502.2 Effective ~~January~~ April 1, 2013, record the daily volume of crude oil and oil recovered from centrifuging that is loaded into vacuum trucks.

502.3 Effective April 1, 2013, keep records if the owner or operator of an affected facility chooses to perform a true vapor pressure analysis or a percent volume analysis ~~is used~~ to determine whether material loaded is a regulated material ~~as per~~ pursuant to Section 8-53-218.

502.4 The owner or operator of an affected facility shall maintain complete copies of source test reports required by Section 8-53-501.3.

502.~~3~~5 The owner or operator of an affected facility shall retain records required by this Section for two years and shall make them available for inspection by the APCO upon request.

8-53-600 MANUAL OF PROCEDURES

8-53-601 Measurement of TOC Concentrations: Measurements of TOC concentration for determining compliance with the limit set forth in Section 301 of this rule shall be conducted in accordance with USEPA Reference Methods 21 or 25A; or BAAQMD Manual of Procedures, Volume IV, ST-7, Non-methane Organic Carbon Sampling. If USEPA Reference Method 21 is used to determine compliance, the portable analyzer shall use flame ionization detection and shall meet the specifications and performance criteria of, and shall be calibrated in accordance with, EPA Reference Method 21 (40 CFR 60, Appendix A). ~~When more than one test method or set of test methods is specified for any testing, n~~Noncompliance ~~with any requirement of this rule~~ established by any one of the specified test methods ~~or set of test methods~~ shall constitute a violation of this rule.

8-53-602 Analysis of Materials, True Vapor Pressure: Materials sampled pursuant to Section 8-53-218.2.1, shall be analyzed for true vapor pressure at loading temperature as prescribed in the Manual of Procedures, Volume III, Lab Method 28: Determination of Vapor Pressure of Organic Liquids from Storage Tanks.

8-53-603 Analysis of Materials, Percent Water Volume: Materials sampled pursuant to Section 8-53-218.2.2 shall be analyzed as prescribed in ASTM D96: Test Methods for Water and Sediment in Crude Oil by Centrifuge Method (Field Procedure), ASTM D1796: Water and Sediment in Fuel Oils by the Centrifuge Method (Laboratory Procedure) or ASTM D6304: Karl Fisher Water in Petroleum Products. Alternatively, percent water volume may be observed and calculated from a mixed, representative sample collected as specified by ASTM D4057: Standard Practice for Manual Sampling of Petroleum and Petroleum Products and allowed to settle in a graduated cylinder.

8-53-604 Determination of Abatement Efficiency: Abatement efficiency of an abatement device shall be determined as specified in the Manual of Procedures, Volume IV, ST-7 or by EPA Method 25 or 25A. Noncompliance established by any one of the specified test methods shall constitute a violation of the rule.

REGULATION 2
PERMITS
RULE 1
GENERAL REQUIREMENTS

2-1-113 Exemption, Sources and Operations:

113.2 The following sources and operations are exempt from the requirements of Sections 2-1-301 and 302:

2.1 Road construction, widening and rerouting.

2.2 Restaurants, cafeterias and other retail establishments for the purpose of preparing food for human consumption.

2.3 Structural changes which do not change the quality, nature or quantity of air contaminant emissions.

2.4 Any abatement device which is used solely to abate equipment that does not require an Authority to Construct or Permit to Operate.

2.5 Architectural and industrial maintenance coating operations that are exclusively subject to Regulation 8, Rules 3 or 48, because coatings are applied to stationary structures, their appurtenances, to mobile homes, to pavements, or to curbs. This does not apply to coatings applied by the manufacturer prior to installation, nor to the coating of components removed from such structures and equipment.

2.6 Portable abatement equipment exclusively used to comply with the tank degassing or vacuum truck control requirements of Regulation 8, Rules 5, ~~and/or Regulation 8, Rule~~ 40, or 53.

2.7 Equipment that transports, holds or stores California Public Utilities Commission regulated natural gas, excluding drivers.

2.8 Deleted May 17, 2000

2.9 Deleted May 17, 2000

2.10 Deleted May 17, 2000

2.11 Teaching laboratories used exclusively for classroom experimentation and/or demonstration.

2.12 Laboratories located in a building where the total laboratory floor space within the building is less than 25,000 square feet, or the total number of fume hoods within the building is less than 50, provided that Responsible Laboratory Management Practices, as defined in Section 2-1-224, are used. Buildings connected by passageways and/or corridors shall be considered as separate buildings, provided that structural integrity could be maintained in the absence of the passageways and/or corridors and the buildings have their own separate and independently operating HVAC and fire suppression systems. For the purposes of this subsection, teaching laboratories that are exempt per Section 2-1-113.2.11 are not included in the floor space or fume hood totals. In addition, laboratory units for which the owner or operator of the source can demonstrate that toxic air contaminant emissions would not occur, except under accidental or upset conditions, are not included in the floor space or fume hood totals.

2.13 Maintenance operations on natural gas pipelines and associated equipment, provided that emissions from such operations consist solely of residual natural gas that is vented after the equipment is isolated or shut down.

2.14 Space heating units that are not subject to Regulation 9, Rule 7, where emissions result solely from the combustion of natural gas or liquefied petroleum gas (e.g. propane, butane, isobutane, propylene, butylenes, and their mixtures) of less than 20 million BTU per hour heat input. Incinerators operated in conjunction with such sources are not exempt.

2.15 Asbestos and asbestos containing material renovation or removal conducted in compliance with Regulation 11, Rule 2 and Regulation 3.

2.16 Closed landfills that have less than 1,000,000 tons of decomposable solid waste in place and that do not have an operating landfill gas collection system.

2.17 Closed landfills that have not accepted waste for at least 30 years and that never had a landfill gas collection system.

2.18 Construction of a building or structure that is not itself a source requiring a permit.

2.19 Vacuum trucks subject to Regulation 8, Rule 53 and processing regulated material as defined in that rule.

(Adopted 10/19/83; Amended 7/17/91; 6/7/95; 5/17/00; 11/15/00; 5/2/01; 7/19/06)

Bay Area Air Quality Management District

939 Ellis Street

San Francisco, CA 94109

Staff Report

Proposed

Regulation 8, Rule 53: VACUUM TRUCK OPERATIONS, and

Amendments to Regulation 2, Rule 1: Permits

April 2012

William Thomas Saltz

Air Quality Specialist
Planning, Rules and Research Division

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The following District staff members participated in the development of the proposed amendments to this rule, and deserve recognition for their important contributions:

Robert Bartley -- Technical

George Bradbury -- Technical

Ken Kunaniec -- Technical

William Guy -- Legal

Tan Dinh -- Planning and Research

Eric Stevenson -- Technical

Ron Carey -- Compliance and Enforcement

Xuna Cai -- Engineering Services

John Swanson -- Compliance and Enforcement

Chris Coelho -- Compliance and Enforcement

Chris Berglund -- Compliance and Enforcement

Jacqueline Huynh -- Compliance and Enforcement

Tracy Lee -- Compliance and Enforcement

Simon Winer -- Compliance and Enforcement

Ed Giacometti -- Compliance and Enforcement

Peter Calimeris -- Compliance and Enforcement

Richard Murray -- Compliance and Enforcement

Guy Gimlen -- Planning and Research

STAFF REPORT
Regulation 8, Rule 53: Vacuum Truck Operations

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I. Executive Summary

This staff report summarizes information regarding a proposed new Bay Area Air Quality Management District (District) Regulation 8, Rule 53: *Vacuum Truck Operations*, which is intended to limit emissions of total organic compounds (TOC) from vacuum trucks. A vacuum truck is an industrial vacuum on wheels used to collect materials, primarily liquids and semi-solids, and transfer them, typically to another part of an industrial facility. Vacuum trucks are widely used to remove trash from parking lots, clean out sewers and water mains for maintenance work, and remove waste from septic tanks and portable toilets. However, if the materials transferred contain petroleum, petroleum products, or other hydrocarbon liquids, vacuum truck operations have potential to release significant ozone-forming compounds into the ambient atmosphere.[1]

Regulation 8, Rule 53 would apply only to vacuum truck operations at certain types of facilities and only to operations that involve specific organic materials, defined in the rule as "regulated materials." These are materials that have been identified through District source tests as likely to produce significant ozone-forming emissions during the loading process. The proposed rule would reduce organic emissions by establishing an emission limit that would apply at the vapor exhaust outlet of the vacuum truck or associated equipment. In addition, the rule would establish a limit for vapor leaks and for liquid leaks from vacuum truck equipment. The proposed rule would also reduce toxic air contaminant (TAC) emissions that are part of the organics, such as benzene, toluene, xylene and hexane.

The rule is intended primarily as an ozone control measure. Organic compounds contribute to the formation of ground-level ozone, which is the primary ingredient in smog. Ozone is formed from the photochemical reaction of oxides of nitrogen (NOx) and organic compounds. Ozone can result in reduced lung function, increased respiratory symptoms, increased airway hyper-reactivity, and increased airway inflammation. In addition, organic compounds can contribute to the secondary formation of particulate matter (PM). Currently, the San Francisco Bay Area is not in attainment of the State air quality standards for ozone and PM. As a result, the California Clean Air Act requires the District to implement all feasible measures to reduce emissions of ozone precursors, including organic compounds. The proposed rule's emission standard is consistent with the only current emissions standard for vacuum truck organic vapor emissions in California.[2]

The District committed to examining potential reduction of organic compound emissions from vacuum truck operations in Control Measure SSM-5 of the District's Bay Area 2010 Clean Air Plan, which sets forth a plan to achieve the California ozone standards as well as other air quality objectives. Because virtually no work had been done by any regulatory agency to quantify vacuum truck emissions, District staff conducted 32 emissions tests of vacuum truck operations, mainly at Bay Area refineries. The tests showed that emissions vary widely, depending primarily on the volatility of the material moved, but also on other variables that cannot be readily identified. Based on the tests, District staff was able to identify certain very volatile

materials – gasoline, aviation gasoline, gasoline blending stock, naphtha, and mixtures involving any of these materials – that consistently produced relatively high emissions when moved by vacuum truck. These highly volatile materials are the "regulated materials" to which the proposed rule would apply.

Because of the wide variation in test results and because most facilities do not closely track quantities of materials moved by vacuum truck, estimates of emissions and emission reductions for the proposed rule involve significant uncertainty. However, District staff was able to group test results for several broad categories of materials and average the results to obtain emission factors for each category. To determine quantities of materials moved in each category, staff relied on data available for one refinery and scaled the data for other facilities to arrive at totals in each category. Based on this approach, staff estimates that total emissions from Bay Area vacuum truck operations at the facilities to be regulated by the rule are 1.50 tons per day (TPD). Staff estimates that emissions from operations involving regulated materials at these facilities are 1.24 TPD. Appendix A details the derivation of emission estimates from vacuum truck operations.

Staff estimates that Regulation 8, Rule 53 would reduce TOC emissions by 1.05 TPD. TAC emissions from vacuum truck operations would also be reduced.

The rule would take effect on April 1, 2013. Facilities would comply with the rule by using vacuum trucks equipped with on-board emission controls or by coupling emission control technology to an uncontrolled truck. As an alternative, facilities could also comply by using a positive displacement pump (PD pump) to load materials into the truck instead of relying on suction from the vacuum truck's blower. Facilities would be required to monitor compliance with the rule's emission standard during loading operations and keep records regarding vacuum truck operations.

In order to ensure that the proposed rule is cost effective, it has been structured so that control requirements only apply to high-volatility materials. Most vacuum truck operations are relatively brief. The average duration of the operations for which the District conducted source tests was 26 minutes. The cost of requiring controls for such brief operations can only be justified when emissions are significant. For example, for the 20 lowest-emitting operations tested (mostly involving wastewater or oils), average total organic emissions were 0.42 lbs. By contrast, for the three highest-emitting operations tested (all involving gasoline), average total organic emissions were 129 lbs. The actual costs of control are expected to be roughly $3000 per ton, consistent with other District regulatory requirements. In addition, a socio-economic analysis by a District consultant has determined that Regulation 8, Rule 53 can be implemented without significant economic dislocation or loss of jobs.

As required by the California Environmental Quality Act (CEQA), the District has prepared an initial study to analyze potential environmental impacts of the proposed rule. The initial study concludes that there would be no significant adverse impacts associated with adoption of the rule, and no comments on the CEQA initial study and Negative Declaration have been received.

Subsequent to noticing the rule, staff received extensive comments from the Western States Petroleum Association (WSPA). Most comments requested clarifications in the rule, and, as a result of the comments, staff proposes some changes to the proposed rule published on February 17, 2012. The proposed rule has proposed additions underlined and proposed deletions stricken through. The comments and staff responses are included in Appendix B. Because of the proposed changes, staff recommends that the Board open the public hearing and consider testimony at the March 21, 2012 public hearing. In accordance with California Health and Safety Code Section 40726, District staff recommends that the Board adopt proposed Regulation 8, Rule 53: *Vacuum Truck Operations* and the CEQA Negative Declaration at the next Board of Directors meeting.

II. Background

A. Introduction

Vacuum truck services are used throughout the Bay Area by a variety of industries. They are used to remove materials from storage tanks, vessels, sumps, boxes, and pipelines; to transfer materials from one container to another; and to transport materials from one location to another within the same facility. Occasionally, vacuum trucks transfer materials to an offsite location, such as a landfill. Vacuum trucks are also used in the cleaning of equipment such as tanks, vessels, and barges. The types of industries that utilize vacuum truck services include petroleum refineries, marine terminals, industrial wharfs, gasoline dispensing facilities, gasoline bulk terminals, gasoline bulk plants, gasoline cargo tanks, gas well and oil well fields, pipelines, railcar loading facilities, soil remediation projects, truck loading racks, auto dismantlers, and pipelines that deliver gasoline, natural gas, crude oil, petroleum products, and ethanol.

In addition to servicing industrial facilities, vacuum trucks are also used by many other entities in the Bay Area. Vacuum trucks are used to transport waste from restaurants, dairies, septic systems, and portable toilets. Government agencies, including cities and towns, the San Francisco Public Utilities Commission, and CalTrans, use vacuum trucks to service spills on streets, highways, bodies of water, sewers, catch basins, lift station wet-wells, wastewater treatment plants, septic tanks, waterlines, drainage systems, and other projects.

Vacuum truck services have been used throughout the Bay Area for over fifty years. When they are used to transport volatile organic liquids such as in refineries and terminals, the operations emit organic vapors into the ambient air. In some cases, vacuum truck operations in refineries and terminals have been controlled, to reduce odors or reduce the potential to form a flammable vapor cloud. Approximately 40 facilities in the Bay Area will be subject to the provisions of Regulation 8, Rule 53. They include petroleum refineries, bulk plants, bulk terminals, marine terminals, and organic liquid pipeline facilities.

The total number of vacuum trucks that operate in the Bay Area varies from day to day. A few facilities own and operate their own vacuum trucks, while most facilities contract the services of vacuum truck companies. Industry sources, including vacuum truck operators and control equipment suppliers, have informed staff that the total number of vacuum trucks operating daily in the Bay Area generally fluctuates between 125 and 150 trucks.[3] The total number of trucks that operate on a given day depends on the specific needs of Bay Area companies. Some vacuum truck operations are routine and are scheduled to load specific materials virtually daily, while other vacuum truck operations load various types of materials on an intermittent or as-needed basis. When several vacuum trucks are required for a major job such as a refinery turnaround, or to respond to a major event, such as a crude oil spill in the San Francisco Bay for example, some vacuum truck companies may mobilize additional vacuum trucks from other parts of the state or, if necessary, from nearby states.

B. Vacuum Truck Operations Overview

A vacuum truck is a transportable, truck-mounted, industrial vacuum system designed to load materials into the truck's containment vessel which is called a barrel or tank. Vacuum trucks are commonly referred to by a variety of other names including "super-suckers", "vac-jets", and "air-movers". Vacuum trucks are manufactured to load materials at different flow rates and capacities. They must be capable of loading different types of materials into their barrels under a variety of conditions.

Blower

A vacuum truck's pump or "blower" is used to create a vacuum to extract materials and load them into the vacuum truck's barrel. Pumps and blowers are usually powered by the vehicle's engine through an auxiliary drive and universal shaft. Vacuum pumps can also be driven by an auxiliary on-board engine. In some instances, an on-board engine can be the vacuum source (pump) as well as the vapor abatement device. Pumps, engines and blowers typically come in one of three design types: a sliding vane pump, a liquid ring pump, or rotary lobe blower. Each type is designed to operate under specific applications and operational parameters. The maximum vacuum and flow that is attainable for any given pump is dependent on barometric pressure and elevation above sea level as well as the pump's design limitations.

Extraction & Emissions

Materials are typically drawn into a vacuum truck through suction lines, and sometimes with a device called a "stinger" attached to the suction line (a non-flexible extension on a flexible suction line). Suction lines usually range in size from 2 inches to 4 inches in diameter and are of various lengths. Figure 1 is an image of hoses used for a vacuum truck loading event that was extracting slop from a tank.

Figure 1
Image of Vacuum Truck Hoses

Image Source: BAAQMD Staff

Emissions come from loading of materials containing hydrocarbons contained in sludge, recovered oil, slop oil, crude oil, gasoline, petroleum distillates, feed stock, blending stock, water used to clean tanks and vessels, wastewater, and various mixtures and slurries.

During some loading events, vacuum truck operators may completely submerge the suction nozzle into the material during the loading process, while other events may require that the suction line (hose) be directly connected to tanks, vessels, or containers, thus eliminating or minimizing the introduction of air (and vapors) into the truck's barrel. In some instances, the suction nozzle at the end of the suction line is partially submerged into the material that is being loaded, consequently bringing a combination of air and material (liquids/solids) into the barrel. Sometimes, this is done to increase the velocity of incoming air which can help lift the liquid/solid material more so than the vacuum alone. The same technique is used when a spill is cleaned up.

The significance of the introduction of air into the loading event is that the extra turbulence generates additional vapors within the barrel and ultimately more TOC emissions. This turbulence increases a liquid's surface area, thus allowing more liquid to change into a vapor state until the saturation point is reached and "evaporation" can no longer take place.

The fill capacity for a standard vacuum truck can range anywhere from 2520 gallons (60 barrels) to 5040 gallons (120 barrels) or more. District staff has observed total fill times that range from 3 minutes to 131 minutes. Figure 2 is a basic diagram of a vacuum truck that highlights critical components. Figure 3 shows a vacuum truck servicing a sewer. Figure 4 is an image of a large vacuum truck trailer which has a fill capacity capable of 9,000 gallons.

Figure 2
Illustration of a Typical Vacuum Truck

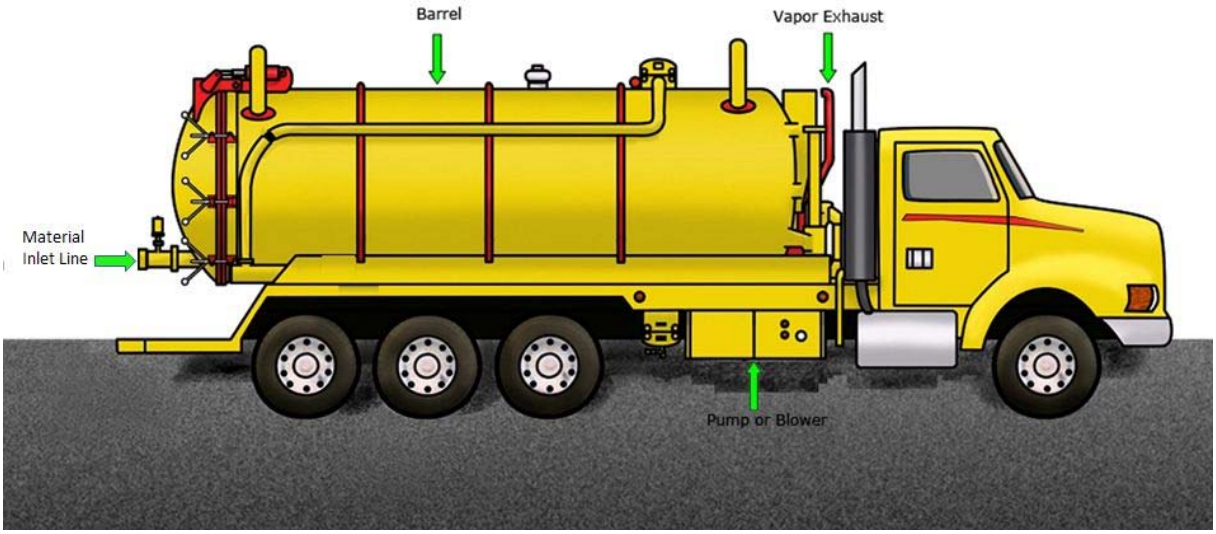

Image Source: thevactrukboy.com

Figure 3
Vacuum Truck Servicing a Municipal Sewer

Image Source: Google.com/teamelmers.com

Figure 4
Vacuum Truck Trailer with a
Fill Capacity of 9,000 Gallons

Image Source: Clean Harbors Facility in Martinez

Emissions occur when hydrocarbon vapors in the barrel's headspace – the air trapped above the material in the bottom portion of the barrel – are displaced into the ambient air. As material is loaded into the barrel, the volume of the incoming material displaces an equal volume of vapor in the headspace, which is typically vented out of the vacuum device's exhaust uncontrolled. Different operational factors affect the rates of emissions. They can include: the volumetric flow rate of the material being loaded into the vacuum truck, the vapor pressure of the material, the temperature within the vacuum truck's barrel, and the extent to which the material is being agitated while being loaded into the vacuum truck.

In addition to the vapors that are emitted from a vacuum truck's exhaust outlet or from the control devices connected to vacuum trucks, organic emissions can occur during transport of materials, during unloading, and during cleaning of vacuum barrels.

C. Controlling Vacuum Truck Emissions

A variety of technologies are available to limit organic emissions from vacuum truck operations. Most of them can achieve capture and control efficiencies that are greater than 95 percent. Technologies include carbon adsorption systems, internal combustion engines, thermal oxidizers, refrigerated condensers and liquid scrubbers. Sometimes control technologies are combined. For example an internal combustion engine can be combined with a chiller, or carbon adsorption can be combined with a scrubber.

Some controls can be integrated into vacuum trucks, but most vacuum trucks in the Bay Area are not equipped with control equipment. However, vacuum truck operations do commonly use outboard carbon adsorption systems, thermal oxidation, or internal combustion engine technologies. Such control technologies are typically connected as a "skid-mount" or "portable

trailer unit". Control equipment is generally used for safety reasons, to control odors, or to comply with requirements in the Code of Federal Regulations.

The following is a brief discussion of each technology available for controlling vacuum truck emissions.

Carbon Adsorption Systems

A carbon adsorption system is a system that is composed of a tank or vessel containing a specific amount of activated carbon onto which organic gases or vapors molecularly adhere as they flow through the particles. Activated carbon is a form of carbon that has been processed to make it extremely porous. Its porosity results in a very large internal surface which enables it to adsorb gases within its structure. The degree to which activated carbon adsorbs organic vapors is affected by the temperature, humidity, flow-rate, concentration, and molecular structure of the gas. High vacuum truck blower discharge temperatures may actually release previously adsorbed compounds, thus allowing emissions to vent into the ambient air. According to various industry sources, it may take anywhere from 2 to 10 pounds of carbon to control 1 pound of TOC.[4] Figure 5 is an image of a pile of activated carbon. The carbon has the physical consistency of small pieces of gravel. It is also available in a more granulated form. The image in Figure 6 is a microscopic cross-section of a single particle of activated carbon that illustrates the molecule's large surface area. This image depicts the flow of organic molecules into the finger-like cavity of a carbon particle where they adhere to the cavity's walls.

Figure 5
Activated Carbon Material

Image Source: www.water.siemens.com

Figure 6
Cross-Section of Activated Carbon

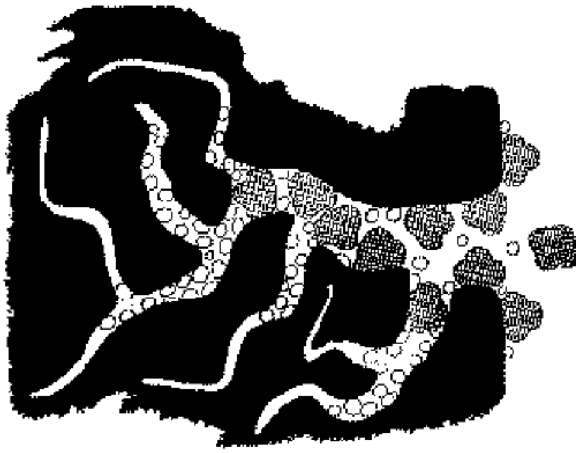

Image Source: www.carbtrol.com/voc

When observing Bay Area vacuum truck operations that used activated carbon to control organic emissions, staff normally observed two types of carbon adsorption systems. One type was a small-to-intermediate sized container integrated into the vacuum truck that contained 200 - 300 pounds of carbon. It was typically used to control two types of loading events: 1) those that lasted a short duration because a small amount of material containing hydrocarbon were loaded

into the vacuum truck barrels; and 2) those that included hydrocarbon-containing materials that were loaded into the vacuum truck barrel at relatively low flow rates. In each case, the carbon adsorption system was used to reduce odors.

A second type of carbon adsorption is a larger, portable system that includes two or three vessels, each containing 1,000 lbs of activated carbon. This type of system can control larger volumes with high organic concentrations compared to the smaller vessels. When staff observed this type of system in operation, it was being used to comply with federal requirements for hazardous air pollutants (NESHAP).

Portable carbon adsorption is best used for the control of emissions from small cleanup operations like spills. Emissions from large operations like the degassing and cleaning of a large crude oil tank would quickly overwhelm the capacity of most portable carbon adsorption units. Once a carbon adsorption unit has reached its holding limit, "breakthrough" occurs, and emissions pass through unabated. Changing out carbon vessels on a frequent basis can become cost prohibitive.

Carbon adsorption units should be monitored for breakthrough. On more than one occasion, staff observed breakthrough that occurred when carbon adsorption controls were used on vacuum truck loading events. In such situations, the organic vapor exhaust streams were not being monitored frequently enough to detect breakthrough before it occurred. In one case, in spite of an unusually low exhaust flow-rate (3-4 scfm), the organic emission concentrations were determined to be approximately 80,000 ppmv after the carbon adsorption unit reached breakthrough. Thus the emissions that should have been abated went straight through the carbon vessel and into the ambient air uncontrolled. This could have been avoided had the operator monitored the emissions from the carbon adsorption unit more frequently and been able to replace the carbon before breakthrough.

Figure 7 is an image of a portable carbon adsorption system. The two carbon vessels, each containing 1,000 lbs. of activated carbon, can be transported to locations where vacuum truck operations occur.

Figure 7
Portable Carbon Adsorption Unit

Image Source: http://www.vocpollutioncontrol.com

Under certain circumstances, carbon adsorption can be a less expensive technology compared to other control methods, primarily when it is used to control vapor emissions from materials containing relatively low organic compound concentrations. However, carbon adsorption is limited by virtue of the dimensions of portable carbon vessels because they must be sized to allow for sufficient residence time to maximize adsorption efficiency. Temperature and humidity also affect carbon's ability to adsorb. When carbon adsorption systems are used to control emissions from loading events with materials that have high organic concentrations, there is some risk of spontaneous combustion due to temperature increase.

Internal Combustion Engines

Internal combustion engine technology is currently available to control organic vapor emissions. The equipment contains the vacuum source and vapor control device in one unit mounted on a truck. Internal combustion engines that are utilized to control organic vapors from vacuum trucks have a large cubic inch displacement and are able to run on compressed gas such as propane. When an internal combustion engine is used to control organic vapor emissions, it initially runs on propane and then switches to the incoming organic vapors as the primary fuel source. In some applications, the engines can power a refrigerated condenser (or "chiller") to condense a portion of the organic vapor stream back to liquid.

In a Southern California demonstration observed by District staff, the refrigerated condenser was powered by the truck's engine using the extracted organic vapors as the primary fuel source. Emissions were monitored from the control device's exhaust with a portable engine analyzer that was previously source-tested, as required by the South Coast Air Quality Management District (SCAQMD), to confirm the accuracy of the instrument readings. While loading transmix (a material blend containing primarily gasoline and diesel fuels) into a vacuum truck, emissions were reduced by over 99.6%. The engine/chiller vapor control equipment abated approximately 33 lbs. of potential organic vapor emissions for this 10 minute loading event.[5] Figure 8 is a diagram of an engine/chiller combination unit integrated into a vacuum truck. The small reddish-orange circles depict the flow of organic vapors as they flow from right to left in the vacuum truck's barrel. Some of the vapors are captured by the chiller (see #3 in the diagram) while the majority of the remaining vapors are combusted by the internal combustion engine (see #4 in the diagram).

Figure 8
Vacuum Truck with a Combination
Internal Combustion Engine-Refrigerated Condenser
Control Device

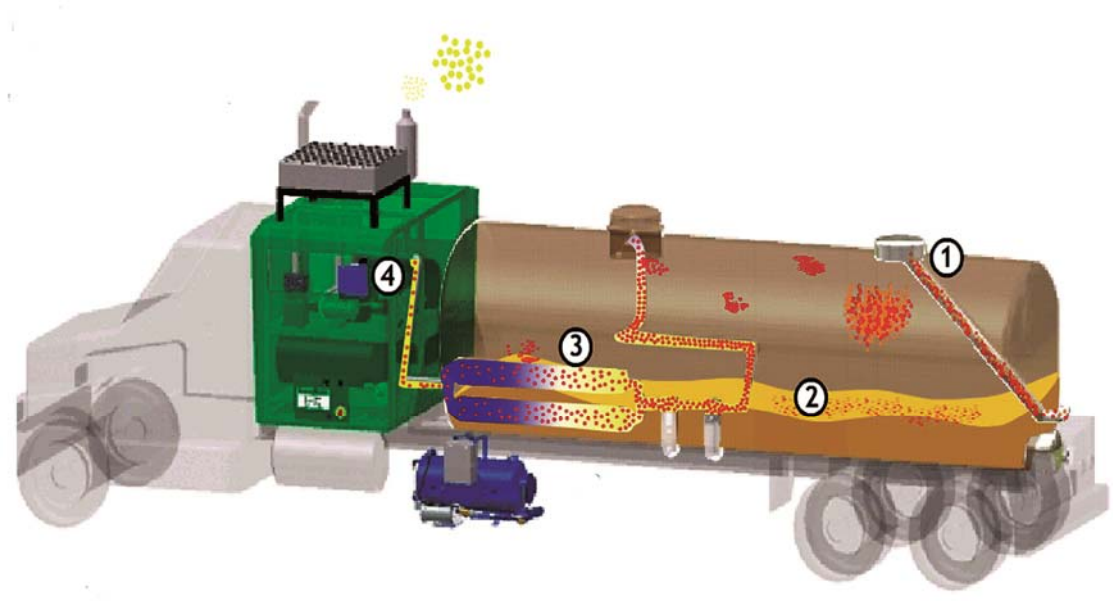

Image Source: www.fieldspecialtiesinc.com/vacuumtruck

① Stream of liquid, solids and vapors are drawn into vacuum truck tank.
② Liquids and solids drop out of stream. Vapors flow upward toward vacuum pump intake and are then exhausted downward into chiller vapor destruction system.
③ Vapor stream is drawn through chiller where some vapors are condensed back into a liquid state.
④ Remaining vapors flow to truck engine where they are combusted by more than 99.6%.

Thermal Oxidizers

Portable or "skid-mounted" thermal oxidizers are used to control emissions in vapor streams containing hydrocarbons diluted down to less than 50% of the lower explosive limit (LEL) at controlled flow rates to meet National Fire Protection Association (NFPA 86) Safety Guidelines. Thermal oxidizers are sometimes referred to as "afterburners." Thermal oxidizers are a type of incinerator that destroys emissions by raising the temperature of the organic materials in the vapor stream above their auto–ignition point in the presence of oxygen, and maintains the high temperature for a sufficient amount of time to complete the combustion of the materials to carbon dioxide and water. Time, temperature, turbulence (for mixing), and the availability of oxygen are all factors that affect the rate and efficiency of the combustion process. Organic vapor destruction efficiency depends upon design criteria which include chamber temperature, residence time, inlet concentration, compound type, and degree of mixing. Typical design efficiencies range from 98% and above depending on system requirements and characteristics of the vapor stream. Figure 9 is an image of a portable thermal oxidizer.

Figure 9
Portable Thermal Oxidizer

Image Source: ENVENT Corporation

Refrigerated Condenser Systems

A refrigerated condenser system can be effective in reducing organic vapor discharge. It is a device that cools a vapor emission stream containing hydrocarbons by changing it from a vapor state to a liquid state. The condensed organic vapors can be recovered for transportation or refining, preventing their release to the ambient air. A refrigerated condenser works best on emission streams containing high concentrations of volatile organic emissions. They are less effective on dilute streams (i.e., where the air flow is much greater than organic vapor flow).

A refrigerated condenser functions by exposing influent organic vapor streams to a chilled heat exchanger surface, causing the organic vapors to condense on the cold heat exchanger (or heat transfer) surface. As the organic vapor stream condenses, it loses volume, which produces a lower vapor concentration near the heat exchanger surface. The condensation process is assisted by turbulence in the emission stream that also brings the emission stream close enough for heat transfer and subsequent condensation of the organic vapors. Figure 10 is an image of a refrigerated condenser system, which includes a blower, compressor and after-cooler.

Figure 10
Portable Refrigerated Condenser

Image Source: geoinc.org

Liquid Scrubbers

Organic emissions can be controlled effectively by liquid scrubbing technology via a chemical process known as absorption. A variety of wet scrubber designs are used to extract gaseous pollutants from vacuum truck vapor streams: packed towers, bubble tray towers, sparging scrubbers, and a new wet scrubber process called hydraulic amalgamation. Usually, the exhaust stream from a vacuum truck is introduced at the bottom of the scrubber tower. The gas stream flows upward through the tower where the organic compounds come into contact with the absorptive chemicals. Packed towers and bubble tray towers are designed to introduce the waste gas into the tower chamber where a liquid absorption chemical is introduced through a series of spray nozzles that emit liquid droplets downward in a counter direction to the stream. The interaction between the upward flowing waste gas and the downward flowing liquid absorption chemical creates an environment for the absorption process. Sparging scrubbers and hydraulic amalgamation scrubbers introduce the waste gas through a submerged reaction chamber. The interaction between the waste gas and the absorption liquid within the reaction chamber creates an environment in which the organics are absorbed.

A high hydrocarbon-to-liquid contact ratio is essential to maximize the efficiency of the absorption process. Physical absorption depends on properties of the exhaust stream and the liquid such as density and viscosity, as well as specific characteristics of the hydrocarbons in the exhaust stream. These properties are temperature dependent: lower temperatures generally favor absorption of hydrocarbons by solvent. Absorption is also enhanced by higher liquid-gas ratios and higher concentrations in the hydrocarbon stream. Chemical absorption may be limited by the rate of reaction, although the rate-limiting factor is typically the physical absorption rate, not the chemical reaction rate. Figure 11 is an image of a vacuum truck that has a combination of liquid scrubbing and carbon adsorption control technologies designed into the truck.

Figure 11
Vacuum Truck Containing a Combination of a
Liquid Scrubber and Carbon Adsorption Control Device

Image Source: PSC Industrial Outsourcing, LLP

To achieve desired hydrocarbon control objectives, some companies provide custom designed systems that utilize combinations of control technologies discussed above. The control technologies referenced in Figure 11 are an example of such an approach. In order to comply with the proposed 500 ppmv TOC emission limit or 95% control requirement in Regulation 8, Rule 53, client-specific configurations may sometimes be necessary.

Alternative Methods for Reducing TOC Emissions

Two alternative loading methods can result in significant emission reductions from vacuum truck loading and at lower cost than using the control technologies discussed above. The two methods are loading with a positive displacement pump and gravity loading, both of which produce less agitation of the loaded material than loading with the vacuum truck blower.

The first method involves use of an external positive displacement pump, a submersible pump, or a diaphragm pump. In this staff report, all three types of pumps are referred to as a positive displacement pump (PD pump). A PD pump can introduce material into a vacuum truck barrel with significantly less agitation than is generated by a vacuum truck blower.

Different PD pumps are manufactured with different types of parts for different performance standards, depending on specific material loading requirements. Thus, the cost to purchase or rent PD pumps can vary. For instance, if gasoline is going to be loaded into a vacuum truck, the PD pump must be fitted with more expensive parts that are resistant to the corrosive nature of that chemical. A material known as viton – a special polymer – is typically used for PD pump diaphragms used for gasoline loading events.

PD pumps may not be appropriate for all vacuum truck operations for a variety of reasons:

- They take longer to complete loading events, which is a disadvantage if a job is large enough to require the loading of several vacuum trucks or more in succession;
- PD pumps are not powerful enough to load very viscous materials under certain situations;
- PD pumps require more set up time (typically 30 min - hour); and,
- Diaphragm ruptures will result in leaks or spills. Sometimes compressors fail which result in downtime for the PD pump.

Research did not identify any test data comparing vacuum truck emissions when using the blower to emissions when using a PD pump for loading. In order to determine the extent of emission reductions likely to result from use of a PD pump, staff examined the United States Environmental Protection Agency loading loss equations and emission factors for loading into tank trucks. This information is found in EPA's AP-42, *Compilation of Air Pollutant Emission Factors*, Chapter 5.2. Using the equations in AP-42, gasoline with a Reid vapor pressure of 7 psia (typical for California gasoline), would be expected to emit approximately 10 pounds per thousand gallons (0.42 pounds per barrel) when loaded into a vacuum truck using a PD pump. By contrast, District source tests conducted to develop the emissions inventory for this rule (see Appendix A) showed that vacuum truck loading of gasoline and naphtha produced average emissions of 2.41 pounds per barrel. If these results are representative, a PD pump would be expected to reduce emissions by 83%. To determine whether actual measurements would show similar results, staff conducted one vacuum truck source test involving gasoline loading in which 20 barrels of gasoline were loaded using the vacuum truck's blower and 20 barrels were loaded with a PD pump. With the blower in operation, emissions were 0.45 pounds per barrel. Using the PD pump, emissions were 0.10 pounds per barrel, a reduction of 78%.

A second alternative for reducing emissions is to use a gravity feed method in which liquid moves from a higher elevation into a vacuum truck through the force of gravity. This method can be employed, for example, when material must be moved from an elevated tank or vessel. This method is expected to result in emission reductions equal to those achievable through use of a positive displacement pump.

For both the positive displacement and gravity feed methods, District staff considered whether restrictions on flow rate might be necessary. This concern was based on the idea that higher flow rates might produce greater agitation and greater emissions. However, calculations and research suggest that emissions are typically lower at higher flow rates because quicker loading allows less time for vapor growth.[6] As a result, the proposed rule does not limit flow rates when these methods are used.

Another alternative method of loading materials into a vacuum truck involves the creation of vacuum pressure inside a vacuum truck barrel and then shutting off the blower prior to opening the inlet valve to draw in the material. The blower is turned on for less than 1 minute one additional time partway through the loading event. Although this method is promising, additional testing would be necessary for the loading of a variety of materials under a variety of conditions before staff could conclude that the method reduces vacuum truck emissions.

Lastly, for certain vacuum truck operations, a vapor line (hose) could be used to return organic vapors to the tanks the materials originated from. This method is called a vapor balancing. In order for this method to comply with the rule, the tank that is receiving the rerouted vapors must be connected to a control device that is actively controlling the vapors. This method is not common.

III. Regulatory Proposal

Currently, the District does not regulate vacuum truck emissions. Regulation 2, Rule 1, Section 103.1 exempts vacuum truck operations from permitting requirements. However, permits may be required for control equipment used to limit organic vapor emissions from a vacuum truck. Regulation 8, Rule 53, is a new rule.

A. Proposed Regulation 8, Rule 53: Vacuum Truck Operations

The proposed emission limits in Regulation, Rule 53 would be consistent with the only current air quality regulation in California that limits organic vapor emissions from vacuum truck operations — SCAQMD Rule 1149. Whereas Rule 1149 exclusively limits VOC emissions from vacuum trucks that are utilized during the cleaning or degassing of storage tanks and pipelines, Regulation 8, Rule 53 would limit organic vapor emissions, including methane, from five types of industrial facilities that utilize vacuum truck service for a variety of operations and equipment types.

The emission limits in Regulation 8, Rule 53 are also consistent with Texas Commission on Environmental Quality (TCEQ) permitting requirements for vacuum truck operations associated with maintenance, startup and shutdown operations at refineries.[7] In addition, the federal National Emission Standard for Benzene Waste Operations found in 40 C.F.R., Part 61, Subpart FF includes a similar emission limit that applies to vacuum truck operations used for waste disposal.[8]

The proposed rule for vacuum truck operations, Regulation 8, Rule 53, would apply in petroleum refineries, gasoline bulk terminals, gasoline bulk plants, marine terminals and organic liquid pipeline facilities. These facilities are responsible for the majority of organic liquid transfers using vacuum trucks.

Regulation 8, Rule 53 is a new rule that will reduce TOC and TAC emissions in three ways: (1) by limiting organic vapor emissions from vacuum truck blower exhaust, (2) by limiting organic vapor emissions from vacuum truck equipment vapor leaks, and (3) by limiting liquid leaks from vacuum truck equipment. Table 1 lists the proposed emission limits for vacuum truck loading events. The rule will exempt vacuum truck operations that respond to emergency situations.

Table 1
Proposed TOC Emission Limits for Vacuum Truck Loading Events

Standard Type	Current Standard	Emission Standard Effective April 1, 2013
Emission Leak Limit—from blower exhaust or connected equipment	None	500 ppmv or 95% emission reduction
Liquid Leak Limit—from equipment such as hoses and connectors	None	3 Drops Per Minute (no more than)
Vapor Leak Limit—from equipment such as stingers, hoses, and connectors	None	500 ppmv

The emission limit requirements in the proposed rule would apply to the specified facilities that use vacuum trucks to load regulated materials. Regulated materials are defined as gasoline, aviation gas, gasoline blending stock, naphtha, and any mixture that includes any of these materials. Sample testing allows for exclusion of heavier materials and materials with high water content. Crude oil is not a regulated material at this time.

Other materials moved by vacuum trucks in refineries may be cost effective to control. For that reason, record keeping requirements for some additional materials (crude oil and recycled oil) have been included in rule requirements. If data developed in response to these record keeping requirements and through further source tests show that emissions from other materials may be cost-effectively controlled, further amendments may be considered.

Additional requirements for vacuum truck operations include the following:

- Reporting requirements for scheduled loading events upon request by the APCO;
- Monitoring requirements for emissions from vacuum trucks or control technologies when applicable;
- Recordkeeping requirements to assist staff in assuring compliance with the rule;
- Use of District and EPA-approved measurement methods.

Under the rule, the facilities that use or contract for use of vacuum trucks would be responsible for complying with the provisions of Regulation 8, Rule 53. Regulation 8, Rule 53 is proposed to become effective on April 1, 2013.

B. Amendments to Regulation 2, Rule 1: Permits, General Requirements

Vacuum truck operations currently do not require permits. Amendments are proposed to Regulation 2: Permits, Rule 1: General Requirements so that vacuum trucks will not be required to be permitted with the adoption of Rule 53. Vacuum trucks are temporary contractors in the regulated facilities, used temporarily at any one location, and, so are not appropriate for permits. The current exemption is based on Regulation 2, Rule 1, Section 103 that exempts sources for which a Regulation 8 rule does not exist. Exceptions exist for sources only subject to some general standards found in Regulation 8, Rules 1 and 2 and for Regulation 8, Rule 3: Architectural Coatings. However, with the adoption of proposed Regulation 8, Rule 53, this

exemption will no longer apply. Staff has proposed minor amendment to Regulation 2, Rule 1 to continue to exempt these vacuum truck operations from requiring District permits.

IV. Emissions and Emission Reductions

A. Emissions Inventory

The development of an emissions inventory requires information on emission rates for an activity (i.e., the expected emissions for a given unit or volume of the activity) combined with information on the frequency or volume of the activity. Neither type of information was readily available for vacuum truck operations at the beginning of this rule development effort. In order to estimate vacuum truck emissions and potential reductions for the proposed rule, staff developed emission factors and estimates of vacuum truck activity.

To develop emission factors, District staff conducted thirty-two source tests on vacuum trucks moving various petroleum products. Some tests found low emissions, particularly for those products that contain high amounts of water. Other tests found significant emissions, particularly for those products that contain high vapor pressure petroleum products such as gasoline. Despite significant variation in results, even among similar materials, staff was able to group the results into general material categories and develop emission factors.

To develop activity data, staff relied on data from one refinery that was more detailed than data available from other sources and scaled the data to derive estimates of total activity. Using the emission factors and this activity data, the District developed emissions estimates for vacuum truck operations in the facilities that would be subject to the proposed rule. Total organic emissions from those facilities subject to the rule are **1.50 TPD**. The emissions inventory is explained in greater detail in Appendix A.

B. Emission Reductions

Organic emissions from vacuum truck operations at facilities that the rule would regulate are 1.50 TPD. These emission estimates include throughput that is already controlled or minimized through use of external abatement equipment, PD pumps, or gravity feed (approximately 20% is already controlled). Total emissions from moving materials to be regulated by the rule that are currently uncontrolled are **1.24 TPD**.

Based on discussions with facilities that will become subject to the rule, staff estimates that 50% of vacuum truck operations that will be subject to the proposed rule will be controlled with external abatement equipment such as carbon adsorption or thermal oxidization. These devices have an efficiency of at least 95%. The other half of vacuum truck operations subject to the proposed rule will be minimized by the use of PD pumps or gravity feed. For these operations, staff used an efficiency of 75% to calculate the emission reductions. Emission reductions are calculated as follows:

(Uncontrolled emissions) x (% to be controlled by abatement equipment) x (abatement efficiency) +
(Uncontrolled emissions) x (% to be controlled by PD pumps) x (PD pump control efficiency) =

(1.24) x (50%) x (.95) + (1.24) x (50%) x (.75) = **1.05 TPD**

Emissions reductions of 1.05 ton per day represents an 85% reduction in emissions from moving regulated materials and a 70% reduction of overall organic emissions from vacuum truck operations at the regulated facilities. Emissions for TACs, such as benzene, toluene, xylene, hexane, and possibly GHG emissions will also be reduced.

V. Economic Impacts

A. Compliance Costs and Cost Effectiveness

The rule as proposed has been structured to be cost effective. Highly volatile liquids, such as gasoline, emit high rates of organic emissions when moved into vacuum trucks. However, source testing has found that many materials moved by vacuum trucks in petroleum refineries, such as wastewater, emit at a very low rate and are thus not cost effective to control. The rule defines those materials that source tests have shown to have high emissions so that they can be clearly identified within the context of refinery, bulk plant, bulk terminal, marine terminal and pipeline facility operations. An analysis of cost effectiveness follows.

Costs

Control Costs

Staff estimates that 24 vacuum trucks operate in the affected facilities daily. This number is derived from discussions with facility representatives, vacuum truck and vacuum truck control equipment operators and field observations. Of these 24 vacuum trucks, 22 operate in refineries. The remaining 2 operate in gasoline bulk terminals, bulk plants, marine terminals and organic liquid pipeline facilities. Much of the vacuum truck activity in refineries, however, is not conducted on materials that the rule would regulate.

As detailed in Appendix A: Emissions Inventory, 13.5% of the vacuum truck throughput in refineries is of regulated material and about 75% of the throughput in other facilities is of regulated material. Staff used these figures to estimate costs for refineries and other facilities.

Consequently, the number of vacuum truck operations in refineries that will be subject to the rule per day is 22 x 13.5% = 2.97 (3 trucks per day). The number of vacuum truck operations in other facilities that will be subject to the rule is 2 x 75% = 1.5 trucks per day. The total number of vacuum trucks that will be loading regulated materials on a daily basis at all facilities subject to Regulation 8, Rule 53 is 3 + 1.5 = 4.5 trucks/day. As discussed under Emissions and Emissions Reductions, above, the percentage of trucks that are already controlled or that use positive displacement pumps is 20%. Therefore, additional costs will be incurred by 4.5 – (0.20 x 4.5) = 3.6 vacuum trucks on a daily basis.

Staff obtained cost estimates from representatives of several companies that supply abatement equipment that is currently used at Bay Area, South Coast Air Basin and Texas refineries. Table 2 reflects the range of typical daily costs to rent abatement equipment that is most commonly used in the Bay Area as well as the daily cost to rent PD pumps. Gravity feed, an alternative to use of a PD pump, will be used in some applications, when material is at a higher elevation than the vacuum truck barrel. Because gravity feed does not use any extra equipment, there is no associated cost. For the purpose of this analysis, any use of gravity feed is not considered.

Table 2
Daily Compliance Costs

Control Technology	Cost – Equipment Rental
Positive Displacement pump	$80 – $105 /day
Thermal incineration	$4900 – $5780 /day
Carbon adsorption	$400 – $515 /day

As previously indicated, 50% of the time PD pumps or gravity feed will be used and 50% of the time abatement equipment will be used to comply with the provisions of the rule. Industry currently uses thermal oxidation to control emissions about 10% of the time. So, staff estimates that carbon adsorption will be used the remaining 40% of the time.

Given the range of costs, a high and a low cost have been estimated on a daily basis as follows:

(Trucks / day that will need to be controlled) x (% control equipment) x (costs of control) = Costs / day

Low Costs of Control Equipment

(3.6 trucks /day)(50% PD pumps)($80) + (3.6 trucks/day)(10% thermal incineration)($4900) + (3.6 trucks/day)(40% carbon adsorption)($400) = $144 + $1764 + $576 = $2,484/day.

High Costs of Control Equipment

(3.6 trucks /day)(50% PD pumps)($105) + (3.6 trucks/day)(10% thermal incineration)($5780) + (3.6 trucks/day)(40% carbon adsorption)($515) = $189 + $2,081 + $742 = $3,012/day.

Monitoring Costs

In addition to the costs of control, there are costs associated with the monitoring requirements. Although some facilities have environmental personnel available to conduct monitoring, others do not. Monitoring is only required when abatement equipment is used, not when a PD pump or gravity feed is used. Staff has allocated a daily cost of $85 to assist with emissions monitoring, but it will be required on all loads of regulated materials, not just the additional loads that are currently uncontrolled. If PD pumps or gravity feed is used on 50% of 4.5 trucks per day, costs for personnel are:

(4.5 trucks per day) x (50%) x ($85) = $191/day

Emissions monitoring will also require the use of a handheld monitoring device. Some facilities such as refineries and gasoline bulk terminals already own this type of equipment because it is used to measure emissions for compliance with organic vapor emission limits in other District regulations. Staff estimates that at least 4 to 5 additional handheld monitoring devices, and possibly up to a maximum of 14 units will have to be purchased, although they can be rented, or monitoring can be performed under the contract to provide the vacuum truck service. The monitoring devices cost from $2,000 to $3,000 per unit. For the cost analysis, staff used a median cost of $2,500. The cost for 14 facilities to purchase handheld monitoring devices to comply with Section 8-53-501 is $35,000. The cost of the monitoring devices has been amortized over 5 years, the minimum life expectancy. Consequently, the daily cost for monitoring is $19 per day.

Total Costs

Total costs are the sum of control costs, personnel costs and monitoring costs:

Low Cost
$2484 + $191 + $19 = $2694 per day

High Cost
$3012 + $191 + $19 = $3222 per day

Yearly Costs

The daily costs have been multiplied by 365 to derive the yearly costs.

Low Cost
($2964) x (365) = $983,310

High Cost
($3222) x (365) = $1,176,030

Refineries will incur 91.6% of the costs. Terminals, bulk plants, and organic liquid pipeline facilities will incur 8.4% of the costs. These are based on the throughput information that was used to calculate emissions and activity costs. Of the 8.4%, 8.38% of the total costs are expected to be incurred in bulk terminals and marine terminals. Bulk plants, with two tenths of a percent of the gasoline throughput that bulk terminals have, and organic liquid pipeline facilities, will incur 0.02% of the total costs. Bulk plants are typically small businesses, and analyzed as such in the socioeconomic analysis.

Cost Effectiveness

Cost effectiveness is the sum of costs to comply with the proposed rule on a daily basis divided by the expected emissions reduction on a daily basis. Cost effectiveness (C.E.) is expressed by the following equation:

C.E. = Costs / emissions reductions

Low Cost = $2694 / 1.05 ton = $2566 / ton

High Cost = $3222 / 1.05 ton = $3069 / ton

The rule is very cost effective. District organic compound control rules typically range from several thousand to over fifteen thousand dollars per ton of emissions reductions, and rules to reduce oxides of nitrogen, NOx, typically range from about seven to around twenty thousand dollars per ton of emissions reduced.

B. Socioeconomic Impact Analysis

Section 40728.5 of the California 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." Bay Area Economics of Emeryville, California has prepared a socioeconomic analysis of the proposed amendments to Regulation 8, Rule 53.

The analysis concludes that the proposed rule would not have a significant economic impact or cause regional job loss. District staff has reviewed and accepted this analysis. The socioeconomic analysis is attached as Appendix B.

C. Incremental Cost Analysis

Health and Safety Code Section 40920.6 requires an air district to assess the incremental cost-effectiveness for a regulation that identifies more than one control option to meet the same emission reduction objectives. Incremental cost-effectiveness is defined as the difference in costs divided by the difference in emission reductions between one level of control and the next. As discussed above, the cost-effectiveness for the requirement to use control technology to comply with emission limits for vacuum truck operations that load only regulated materials is estimated to be from $2566 to $3069 per ton of emissions reduced.

To calculate the incremental cost effectiveness, the cost of controlling all organic liquids (including non-regulated materials such as wastewater with some organic content and diesel fuel and oils with a low vapor pressure) was calculated.

The throughput information, detailed in Appendix A, provides an estimate of 3,229,799 barrels per year of all materials moved by vacuum trucks in refineries in a year. Refineries represent 91.6% of the vacuum truck activity among the regulated facilities. Other facilities have much less vacuum truck activity and a lower percentage of vacuum truck operations that would not be hauling regulated materials, so they are not included in the calculations. The regulated materials in refineries constitute 436,022 barrels, so the non-regulated materials represent the remaining 2,793,777 barrels. Utilizing the emission factor of 0.082 lbs / barrel, the emissions from non-regulated materials are 0.31 tons per day.

To control this material, all vacuum trucks used in the refineries would need to utilize abatement equipment, or PD pumps or gravity feed, and be monitored, as explained above. Costs to control 3,229,799 barrels of material per day would increase proportionally, to a range from $19,954 to $23,865 per day. The emissions reductions, calculated as before, would total 1.26 tons per day. Consequently, the cost effectiveness of controlling all vacuum truck material in

refineries would be from $15,836 per ton to $18,940 per ton of emissions reduced. This is still within the range of cost effectiveness of other District rule adoptions.

However, the cost effectiveness of the additional increment controlled is significantly higher. The calculation of incremental cost effectiveness is expressed as follows:

Total Costs – Recommended Costs = Incremental Costs

($19,954 to $23,865) – ($2566 to $3069) = $17,428 to $20,796

Total emissions reductions (E.R.) – Recommended E.R. = Incremental E.R.

1.26 tons per day – 1.05 ton per day = 0.21 tons per day

Incremental Costs / Incremental Emissions Reductions = Incremental Cost Effectiveness

$17,428 / 0.21 tons per day = $82,990 per ton of emissions reduced

$20,796 / 0.21 tons per day = $99,029 per ton of emissions reduced

Given the range of incremental cost effectiveness from $82,990 to $99,029 per ton of emissions reduced, only the defined "regulated materials" are recommended for control at this time.

VI. Environmental Impacts

A. California Environmental Quality Act

Pursuant to the California Environmental Quality Act, the District has caused an initial study for proposed Regulation 8, Rule 53 to be prepared by Environmental Audits of Placentia, CA. The assessment concludes that the proposed rule would not result in adverse environmental impacts. A copy of the study and draft Negative Declaration is attached as Appendix C.

B. Greenhouse Gas Emissions

In June, 2005, the District's Board of Directors adopted a resolution that recognizes the link between global climate change and localized air pollution impacts. Climate change, or global warming, is the process whereby emissions of anthropogenic pollutants, together with other naturally-occurring gases, absorb infrared radiation in the atmosphere, leading to increases in the overall average global temperature.

While carbon dioxide (CO2) is the largest contributor to global warming, methane, halogenated carbon compounds, nitrous oxide, and other greenhouse gas (GHG) species also contribute to climate change. Gases in the atmosphere can contribute to the greenhouse effect both directly and indirectly. Direct effects occur when the gas itself is a GHG. While there is relative agreement on how to account for these direct effects of GHG emissions, accounting for indirect effects is more problematic. Indirect effects occur when chemical transformations of the original compound produce other GHGs, when a gas influences the atmospheric lifetimes of methane,

and/or when a gas affects atmospheric processes that alter the radiative balance of the Earth (e.g., affect cloud formation).

Organic compounds have some direct global warming effects; however, they may also be considered greenhouse gases due to their indirect effects. Organic compounds react chemically in the atmosphere to increase concentrations of ozone and may prolong the life of methane. The magnitude of the indirect effect of organic compounds is not well quantified and depends on local air quality. Global warming not only exacerbates ozone formation, but ozone formation exacerbates global warming because ozone absorbs infrared radiation. Consequently, reducing organic compounds to make progress towards meeting California air quality standards for ozone will help reduce global warming.

Adoption of Regulation 8, Rule 53 will not result in any adverse impact on the emissions of greenhouse gases. The proposed methods of control include technologies such as carbon adsorption, thermal oxidizers, refrigerated condensers, absorption, and internal combustion engines; also by minimizing emissions via the use of an alternative method of loading materials into vacuum trucks with a positive displacement pump.

On average, control equipment or PD pumps are currently used 20% of the time to minimize emissions. Facilities have indicated that they would prefer to utilize PD pumps instead of control technology to comply with the emission requirements in the proposed rule. There would be a minimal increase in energy demand to implement these amendments and, therefore, the proposal will not generate additional greenhouse gases.

VII. Regulatory Impacts

A. California Health and Safety Code 40727.2 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.

Adoption of Regulation 8, Rule 53, would not conflict with any existing federal or District requirement. In some cases, materials moved by vacuum trucks in petroleum refineries may be subject to the federal National Emission Standard for Benzene Waste Operations, 40 C.F.R., Part 61, Subpart FF. The federal rule requires emission from waste transfer of petroleum products containing benzene to be controlled to 500 ppm, which is consistent with the proposed limit in Regulation 8, Rule 53.

In addition, District Regulation 8, Rule 5: Storage of Organic Liquids, requires controls of vapor space emissions in floating roof tanks to be controlled when tanks are being degassed for cleaning and maintenance. The portable controls used for this operation are the same as those used for vacuum trucks. The emission standard in Regulation 8, Rule 5 is also 500 ppm.

B. Senate Bill 288 Conformity

Senate Bill (SB) 288, later codified in the California Health and Safety Code commencing at §42500, prohibits air districts from making changes to their new source review rules that would make the rule less stringent than it was on December 30, 2002, unless certain conditions were met. Currently, District Regulation 2, Rule 1: Permits, General Requirements exempts sources that are not regulated by a Regulation 8 rule, provided that the emissions from these sources do not exceed 10 pounds per day or 150 pounds per year. Regulation 8, Rule 53 is a new rule and its adoption will mean that this exemption no longer applies to vacuum trucks operations. To maintain consistency with current permitting requirements, staff has proposed an exemption in Regulation 2, Rule 1, Section 113 to exempt vacuum truck operations that will be subject to the requirements of Regulation 8, Rule 53. Section 113 exempts specified sources and operations from having to obtain a permit. To the existing exempt sources, staff has added, "Vacuum trucks subject to Regulation 8, Rule 53 and processing regulated material as defined in that rule." In addition, staff has proposed an exemption for portable abatement equipment used to control emissions from vacuum trucks, consistent with the existing exemption for abatement equipment used for tank degassing.

These exemptions are not in conflict with SB 288 provisions. Vacuum truck operations are currently exempt. Moreover, the exemption is narrowly tailored so that only those trucks subject to the control requirements will be specifically exempted. Other trucks used outside of Regulation 8, Rule 53 facilities and not subject to the control requirements will still be subject to permitting if emissions exceed the thresholds. Emissions from vacuum trucks subject to Regulation 8, Rule 53 will decrease. Consequently, no sources will escape permitting and new source review with the addition of these exemptions to Regulation 2, Rule 1.

VIII. Rule Development Process

Air District staff from the Planning, Legal, Technical, Engineering, and Compliance and Enforcement Divisions developed Regulation 8, Rule 53 through a rule development process that began in 2010. In June 2010, staff requested through the Western States Petroleum Association (WSPA) that Bay Area refineries provide vacuum truck material throughput information as well as technical information regarding vacuum truck operations. From February 2011 until October 2011, the District conducted thirty-two source tests on vacuum truck operations involving a variety of materials, equipment, and processes.

District staff met with representatives from various Bay Area facilities that would be subject to the rule and conducted site visits. Staff reviewed and discussed regulatory language with staff at the other agencies that have regulated vacuum trucks: the South Coast Air District, the Texas Commission of Environmental Quality, and the New Jersey Department of Environmental Protection. Staff also discussed vacuum trucks with vacuum truck manufacturers and organic vapor control equipment service providers.

Staff met with WSPA on June 14, 2011 to discuss basic rule concepts. A draft rule, a workshop report, and workshop notice were posted on the District's web site on July 7, 2011, and the

notice was mailed to 68 businesses, facilities, vacuum truck service providers, interested persons, and companies that provide control technologies for vacuum truck VOC emissions. A public workshop was conducted at the City of Martinez City Hall on July 21, 2011, and a second was held at the District offices on July 25, 2011 to solicit comments on the draft proposal. Thirty-five parties attended the first workshop and twenty-one parties attended the second workshop.

Comments on the draft addressed:

- Cost information for the proposed rule;
- Vacuum truck loading of materials containing high water content and/or low vapor pressure that result in low organic vapor emissions;
- Reporting requirements for vacuum truck loading events; and,
- The effective date for the rule.

After reviewing workshop comments and the District source test results, staff developed a revised draft of the rule that applies only to those materials that result in the most significant emissions when loaded into vacuum trucks. Reporting requirements for scheduled loading events have been modified to address stated concerns. The proposed rule's effective date, April 1, 2013, will give industry sufficient time to implement control technologies and train staff to familiarize themselves with the new rule.

On September 29, 2011, and January 9, 2012 staff gave presentations to the District's Stationary Source Committee regarding the status of the rule.

Staff has analyzed the cost effectiveness of the rule and has determined that a cost range of $2964 per ton to $3222 per ton of emissions reduced is cost effective. Staff has re-examined the issue of whether the responsibility to comply with the provisions of the rule should be with the facility or the vacuum truck operator. Staff has confirmed that consistent with BAAQMD fugitive emission rules, and, consistent with Title V permitting requirements, the requirement for facilities to comply with the requirements in Regulation 8, Rule 53 is appropriate.

Staff reviewed and considered all comments received at the public workshops and subsequent to workshops and made revisions to the proposal as appropriate. Staff continued discussions with industry representatives and other regulatory agencies and again met with WSPA on December 20, 2011 to discuss applicability, timing and definitions for the draft rule.

Staff published the proposed rule on February 17, 2012 in preparation of the public hearing. Staff received three questions about the rule's applicability, minor comments from EPA on February 29 and comments from WSPA on March 9. WSPA had a number of comments, mostly suggestions for clarifications. Staff incorporated some, but not all of the suggestions. Staff responses to specific comments are iterated in Appendix B: Comments and Responses. The proposed rule contains the changes that staff recommends in strikethrough/underline format. The Board opened the public hearing at the March 21, 2012 meeting, heard testimony and continued the public hearing to April 18, 2012.

After the March 21 public hearing, staff met with WSPA on March 27, 2012 to further discuss regulatory language. As a result of that meeting, staff incorporated additional minor revisions in

order to further clarify the rule. All revisions are noted in the draft regulation. The revisions to the regulatory language serve to clarify the intent of Regulation 8, Rule 53, and add compliance flexibility. They do not create additional requirements, make the rule less stringent, add compliance costs or change the anticipated emissions reductions.

IX. Conclusions

Pursuant to Section 40727 of the California Health and Safety Code, the proposed rule amendments must meet findings of necessity, authority, clarity, consistency, non-duplication, and reference before the Board of Directors adopt, amend, or repeal a rule. The proposed Rule is:

- Necessary to protect public health by reducing ozone precursors to meet the commitment of Control Measure SSM5 of the Bay Area 2010 Clean Air Plan;
- Authorized by California Health and Safety Code Sections 40000, 40001, 40702, and 40725 through 40728;
- Clear, in that the rule specifically delineates the affected industry, compliance options, and administrative requirements for industry subject to this rule, so that its meaning can be easily understood by the persons directly affected by it;
- Consistent with other California air district rules, and not in conflict with state or federal law:
- Non-duplicative of other statutes, rules, or regulations; and,
- Implementing, interpreting and making specific and the provisions of the California Health and Safety sections 40000 and 40702.

A socioeconomic analysis prepared by Bay Area Economics has found that the proposed amendments would not have a significant economic impact or cause regional job loss. District staff have reviewed and accepted this analysis. A California Environmental Quality Act analysis prepared by Environmental Audit, Inc., concludes that the proposed amendments would not result in adverse environmental impacts. District staff have reviewed and accepted this analysis as well. The CEQA Negative Declaration was made available for public comments and no comments were received.

The proposed Rule has met all legal noticing requirements, has been discussed with the regulated community and other interested parties, and reflects the input and comments of many affected and interested parties. California Health and Safety Code Section 40726 does not allow a district board to adopt a rule with changes to the text that are "so substantial so as to significantly affect the meaning of the proposed rule or regulation." Although staff believes that most of the changes are not substantial, and that the meaning and intent of the rule has not been changed, District staff recommends that the Board adopt proposed Regulation 8, Rule 53: *Vacuum Truck Operations* and the CEQA Negative Declaration at the next Board of Directors meeting.

X. References

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24. Safe Operation of Vacuum Trucks, American Petroleum Institute Recommended Practice 2219, 3rd Edition, November 2005.
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Appendices

A. Emissions Inventory
B. Socioeconomic Analysis
C. CEQA Analysis

Appendix A

Emissions Inventory

APPENDIX A EMISSIONS INVENTORY

The development of an emissions inventory requires information on the emission rates for an activity (i.e., the expected emissions for a given unit or volume of the activity) combined with information on the frequency with which the activity is conducted. Neither type of information was readily available for vacuum truck operations at the beginning of this rule development process. In order to estimate vacuum truck emissions and potential reductions for the proposed rule, staff developed emission factors and estimates of vacuum truck activity.

Emission Rates

Virtually no information on vacuum truck emission rates was available when District staff began this rule development effort. For many types of emissions sources, the United State Environmental Protection Agency has conducted research and has developed emission estimation methodologies that are available in its AP-42, *Compilation of Air Pollutant Emission Factors*. No AP-42 methodology is available for vacuum trucks, although a method is available for estimating emissions from loading hydrocarbon liquids into cargo tank trucks such as those that transport gasoline to gas stations (AP-42, Chapter 5.2). This AP-42 method may be useful in estimating emissions from loading hydrocarbon liquids into vacuum trucks, but it probably underestimates emissions when significant agitation or "lifting" of liquids is involved, as is common in vacuum truck operations. In addition, because an important factor in the AP-42 methodology is the vapor pressure of the material being loaded, the approach is probably not useful for mixtures of hydrocarbons and water because the vapor pressure of such mixtures is difficult to measure or estimate. Given the prevalence of aqueous mixtures among the materials moved by vacuum trucks, the AP-42 method appears to have limited utility.

Lacking any existing emission rate information, District staff conducted 32 source tests of vacuum truck operations, primarily at Bay Area refineries. The tests were conducted by District personnel from fall 2010 to fall 2011. The tests presented many scheduling difficulties, because much vacuum truck activity is unplanned and is conducted as needed for maintenance and clean-up activities. In addition, most activity is very brief, typically lasting less than a half-hour and involving relatively small quantities of materials. Of the 32 tests conducted, the majority involved wastewater and waste oils. A small number involved gasoline and other volatile materials. The test results are set forth in Table A-1 on the following two pages.

Table A - 1: Summary of Vacuum Truck Source Tests

Source Test #	Facility	Location	Date	Duration (mins)	Flowrate (SDCFM)	TOC (ppm as $C_{1)}$	TOC (lbs)	TOC (lbs/hr)	Notes
11050	Tesoro	Tank # 622	09/15/10	13	15	3	0.00003	0.00014	Processed low sulfur diesel
11051	Tesoro	Naptha pipeline # 107	09/15/10	60	8	83,500	1.70	1.70	Tanks 876 & 432; Processed Naptha & Natural Gas
11054	Tesoro	Tank # 701	09/22/10	24	118	4,760	0.56	1.40	Rated capacity of vac was 350 sdcfm. Processed Waterborne light crude.
11070	Valero	Pump # 602	10/21/10	4	76	3,400	0.043	0.65	Processed unspecified material.
11070	Valero	Transmix valve # 94959	10/21/10	3	45	3,370	0.019	0.38	Processed transmix.
11070	Valero	Waste area	10/21/10	4	38	34,700	0.22	3.30	Processed unspecified material.
11070	Valero	Reclaim pump site	10/21/10	9	0	1,750	0	0.0	Processed reclaimed material
11163	Chevron	Bioreactor inlet	03/23/11	36	150	58,200	12.7	21.17	Estimated TOC pounds for event is 127. Processed Oil layer from pond.
11164	Chevron	Tank # 3194	03/23/11	20	170	32,900	4.6	13.80	Processed heavy FCCU Feed.
11165	Chevron	Vessel # 265388	03/23/11	12	70	23,600	0.9	4.50	Processed recovered oil.
11175	Conoco Phillips	Odor Compressor Filter	03/30/11	11	174	28,400	0.41	2.24	Processed waste oil from filters.
11178	Conoco Phillips	Unit # 100, Tank # 501	03/30/11	27	20	419	0.01	0.02	Processed skimmed oil from water treatment plant.
11179	Chevron	250 ft pond	04/06/11	27	95	501	0.05	0.11	Processed oil layer from pond.
11180	Chevron	Cutter Rack - Low Flow	04/06/11	31	19	24,300	0.63	1.22	Processed cutter diesel.
11181	Chevron	Cutter Rack - High Flow	04/06/11	13	35	11,600	0.24	1.11	Processed cutter diesel.
11182	Chevron	Tank # 3126	04/07/11	24	173	18,370	1.37	3.43	Estimated TOC pounds for event is 57. Processed reclaimed oil.
11188	Chevron	Tank # 3126	04/20/11	15	136	6,240	0.46	1.84	Estimated TOC pounds for event is 20. Processed reclaimed oil containing cutter diesel.
11189	Chevron	Vessel # 254822	04/20/11	18	24	37,600	0.54	1.80	Estimated TOC pounds for event is 4. Processed recovered oil.
11200	Shell	API Sand Filter	04/21/11	12	88	3,600	0.17	0.85	Processed recovered oil.
11201	Shell	Tank # 544	04/21/11	46	20	37,500	1.43	1.87	Assumed max. Q = 20 scfm & carbon to be saturated. Processed a water/crude oil mix.
11201	Shell	Tank # 544	04/21/11	36	20	34,200	1.03	1.72	Used assumed max. Q = 20 scfm. Processed a water/crude oil mix.

Source Test #	Facility	Location	Date	Duration (mins)	Flowrate (SDCFM)	TOC (ppm as $C_{1)}$	TOC (lbs)	TOC (lbs/hr)	Notes
11202	Shell	FRAC Tank	04/21/11	8	95	12,000	0.38	2.85	Processed recovered oil.
11203	Shell	Lake	04/21/11	28	95	4,600	0.5	1.07	Processed recovered oil.
11214	Kinder Morgan	Tanks 8 & 9	05/10/11	54	41	178,000	17.4	19.33	Processed transmix.
12022	Plains - Martinez	Tank 100-8-37	08/23/11	26	244	196,000	55	126.9	Processed "carbob"
12023	Chevron	Tank # 3076	08/24/11	83	110	142,000	53.5	38.67	Processed slop + cutter; 65 bbls. T.O. abated truck
12028	Chevron	Tank # 254591	08/31/11	10	71	3,050	0.09	0.54	API separator sludge
12031	Chevron	Bioreactor inlet	08/31/11	11	106	58,900	2.84	15.49	Processed waste oil.
12048	Chevron	JP8 Fuel Filters V-810- A&B	09/27/11	131	13.7	331,984	21.5	9.85	Processed 15 barrels of JP8 fuel
10249	Chevron	Tank # 1637	09/27/11	29	160	1,872,592	326	674.5	Processed 12 barrels of regular unleaded gas.
12052	Valero	Tank # 1805	10/12/11	9	28	185,000	2.0	13.0	Processed 20 barrels of transmix using DP.
12052	Valero	Tank # 1805	10/12/11	8	88	319,000	8.9	69.4	Processed 20 barrels of transmix using vacuum.
Averages	**32 Tests**			**26.3**	**79.6**	**117,251**	**16.10**	**32.33**	

Table Notes:
All facilities are refineries except Kinder Morgan and Plains-Martinez, which are bulk terminals.
All data in each row come from the source test report listed in the first column.
Duration indicates both the duration of the event and of the source test.

Though measured emission rates varied significantly even for loading operations involving similar materials, the test results could be grouped into two major categories: (1) wastewaters and waste oils, which produced relatively low emissions when loaded, and (2) gasoline and gasoline blending stocks, which produced relatively high emissions when loaded. This result is not unexpected given the significant difference in volatility between the two categories of materials. The AP-42 methodology for tank truck loading would predict a similar difference in the two categories, in part because one of the primary terms in the equations is the vapor pressure of the material being loaded.

Using data from the source tests, staff derived two emission factors: (1) a "wastewater / waste oil" emission factor, and (2) a "gasoline / light product" emission factor. The derivation of each factor is set forth in Table A-2 and A-3, below. Emission factors are expressed as pounds of emissions per barrel of material loaded (lbs TOC/bbl). To derive the emission factors, staff used those source tests for which material quantity or a means of estimating quantity was available. In many cases, the quantity estimates are approximations because exact quantities are not recorded by vacuum truck instrumentation or source test instruments.

Table A - 2: Wastewater / Waste Oil Emission Factor

ST#	Facility	Location	Emission Factor (lbs/bbl)	Material
11054	Tesoro	Tank #701	0.027	Waterborne crude
11163	Chevron	Bioreactor inlet	0.475	Oily layer on pond
11165	Chevron	Vessel #265388	0.072	Recovered oil
11175	ConocoPhillips	Odor compressor filter	0.013	Waste oil
11178	ConocoPhillips	Unit #100, Tank #501	0.003	Skimmed oil
11179	Chevron	250 ft pond	0.003	Pond oil layer
11180	Chevron	Cutter rack – low flow	0.19	Cutter diesel
11181	Chevron	Cutter rack – high flow	0.04	Cutter diesel
11182	Chevron	Tank #3126	0.044	Reclaimed oil
11188	Chevron	Tank #3126	0.019	Reclaimed oil / cutter diesel
11189	Chevron	Vessel #254822	0.126	Recovered oil
11200	Shell	API sand filter	0.011	Recovered oil
11202	Shell	Frac tank	0.022	Recovered oil
11203	Shell	Lake	0.030	Recovered oil
12031	Chevron	Bioreactor inlet	0.150	Waste oil
Average			**0.082**	

Table A - 3: Gasoline / Light Product Emission Factor

ST#	Facility	Location	Emission Factor (lbs/bbl)	Notes
11051	Tesoro	Naptha pipeline #107	1.19	Naptha
11070	Valero	Transmix valve #94959	0.002	Transmix
11214	Kinder Morgan	Tanks 8&9	2.39	Transmix
12022	Plains – Martinez	Tank 100-8-37	1.27	Gasoline
12049	Chevron	Tank #1637	11.44	Gasoline
12052	Valero	Tank #1805	0.10	Transmix
12052	Valero	Tank #1805	0.45	Transmix
Average			**2.41**	

Emission Rates With Controls

The emission rates discussed above are uncontrolled emission rates, the rates at which emissions would be released without the use of any technology to control emissions. As discussed in section II.C of the staff report, a number of technologies are available to reduce emissions. For the purpose of this inventory, control technologies other than positive displacement pumps are assumed to reduce emissions by 95%. Positive displacement pumps are assumed to reduce emissions by 75%.

Petroleum Refinery Throughput

According to refinery operators, a Bay Area petroleum refinery will generally retain anywhere from 2 to 7 vacuum trucks on their premises every day. For the Bay Area refineries taken together, approximately 22 vacuum trucks operate daily. When a refinery performs a turnaround, many more vacuum trucks may be necessary. A large turnaround may employ 20 additional trucks or more for several weeks.

Refineries do not closely track quantities and types of materials moved by vacuum trucks. This appears to be because little of the material leaves the site, which would require hazardous waste manifests and much more detailed documentation. In addition, many of the vacuum truck operations are unscheduled and are performed as needed for maintenance operations. Among the Bay Area refineries, Chevron keeps the most thorough records of the types and amounts of materials that are loaded into vacuum trucks on a daily basis. Chevron uses a job form that generically identifies the pickup and drop-off locations for vacuum truck loading events and, for many operations, identifies the type and amount of material. Chevron's records indicate that they move approximately one million barrels of materials with vacuum trucks annually, although not

all vacuum truck activity appears to be recorded on job forms. Nevertheless, the Chevron data set was the best available information on refinery vacuum truck operation.

The District estimated vacuum truck throughput for the other Bay Area refineries by scaling the Chevron data based on the ratio of each refinery's capacity to Chevron's capacity. Table A-4 below shows the 2008 crude oil refining capacity for each Bay Area Refinery as provided by the California Energy Almanac and the corresponding fraction of Chevron's capacity.

Table A - 4: 2008 Crude Oil Capacity of Bay Area Refineries

Bay Area Refinery	2008 Refining Capacity (Barrels/Day)	Fraction of Chevron Capacity
Chevron U.S.A. Inc., Richmond Refinery	242,900	1.000
Tesoro Refining & Marketing Company, Golden Eagle (Avon/Rodeo) Refinery	166,000	0.683
Shell Oil Products US, Martinez Refinery	155,600	0.641
Valero Benicia Refinery	144,000	0.593
ConocoPhillips, Rodeo San Francisco Refinery	76,000	0.313

Chevron estimated that 2% of the materials moved were light hydrocarbons, such as gasoline, ethanol, or transmix. These are the regulated materials subject to the provisions of the rule. Vacuum truck operators contacted during source tests thought that light hydrocarbons constituted a larger share of the activity. Responses from over 15 drivers queried ranged from 20% to 30%. Given the uncertainty about the light hydrocarbon share, District staff selected the midpoint between the average driver response, 25%, and the Chevron response, 2%, assuming for purposes of the inventory that 13.5% of vacuum truck throughput is "regulated material."

Table A-5 illustrates the estimated gross yearly overall throughput for materials serviced at Bay Area refineries as well as the yearly throughput for regulated materials that will be subject to the provisions of Regulation 8, Rule 53.

Table A - 5: Vacuum Truck Material Throughput at Bay Area Refineries

Refinery	Total Throughput of **All Materials** (barrels/yr)	Regulated Material (13.5% of total – barrels/yr)
Chevron	1,000,000	135,000
Tesoro	683,409	92,260
Shell	640,593	86,480
Valero	592,836	80,032
ConocoPhillips	312,961	42,450
Total	**3,229,799**	**436,022**

Emissions from some loading of materials are already controlled, which must be reflected in the inventory estimates. Refineries estimated that they utilize external control technology to minimize emissions from approximately 5% of the vacuum truck operations. Two refineries currently use positive displacement (PD) pumps a significant percentage of the time. Overall, the District estimates that controls and PD pumps combined are used on approximately 20% of vacuum truck operations at Bay Area refineries. This estimate is based on communications with refineries, District staff observations while conducting source tests at refineries, and communications with vacuum truck operators.

Terminals, Bulk Plants and Organic Liquid Pipeline Facility Throughput

Bulk terminals, marine terminals, bulk plants, and organic liquid pipeline facilities do not use vacuum trucks nearly as much as Bay Area petroleum refineries do. Based on limited feedback from facilities as well as vacuum truck service providers, staff estimates that approximately 2 vacuum trucks operate per day at all terminals, bulk plants, and organic liquid pipeline facilities combined. As with refineries, few records of vacuum truck operations are kept in these facilities.

Based on partial throughput information, as well as interviews with vacuum truck operators and companies that provide control technology service, staff estimates that each terminal, bulk plant, and organic liquid pipeline facility has a yearly average throughput of 250 barrels of regulated material into vacuum trucks for a total of 10,000 barrels from these facilities taken together. These facilities tend to load a much greater percentage of refined products into vacuum trucks than do refineries because terminals exclusively deal with refined product. Thus the “gasoline / light product” emission factor was used to calculate emissions.

Very limited information was available regarding the use of control technology for vacuum truck operations at these facilities. A few terminals were able to provide estimates regarding the frequency with which controls and PD pumps are used. Based on

this information and additional information from vacuum truck operators, District staff estimate that, for loading events involving regulated materials, terminals already utilize control equipment for approximately 3% of events and PD pumps for approximately 17% of events. This same percentage was applied to marine terminals and organic liquid pipeline facilities.

Emissions Calculations

Refineries

Emissions from vacuum truck operations in refineries involving regulated materials are calculated as follows:

(Regulated material throughput) x (emission factor) / (2000 lb/ton) x (365 days/yr) =
(436,022 barrels/yr) x (2.41 lbs/barrel) / (2000 lb/ton) x (365 days/yr) = 1.44 tons per day

Of the regulated material processed by vacuum trucks, some is already controlled. Based on communications with refinery representatives, staff estimates that 15% of vacuum truck loads are already controlled by PD pumps and 5% of vacuum truck loads are already controlled by external abatement equipment, so emissions from regulated materials equal:

1.44 **x** 15% **x** (1 - .75)(PD pump reduction) = (emissions after use of PD pump) +
1.44 **x** 5% **x** (1 - .95)(abatement reduction) = (emissions after use of abatement) +
1.44 **x** 80% (remaining uncontrolled emissions) = **1.21 tons per day**

The estimated emissions for non-regulated materials in refineries, most of which is waste water, is calculated as follows:

Non-regulated material throughput x emission factor =
2,793,777 barrels/yr x 0.082 lbs/barrel = 0.31 tons per day.

The extent to which either PD pumps or abatement equipment are used for non-regulated materials is unknown, however, should the use of PD pumps and abatement control be consistent with estimates for the regulated materials, organic emissions would be calculated as follows:

0.31 **x** 15% **x** (1 - .75)(PD pump reduction) = (emissions after use of PD pump) +
0.31 **x** 5% **x** (1 - .95)(abatement reduction) = (emissions after use of abatement) +
0.31 **x** 80% (remaining uncontrolled emissions) = **0.26 tons per day**

The total emissions from vacuum truck operations at refineries from both regulated and non-regulated materials are **1.21 + 0.26 = 1.47 tons per day**.

Other Facilities

Emissions from vacuum truck operations in for other facilities (bulk terminals, plants, marine terminals and pipeline facilities) involving regulated materials are calculated as follows:

(Regulated material throughput) x (emission factor) / (2000 lb/ton) x (365 days/yr) =
(10,000 barrels/yr) x (2.41 lbs/barrel) / (2000 lb/ton) x (365 days/yr) = 0.03 tons per day

As at refineries, some of the vacuum truck operations are already controlled or conducted with PD pumps. Based on communications with facility representatives, staff estimates that only 3% of vacuum truck loads are already controlled by PD pumps, but that 17% of vacuum truck loads are already controlled by external abatement equipment. Emissions from regulated materials equal:

0.033 **x** 3% **x** (1 - .75)(PD pump reduction) = (emissions after use of PD pump) +
0.033 **x** 17% **x** (1 - .95)(abatement reduction) = (emissions after use of abatement) +
0.033 **x** 80% (remaining uncontrolled emissions) = **0.027 tons per day**

These facilities also have occasion to load materials mixed with water, such as from a sump after a spill. The total throughput is estimated to be about 75% regulated materials and 25% non-regulated materials. The emissions for these non-regulated materials are negligible (less than 1/1000 of a ton per day), so are not included.

Total Emissions

Staff estimates organic emissions from vacuum trucks in all facilities designated by the rule to be **1.47 + 0.027 = 1.497 (1.50) tons per day.** This does not include vacuum truck emissions at other facilities not subject to the rule.

Passive emissions also occur from vacuum trucks. When vacuum trucks are loaded with materials and drive to another location, emissions can occur passively from the truck's barrel. Organic emissions can also occur when material are unloaded from vacuum trucks. These emissions are not included in this inventory.

Appendix B

Comments and Responses

Appendix B COMMENTS AND RESPONSES

During the public comment period, staff received two written comments and three questions on the proposed rule. A summary of the comments and staff responses is provided below. Following the summary and responses are copies of the comments.

Chevron Richmond Technology Center, February 21, 2012 via telephone/e-mail.

Comment: Ms. Goff of Chevron Richmond Technology Center asked whether the Center was subject to the rule. Although the Richmond Technology Center is closely aligned with Chevron, it is not part of the refinery.

Response: Staff informed Ms. Goff that she was not subject to the proposed rule.

Plains Products Terminals, Wednesday, February 22, 2012 via telephone/e-mail.

Comment: Mr. Nepote of Plains Products Terminals, a gasoline bulk terminal, asked whether a vapor balance system can be used to control vacuum truck emissions.

Response: Staff responded that they could use this type of system, as long as the vapors were vented back to the terminal's emissions abatement system.

US EPA, received Wednesday, February 29, 2012 via e-mail.

Comment: Ms. Law of US EPA Region IX requested that the full title of a test method be added to Section 8-53-601 and the following language be added where the rule specifies both a District and an EPA test method: "When more than one test method or set of test methods are specified for any testing, noncompliance with any requirement of this rule established by any one of the specified test methods or set of test methods shall constitute a violation of this rule."

Response: Staff has added this language, which is consistent with all other District rules.

Chevron, received Wednesday, March 7, 2012 via telephone.

Comment: Ms. Li of Chevron asked whether Chevron's bioreactor could be exempted. The bioreactor is part of the secondary wastewater treatment system.

Response: Staff responded that the wastewater treatment system is not intended to be included in the control requirements of the rule.

Western States Petroleum Association, received Friday, March 9, 2012 via e-mail.

Western States Petroleum Association (WSPA) submitted a four page comment letter and an 11 page table of rule language suggestions. WSPA also submitted a 7 page memorandum from Environmental Resources Management (ERM), a contractor to WSPA, analyzing costs of compliance based on specific source tests that the District conducted, and a spreadsheet iterating

the cost calculations. Below are the responses to the WSPA letter and ERM memorandum. Following the responses to the letter, below, is WSPA's suggested rule language table which includes staff's responses.

Comment 1: "The proposed definition of 'regulated material' could be interpreted to include wastewater or other nonvolatile materials with just a miniscule amount of volatile material; the environmental impact of requiring vacuum truck controls on these materials would likely outweigh the benefit of controlling the emissions."

Response: The rule is not intended to control emissions of water/regulated material mixtures. The definitions of regulated material, transmix and slop only address hydrocarbon mixtures. In spite of an attempt to clarify the language from the workshop draft, it seems to still cause confusion. Staff has added an exemption specifically for wastewater as suggested in the WSPA rule language table.

Comment 2: "There is no low volume exemption for this rule."

Response: WSPA has argued that a low volume exemption is warranted because a low volume of material emits only a small amount of emissions, the control would not be cost effective and the environmental benefit would be minimal. In addition, language has been suggested in the WSPA rule language table exempting 5 barrels (210 gallons) volume of material if the use of a PD (positive displacement) pump or gravity feed is not available "due to technical, safety or feasibility issues." Staff does not support a low volume exemption. During the rule development process, staff observed many low volume vacuum truck activities, however, refinery staff were unable to provide any information as to the number or volume of materials loaded. Given WSPA's suggested definition of low volume (210 gallons per loading event), low volume vacuum truck activities could make up the majority of activity on a given day. While for an individual low volume vacuum truck loading event, emissions may be small, additively, emissions could be significant. WSPA did not elaborate on the "technical, safety or feasibility issues" that would preclude the use of a PD pump or gravity feed. A Shell refinery representative informed staff that PD pumps were used exclusively at the Shell refinery, except for vacuum truck loads from the API separator, wastewater pond and recovered oil stored in FRAC tanks (used for temporary storage). (These three exceptions mentioned at Shell are not proposed to be regulated by the rule.) A Tesoro refinery representative told staff that PD pumps were used for all vacuum truck loading at Tesoro. This method is used, according to Tesoro refinery personnel, because of safety reasons, to prevent odors or formation of a volatile and potentially explosive vapor cloud. Staff believes that PD pumps are an inexpensive and technically feasible way to control emissions from low volumes of materials. The proposed rule contains an emergency provision, Section 8-53-103, that exempts vacuum truck activity for equipment failures and other emergencies where moving large volumes of material quickly may be necessary.

Comment 3: "The standard of 500 PPM outlet concentration of total organics (including methane) will not always be technically achievable."

Staff does not agree. The types of control equipment examined in the staff report, carbon adsorption and incineration, as well as refrigerated condensers and incineration in a truck engine, are all technologies that are well known and have been demonstrated to be capable of controlling emissions such as gasoline vapors to a high level of abatement efficiency. WSPA states that (based on District source test 12049) the abatement efficiency would have to be in excess of 99.97% to reach a 500 ppm emission limit. Abatement efficiency is calculated on the basis of pounds/hour basis, not a concentration basis. Typically, carbon adsorbs a very high percentage of hydrocarbons while vacant bonding sites remain. The percentage adsorbed depends on the type of carbon, residence time and environmental factors, such as temperature and humidity. District source tests have recorded many high concentrations of organic materials (such as in gasoline bulk terminals) that have been abated by carbon adsorption, reducing outlet concentrations below 500 ppm. Successful carbon abatement requires that there be a low enough air flow through the abatement device (sufficient residence time) for the adsorption to take place and that sufficient adsorption sites remain. However, once sites no longer remain or residence times are not met, concentrations can increase very rapidly. Proper selection of canister size for the operation and proper monitoring of the emissions at the outlet can avoid high emissions concentrations. Also, EPA's National Emission Standard for Benzene Waste Operations requires that emissions of waste liquids that contain benzene (a toxic air contaminant that is a component of gasoline) be abated to 500 ppm, further supporting that the proposed limit is achievable.

WSPA also alleges that the District's proposed standard of total organics (TOC) is not consistent with existing requirements in South Coast (a requirement to abate vacuum truck exhaust used for tank degassing) and Texas (a 500 ppm standard in refinery permits) because those rules stipulate only non-methane organics, hence the District rule may not be achievable. District refinery rules stipulate total organics, including District Regulation 8, Rule 18, which controls emissions from equipment leaks. Hence, the proposed limit is consistent with other District rules. Furthermore, methane is a powerful greenhouse gas, so if a liquid waste were identified that contains methane, it should be controlled.

Comment 4: "There is insufficient time to implement this rule on all of the affected sources by January 2013."

Response: WSPA suggests that the rule become effective on April 1, 2013, approximately one year from the date of adoption. Staff recommends this change to the effective date.

Comment 5: "The activity data and emissions reductions presented in the February 2012 staff report are too high."

Response: WSPA questions staff's estimates of the amount of regulated material loaded into vacuum trucks and the emissions from that material. WSPA further questions the difference between estimated percent of loads of regulated materials provided by the vacuum truck operators (20% to 30%) and by refinery staff (2%) and states that the staff report does not explain the difference. Staff spent well over a year investigating vacuum truck activity and emissions, during which time refinery staff asserted that they did not know how much material or what type was being loaded. The one exception was Chevron refinery staff, that kept records based on job logs. Staff used these records to estimate throughputs for the other refineries. Staff averaged the two estimates, from refineries and from discussions with vacuum truck operators, to derive the estimated percentages of regulated materials. Staff believes that the throughput of regulated materials is at least 13.5% (the average, used in Appendix A). In a typical refinery, about 40% of the production is gasoline, and leaks and minor spills happen throughout the process. This supports the idea that a significant percentage of the volume of material moved by vacuum trucks will be regulated.

Regardless of total emissions, costs of controls are not based on total emissions, but on daily costs based on what control equipment is likely to be used, based on discussion with refinery operators. If total amounts of regulated material loaded into vacuum trucks are less, the overall costs of control would also be less, but the rule would be equally cost effective.

WSPA also states that the emission factor includes an "outlier" that is an order of magnitude higher than the other factors. That test proved to be of almost pure gasoline, and there is no reason to suspect that the test was flawed, so emissions of gasoline loaded into vacuum trucks would be consistent with this test. A previous test on gasoline (source test #12022) exceeded the capacity of the measuring equipment, consequently the emissions from that test are greater than indicated by the reported emission factor. The biggest outlier in the data (source test #11070) was on actually the low side, nearly two orders of magnitude lower than the other factors. If staff excluded both these outliers, the average emissions factor would be 1.08, which would make the cost effectiveness higher, but the rule would still be cost effective. An emission factor of 1.08 instead of 2.41 (lower emissions per the same volume of material loaded) would mean that the cost effectiveness of the rule varies between $5725 and $6848 per ton. Finally, the WSPA letter states that the District excluded one test of regulated material that had very low emissions. That test (source test #12023) had low emissions because the vacuum truck was abated.

Comment 6: "The workshop report omits significant costs."

Response: WSPA states that the report omits costs of addressing the Method 21 monitoring requirements including direct personnel time for monitoring events as well as personnel training and calibration time. WSPA states that the report does not consider planning requirements including estimation of likely emissions in advance to select appropriate controls and meet

applicable safety and monitoring requirements. Also, WSPA states that the costs of regeneration and disposal of carbon are not included.

Refinery representatives stated that they would probably monitor for compliance rather than have vacuum truck operators document compliance with the requirements of the rule. Refinery personnel have already been trained in EPA Method 21 procedure and monitors are already owned by refineries. They are used to monitor the thousands of valves, flanges and connectors subject to Regulation 8, Rule 18. Calibration service costs $1400 to $1600 per year and certified training can be accomplished in approximately four hours. Finally, the external rental costs for carbon adsorption equipment include costs for regeneration or disposal of carbon. As stated in the report, some refineries already have portable carbon abatement for use throughout the refinery. Thus, staff believes that the analysis incorporates all significant compliance costs.

Environmental Resources Management (ERM) Memorandum

Comment: Along with the WSPA comment letter, WSPA submitted a memorandum entitled "BAAQMD Proposed Regulation 8-53, Vacuum Truck Operations – Review of Cost Effectiveness." The ERM memo analyzes the cost associated with five of the District source tests: 1) Jet fuel filters V-810 A&B (source test #12048), 2) Tank #1637 Unleaded gasoline (source test #12049), 3) Bioreactor inlet (source test #11163), 4) Tank #1805 diesel/gasoline (source test #12052), and 5) Tank #544 water/crude tank (source test #11201).

Response: ERM's conclusions are that the rule would not be cost effective to require abatement of the first source test, the third source test or the fifth source test. Without analyzing the numbers that ERM used to determine costs, staff generally agrees at this time. The rule does not propose to regulate the materials tested in these source tests, jet fuel, wastewater in secondary treatment and crude oil (or crude oil/water mixes). The ERM analysis finds that it is cost effective to regulate the material in the second source test. Again, staff agrees, and proposes to regulate gasoline. In the fourth source test, a two-part test was conducted to establish the difference in emissions between uncontrolled emissions and use of a PD pump. The ERM memo found that "positive displacement might be an appropriate mitigation option, as it reduced emissions by 7.9 lbs or almost 90%. Based on this test, staff added positive displacement and gravity feed as alternative control methods to emissions abatement.

From: Goff, Naomi Sue [mailto:NSGoff@chevron.com]
Sent: Tuesday, February 21, 2012 1:10 PM
To: William Saltz
Subject: RE: Public Hearing For Vacuum Truck Rule

Hi Will,

I hope you enjoyed your President's Day holiday. Thank you for keeping me apprised of the status of 8-53. We would very much appreciate a letter specifying that our facility is not subject to the provisions of Regulation 8, Rule 53.

I appreciate your willingness to seek feedback from our facility and from stakeholders in general.

Thanks again for your assistance. Best regards,

Naomi

Naomi Goff
Chevron ETC *HES Operations Unit*
Environmental Specialist
Richmond Technology Center
Phone: (510) 242-1189
Email: NSGoff@chevron.com

From: William Saltz [mailto:wsaltz@baaqmd.gov]
Sent: Friday, February 17, 2012 2:57 PM
To: Goff, Naomi Sue
Subject: Public Hearing For Vacuum Truck Rule

Hello Naomi

I wanted to let you know that the District has scheduled a public hearing on the 21st of next month for the proposed adoption of the vacuum truck rule. All of the public documents pertinent to the draft rule are located on the following web page: http://www.baaqmd.gov/Divisions/Planning-and-Research/Rule-Development/Current-Regulatory-Public-Hearings.aspx

Let me know if you have any question.

Very Truly Yours
Will-

William Thomas Saltz
Air Quality Specialist
Rule Developer
Direct: 415.749.4698
Email: wsaltz@baaqmd.gov

Dan Belik

To: William Saltz
Subject: RE: Vapor Balance Systems for Vacuum Truck Loading

From: John-Paul Nepote [mailto:JNepote@paalp.com]
Sent: Wednesday, February 22, 2012 2:32 PM
To: William Saltz
Subject: Vapor Balance Systems for Vacuum Truck Loading

Will,

In the staff report for the new vacuum truck a vapor balance system is briefly discussed. At the Plains Products Terminal in Martinez, we do occasionally load vacuum trucks with transmix. Our transmix tank (S-9) is a fixed roof tank that vents vapors to our thermal oxidizer. We have been utilizing carbon to control the emissions, however, we would like to explore a vapor balance system routing the vapors either directly back to Tank 9 or into our vapor control piping upstream of the oxidizer blowers.

Our vapor control system works on a pressure sensor to begin the oxidizer. We would prefer to have the system operate in this manner. Alternately, we can turn on the oxidizer and begin destruction of vapors during the vacuum truck loading. We do not have a CEMS on our oxidizer to monitor ppm emissions, however, we do monitor temperature.

Please contact me to discuss this further. Thank you,

John-Paul Nepote
Sr. Env., Reg. Comp., and Safety Specialist
Plains Products Terminals LLC
925-228-3227
925-228-5617 fax

Dan Belik

From: Andrew Steckel <Steckel.Andrew@epamail.epa.gov>
Sent: Wednesday, February 29, 2012 11:45 AM
To: Dan Belik; mguzzett@arb.ca.gov
Cc: Nicole Law
Subject: EPA comment on Bay Area Rule 8-53

United States Environmental Protection Agency
Region IX
75 Hawthorne Street
San Francisco, CA 94105-3901

February 29, 2012

Transmittal of EPA Rule Review Comments

To: Dan Belik, Bay Area Air Quality Management District
dbelik@baaqmd.gov

Mike Guzzetta, California Air Resources Board
mguzzett@arb.ca.gov

From: Andrew Steckel, Rulemaking Office Chief
steckel.andrew@epa.gov

Re: Bay Area AQMD Draft Rule 8-53 Vacuum Truck Operations, dated 2/8/12

We are providing comments based on our preliminary review of the draft rule identified above. We recognize and support the District's innovative efforts to reduce emissions from this category. Please direct any questions in this regard to me at (415) 947-4115 or to Nicole Law at (415) 947-4126.

Recommendations

1. References to EPA-approved state or local methods should include the full title of the test method. Please include the full title, "Non-methane Organic Carbon Sampling," when referencing BAAQMD Manual of Procedures, Volume IV, ST-7.

2. We recommend adding a statement in the Manual of Procedures section that states, "When more than one test method or set of test methods are specified for any testing, noncompliance with any requirement of this rule established by any one of the specified test methods or set of test methods shall constitute a violation of this rule."

Western States Petroleum Association
Credible Solutions • Responsive Service • Since 1907

Guy Bjerke
Manager, Bay Area Region & State Safety Issues

VIA ELECTRONIC MAIL

March 9, 2012

Mr. William Saltz
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109

Re: Comments on Proposed Reg. 8-53 – Vacuum Trucks

Dear Mr. Saltz:

The Western States Petroleum Association (WSPA) is a non-profit trade association representing twenty-six companies that explore for, produce, refine, transport and market petroleum, petroleum products, natural gas and other energy supplies in California and five other western states. These operations include the use of vacuum trucks. WSPA appreciates the opportunity to comment on the Bay Area Air Quality Management District's (BAAQMD's) proposed Regulation 8, Rule 53, "Vacuum Truck Operations".

WSPA appreciates the fact that BAAQMD's February 17 draft proposal addresses many of the concerns that WSPA identified with the original draft rule language. However, we still have several concerns with the latest draft of the proposed rule that was released on February 17 (and accompanying staff report), several of which were previously identified in our comments made during the rule workshops last summer and in our August 12, 2011 comment letter. Some of the key issues are listed below. Proposed revisions to the rule have been provided to address a number of these issues.

The proposed definition of "regulated material" could be interpreted to include wastewater or other nonvolatile materials with just a miniscule amount of volatile material; the environmental impact of requiring vacuum truck controls on these materials would likely outweigh the benefit of controlling the emissions.

WSPA made this comment in our August 12, 2011 comment letter and our concern has not been completely addressed. The staff report states that "In order to ensure that the proposed rule is cost-effective, it has been structured so that control requirements only apply to high-volatility materials." However, Sections 8-53-218.2 and 218.3 of the proposed rule may

1200 Oak Knoll Drive Concord, CA 94521
(925) 681-8206 • FAX: (925) 887-6674 • gbjerke@wspa.org • www.wspa.org

unintentionally require the regulation of low-volatility mixtures that contain any amount of volatile components, regardless of how low the concentrations of those volatile components are. For example, while Test Number 11070 in the District's February 2012 staff report was for a "regulated material" (see Table A-3), Table A-1 data show that the hydrocarbon concentration was lower than that for the unregulated materials that are listed in Table A-2. Uncontrolled VOC emissions for Test 11070 were just 0.019 lb (8.6 grams which is about the same amount of NO_x that a heavy-duty truck emits when traveling one mile.[1] This means that the environmental benefit of controlling the VOC emissions from that event is very likely less than the environmental costs associated with heavy-duty diesel truck travel associated with transporting the collected VOC to (and unloading the VOC at) a handling/disposal facility (or emissions of GHG, NO_x, etc. associated with thermally destroying it).

There is no low volume exemption for this rule.

Similar to the comment above, it does not make sense to control a very small quantity of emissions. For example, in Table A-3 of the District's staff report, Test 11051 involved regulated material and had emissions of 1.19 lb/bbl, but based on the data in Table A-1, only 1.7 lb of TOC was emitted during that transfer (corresponding to 1.4 barrels of material transferred). These emissions are not on the same order of magnitude as the 326 lb that was emitted in Test #12049, and are not cost-effective to control.

The standard of 500 ppm outlet concentration of total organics (including methane) will not always be technically achievable.

WSPA raised this issue with the District previously in verbal comments at the workshops held last summer and in our December meeting with staff. The District staff report indicates that the control efficiency for thermal oxidizers can be greater than 98% and shows a case in which an internal combustion engine controlled emissions by 99.6%. However, even this very high control efficiency will not always be sufficient to achieve a 500 ppmvC_1 outlet concentration. For example, the staff report identifies one instance in which the inlet concentration was 1,872,592 ppmvC_1, and reducing that concentration to 500 ppmvC_1 would require a 99.97% control efficiency. The staff report also states that the District believes that the standard of 500 ppmvC_1 is consistent with SCAQMD Rule 1149 and Texas permitting requirements; however, those rules specify 500 ppmvC_1 of VOC (not TOC), and control efficiencies for components such as methane and ethane (which are TOC but not VOC) are considerably lower for some of the control technologies (i.e., carbon adsorption and refrigerated condenser systems). In addition, TCEQ Chapter 115, Sections 115.540-.549 also allows for alternative means of compliance in lieu of meeting the 500 ppmvC_1 TOC standard. Some of the controls identified in the staff report (e.g. carbon, refrigerated condensers, and scrubbers) are particularly ineffective at controlling methane and ethane, and the extent to which these are present in low concentrations is not easily determinable. In addition, without revising the emission limit allowance to

[1] See, for example, the California Air Resources Board's EMFAC database, available from http://www.arb.ca.gov/msei/modeling.htm.

incorporate a control efficiency limit the cost effectiveness analysis is likely inaccurate and significantly understated.

There is insufficient time to implement this rule on all of the affected sources by January 2013.

The majority of vacuum trucks available are not equipped with controls and we are concerned that there is an insufficient supply of controls for the quantity of sources covered by the current rule (even if applicability were limited as we have suggested above). Our concern about the implementation timeframe can be address by simply modifying the compliance deadline from January 1, 2013 to one year from the date that the rule is adopted. This time is necessary for equipment modifications to be made, contracts with vacuum truck and emission control suppliers to be revised, and procedures and training to be conducted to ensure facilities are prepared to operate within the requirements for 8-53.

The activity data and emissions reductions presented in the February 2012 staff report are too high.

In Table A-5 of the District's staff report, the District estimates that the throughput of regulated and unregulated material loaded into vacuum trucks at Bay Area refineries is 3,229,799 barrels/year, which corresponds to an average of 8,849 gallons per day. Page 22 states that this corresponds to 22 trucks per day. This means that the average throughput per truck is approximately 400 barrels (17,000 gallons), which is inconsistent with the throughput indicated by Tables A-2 and A-3 (coupled with the mass emissions data in Table A-1) which indicates that the throughput per vacuum truck event is between 1 and 43 barrels.

The staff report estimates emissions reductions by multiplying the volume of material loaded by an emission factor (expressed in lb per barrel of material loaded into the truck), with the vast majority of emissions coming from regulated materials. However, the staff report states that the volume of regulated material loaded was based by averaging a refinery estimate (2% of total loadings) with a very different estimate from vacuum truck operators (20-30% of total loadings)--with no discussion as to why these estimates were so different.

In addition, the emission factor for regulated materials is largely affected by a single outlier. As shown in Table A-3 of the District's staff report, the emission factors for the tests of regulated materials are highly skewed. Test #12049 produced an emission factor that was at least an order of magnitude higher than the other six tests, and was averaged in with the other tests by the District to calculate an average emission factor of 2.41 lb/bbl (which is the basis for the District's estimate of 1.05 tons per day of emissions reduced). If that one test were excluded, the emission factor would fall to 0.90 lb/bbl and the District's estimate of the emissions benefit of this regulation (based on the throughput mentioned above, which also appears to be overestimated) would fall to 0.39 tons per day. The District also excluded at least one other test from that average that appears to have been of regulated material (i.e., Test #12023) (and it appears that inclusion of this test would have also reduced the average).

The workshop report omits significant costs.

As we noted previously, the staff report identified the costs of renting control equipment and buying handheld analyzers, but not the considerable costs associated with addressing the Method 21 monitoring requirements (including direct personnel time for monitoring events as well as personnel training and calibration time). In addition the staff report costs did not consider planning requirements (estimating likely emissions in advance so that appropriately sized controls that meet applicable safety requirements and the exhaust concentration limit can be identified, scheduled, and provided with access for where they need to be, etc.), and carbon regeneration/disposal costs (as applicable). The District needs to give some consideration to these other costs.

With regard to our concerns mentioned above (and other more detailed technical issues), we have prepared the attached table; the proposed language changes therein address our concerns, add clarity, reduce costs, and have essentially no impact on the District's estimates of emissions reductions associated with the rule. We have also included a memo reviewing the District's cost effectiveness calculations prepared by ERM.

We appreciate your consideration of our comments. If you have any questions, please contact Guy Bjerke at (925) 681-8206.

Sincerely,

Guy Bjerke
Manager, Bay Area Region & State Safety Issues

c. Dan Belik, Rule Development Manager

Attachments:
WSPA Reg 8-53 Proposed Language Table
Reg. 8-53 ERM-WSPA Memo 3-8-12
Cost_Effectiveness_Calcs_12_2.xls

Memorandum

Environmental Resources Management

1277 Treat Boulevard
Suite 500
Walnut Creek, CA 94597
(925) 946-0455
(925) 946-9968 (fax)

To: Guy Bjerke

From: Lynn McGuire, ERM
Ariane Burwell, ERM

cc: **WSPA BATS Air Members**

Date: March 8, 2012

Subject: BAAQMD Proposed Regulation 8-53, Vacuum Truck Operations – Review of Control Cost-effectiveness

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ERM examined the cost effectiveness of controlling TOC under proposed regulation 8-53 for the Western States Petroleum Association. The methodology and findings are outlined below.

ERM analyzed the highest emitting tests conducted by BAAQMD as data representative of the largest emission reduction potential. These tests form the basis for the estimates of TOC that might be controlled by the rule under the most favorable conditions. Tests at the Chevron Bioreactor Inlet, Valero Tank #1805, Shell Tank #544, and Chevron Jet Fuel Filters V-810-A&B are reviewed for emission reduction potential and cost-effectiveness of potential controls. The Bioreactor inlet and Tank #1805 had higher than average hourly TOC emissions, making these tests good examples for developing cost effectiveness estimates. Tank #544 tests were longer in duration. Finally, the Jet Fuel Filters V-810-A&B and Tank #1637 had the highest TOC emissions and ppm of any test at the refineries.

ERM evaluated the TOC emissions reduction potential and incremental costs that could be associated with applying carbon absorption or thermal oxidation abatement to these test cases. The lowest daily abatement device rental prices (provided in BAAQMD's Draft Workshop Report, as updated) were used to derive hourly abatement device costs. Hourly rates for LDAR monitoring staff (also necessary for compliance with the draft rule) were provided by WSPA members. The time associated with the device rentals and for monitoring each event was estimated based on standards for upfront time for equipment calibration and time after the event to return equipment. All results were rounded up to the nearest hour. The TOC control device rental, staff, and monitoring equipment costs were summed together to derive the total additional cost of complying with the rule. Cost effectiveness calculations are detailed in the attached spreadsheet, Cost_Effectiveness_Calcs_12_2.

The purpose of this memo is to illustrate the amount of potential emission reduction with associated cost-effectiveness for actual test situations, but under conditions of hypothetical controls. The cost-effectiveness values derived are conservatively low, and actual controlled vacuum truck operations would likely result in higher $/ton costs.

Jet Fuel Filters V-810 A&B

The Jet Fuel Filters V-810 A&B test at Chevron was relatively long in duration (131 minutes) and involved reasonably volatile material (jet fuel) that generated higher measured emissions (27 lbs TOC) than other comparable tests. The vacuum truck removed 15 bbls of jet fuel material during this test. Using the cost assumptions just described, carbon adsorption would cost $29,237/ton compared to thermal oxidation which costs $94,538/ton. However, it is doubtful that carbon adsorption can achieve the level of control required for rule compliance. Our assumption of 95% abatement (a typical expectation for carbon adsorption systems) results in controlled emissions of 18,100 ppm. Thermal oxidation would be the only option for rule compliance at the 500 ppm level. Thus, the cost of rule compliance for this event is more appropriately assessed as $94,538/ton.

In addition, the secondary waste emissions from thermal oxidation would amount to 2,374 lb GHG, 0.25 lb NOx and 0.14 lb CO for this event, among other pollutants. These results are summarized in Table 1.

Table 1 Conservative Cost Data for Jet Fuel Filters V-810- A&B

Abatement Device	TOC abated	Length of Event – Staff Hours	Total Cost (equipment rental+staff)	Cost per Ton Controlled	Concentration Post Abatement (ppm)	Secondary Waste
Carbon Adsorption	25.65 lbs	131 min – 4hrs of staff time	$375	$29,237	18,100	256.5 lbs spent carbon
Thermal Oxidizer	26.97 lbs	131min – 4hrs of staff time	$1,275	$94,538	362	19.0 gallon (LPG)

Assumptions: 95% abatement rate for carbon adsorption and 99.9% abatement rate for thermal oxidizers

Tank #1637 Unleaded Gasoline

The test at Tank #1637 involving a mixture of mostly unleaded gasoline with water at Chevron was a 29 minute test that generated the highest measured emissions. The vacuum truck removed 12 bbls of material during this test. The emission rate of this test was recorded by BAAQMD (Staff Report 2/12) as 326 lb TOC for the event, and 1,872,592 ppm (as C_1)[1]. Using the cost assumptions just described, carbon adsorption would cost $1,420/ton compared to thermal oxidation which would cost $4,115/ton to control this event. With such a concentrated vapor stream, the limit of 500 ppm could be challenging for either carbon adsorption or thermal oxidation to achieve. These results are summarized in Table 2.

Table 2 Conservative Cost Data for Tank#1637

Abatement Device	TOC abated	Length of Event – Staff Hours	Total Cost (equipment rental+staff)	Cost per Ton Controlled	Concentration Post Abatement (ppm)	Secondary Waste
Carbon Adsorption	470 lbs	29 min – 4hrs of staff time	$220	$1,420	93,630	ND
Thermal Oxidizer	495 lbs	29 min – 4hrs of staff time	$670	$4,115	1,872	ND

Assumptions: 95% abatement rate for carbon adsorption and 99.9% abatement rate for thermal oxidizers

[1] Note that the actual test report lists the concentration as 2,585,000 ppm (as C_1) and the mass as 495 lb TOC.

Bioreactor Inlet

The Chevron bioreactor inlet test generated 12.7 lbs TOC over the course of a 36 minute test removing processed oil from a pond by vacuum truck. Using the same control cost methodology, use of carbon adsorption would cost $36,469/ton and thermal oxidation would cost $105,617/ton. Again, carbon adsorption may not be effective enough on an event like this to provide abatement efficiency to comply with a limit of 500 ppm.

The secondary wastes would amount to 127 lb of spent carbon or emissions from thermal oxidation that would amount to 652.5 lb GHG, 0.067 lb NOx and 0.039 lb CO, among other pollutants. Table 3 summarizes results and assumptions.

Table 3 Conservative Cost Data for Bioreactor Inlet

Abatement Device	TOC abated	Length of Event – Staff Hours	Total Cost (equipment rental+staff)	Cost per Ton Controlled	Concentration Post Abatement (ppm)	Secondary Waste
Carbon Adsorption	12.06 lbs	36min – 2hrs of staff time	$220	$36,469	2,910	127 lbs spent carbon
Thermal Oxidizer	12.68 lbs	36min – 2hrs of staff time	$670	$105,617	58	5.2 gallon (LPG)

Assumptions: 95% abatement rate for carbon adsorption and 99.9% abatement rate for thermal oxidizers

Tank #1805

At Valero Tank #1805, two tests were performed during removal of 20 bbls each of Transmix (60% diesel/jet fuel range and 40% gasoline range material). The first used a displacement pump and the second relied on the vacuum. The test conducted during vacuum operation resulted in 8.9 lbs TOC. For this test, the cost-effectiveness for carbon abatement would be $52,040/ton of TOC recovered, the thermal oxidizer cost-effectiveness would equate to $150,712/ton of TOC recovered.

However, when positive displacement was used, only 2 lb of TOC was generated. The carbon abatement cost-effectiveness would be $231,578/ton of TOC recovered and the thermal oxidizer cost-effectiveness would be $670,670/ton to treat such low emissions. In this case, positive displacement might be an appropriate mitigation option as it reduced emissions by 7.9 lbs or almost 90%.

Results, assumptions and associated secondary waste amounts are shown in Table 4. Note again that using the assumed abatement efficiencies, only use of thermal oxidation may be capable of achieving rule compliance.

Table 4 Conservative Cost Data for Tank #1805

Abatement Device	TOC abated	Length of Event – Staff Hours	Total Cost (equipment rental+staff)	Cost per Ton Controlled	Concentration Post Abatement (ppm)	Secondary Waste
Carbon Adsorption	1.9-8.45lbs	8 -9min – 2hrs of staff time	$220	$231,578 (positive displacement) $52,0408 (vacuum)	15,950-9,250	19-84.5 lbs spent carbon
Thermal Oxidizer	1.99-8.89lbs	8 -9min – 2hrs of staff time	$670	$670,670 (positive displacement) $150,712 (vacuum)	319-815	1.2 gallon (LPG)

Assumptions: 95% abatement rate for carbon adsorption and 99.9% abatement rate for thermal oxidizers

Tank #544

Two BAAQMD tests were performed at Shell during an event involving vacuum truck removal of a water and crude mix from Tank #544. Removal of approximately 35 bbls of material occurred during each test. The first used a carbon adsorption system for abatement and the second was uncontrolled. Emission results were similar, even though carbon adsorption was employed in one case. Using the higher emission results of 1.43 lbs TOC, the carbon abatement cost-effectiveness would be $323,886/ton of TOC recovered, and thermal oxidizer cost-effectiveness would equate to $938,000/ton of TOC abated.

The test using carbon adsorption had higher emissions than the uncontrolled test – which remains unexplainable, but certainly bringing into question the efficiency of carbon in this case and potentially others.

Though the amount of TOC emitted during a single event is relatively low, this is a common type of operation, and can occur over the course of an entire day several times a month. Given an emission rate of 1.87 lbs/hr of TOC, if 95% of the TOC were abated, only 0.17 tons of TOC would be captured annually. This would cost anywhere from $96,705 to $149,647 per year for carbon adsorption and thermal oxidation, respectively resulting in secondary wastes of 1.79 tons of spent carbon or 1,670 gallons

of LPG burned (i.e., 104.4 tons CO2, 0.01 tons NOx, and 0.006 tons CO) per year. Results and assumptions are provided in Table 5.

Table 5 Conservative Cost Data for Tank #544

Abatement Device	TOC abated	Length of Event – Staff Hours	Total Cost (equipment rental+staff)	Cost per Ton Controlled	Concentration Post Abatement (ppm)	Secondary Waste
Carbon Adsorption	1.36 lbs	46min – 2hrs of staff time	$220	$323,886	1,875	13.6 lbs spent carbon
Thermal Oxidizer	1.42 lbs	46min – 2hrs of staff time	$670	$938,000	38	6.7 gallon (LPG)

Assumptions: 95% abatement rate for carbon adsorption and 99.9% abatement rate for thermal oxidizers

Cost Effectiveness Guidelines

The current BACT Guideline (BAAQMD BACT Workbook) provides cost effectiveness maximums for certain pollutants. For POC and NPOC, the maximum guideline is $17,500/ton .

The *Emission Reduction Offset Transaction Costs Summary Report for 2008* (CARB, 2011) summarizes data on cost per ton of pollutants involved in emission offset transactions. For HC, the median and average costs were $34,000 and $43,435 per ton, respectively. While these values do not represent cost-effectiveness guidelines for rule making, they provide some indication of the market value of emission reductions.

From this analysis, the following cost-effectiveness findings can be made relative to the recent testing of vacuum truck operations:

1. In most cases, carbon adsorption (which is typically only expected to provide 95% abatement efficiency) may not be efficient enough to provide abatement of vacuum truck TOC emissions for compliance with a limit of 500 ppm. For all the tests described above, thermal oxidation would more likely be chosen for abatement to reach a 500 ppm level in situations where safety

concerns are not an issue. Thus, true costs of compliance would need to reflect this choice in most situations.

2. These test events involved removal of 12-35 bbls of relatively volatile material. The cost to control emissions from these events were high on a cost per ton basis. Control of emissions from events involving smaller quantities of less volatile material would only be less cost effective.

3. For the test conducted where removal of material employed positive displacement into the vacuum truck, emissions were substantially reduced such that treatment of the resulting emissions would not be cost-effective.

4. In addition to the costs associated with controlling these emissions, secondary wastes and/or air pollutant emissions are generated from the use of carbon or thermal oxidation that should be considered relative to the amount of TOC abated.

WSPA Comments to Proposed Regulation 8-53, Vacuum Truck Operations

Citation	Suggested Rule Language (Proposed Changes Tracked/Struck Out)	Discussion	Staff Response
8-53-103	**Exemption, Emergencies:** Vacuum trucks responding to spills, equipment failures, and other emergency situations shall be exempt from the requirements of this rule, provided that (1) use of equipment capable of complying with the rule would delay the response, and (2) the delay would pose a risk of significant harm to facility equipment, personnel, the public, or the environment.	WSPA is requesting that the language be clarified so that it is clear that equipment failures can be considered emergencies. However, it is also unclear how the District intends to implement this provision.	Staff agrees with adding the suggested language as long as the equipment failure is not due to neglect or poor maintenance. The addition only specifies one possible type of emergency.
8-53-10x (no existing section)	**Exemption, Low Volume:** In cases where a PD pump or gravity feed cannot be utilized to load materials into a vacuum truck due to technical, safety, or feasibility issues the use of a control device is not required if the estimated volume of the material is less than 5 barrels provided that the records required in 8-53-502 are generated and maintained.	As described in the cover letter, WSPA believes the cost effective analysis is skewed due to how the regulated material emission factor was derived. Data where only one test showed significantly higher emissions was also utilized for estimating the lb/bbl factor. WSPA understands the challenges of performing the analysis without detailed loading records. The cost effectiveness analysis appears to be overstated due to these issues. BAAQMDs cost data does show that the control device costs for the majority of the regulated loads could conservatively range from $40,000 to $340,000 per ton (e.g. Source Test 12052 - Transmix). Thus, WSPA believes there should be an exemption from emission controls for small loads when the PD pumps cannot be used due to technical, safety, or feasibility issues.	Staff is reluctant to add a low volume exemption because the percentage of low volume loading events is unknown. Emissions from many such uncontrolled loading events could amount to significant emissions, especially if several such loading events occur in the same work shift. The amount of emissions will increase as load after load of material is introduced into the vacuum truck, thereby building a more concentrated headspace. It is unclear what would constitute an infeasible situation whereby a PD pump cannot be used to load less than 5 barrels of material into a vacuum truck.
8-53-10x (no existing section)	**Exemption, Secondary Treatment Process:** Vacuum truck activities at secondary treatment processes as defined in Reg.8-8-208 are not subject to the provisions of Regulation 8, Rule 53.	WSPA is requesting this exemption for purposes of making a clear exemption for wastewater polishing processes.	Staff never intended materials from secondary treatment processes that are loaded into vacuum trucks to be subject to the rule; thus, staff does not believe this language is necessary. Nevertheless, staff proposes to add this suggested language to the rule to provide clarity.
8-53-204	**Limited Exemption, Positive Displacement Pump or Gravity Feed Loading:** A loading event in which gravity or a positive displacement pump is used to move regulated materials into a vacuum truck shall be exempt from the requirements of Sections 8-53-301, 8-53-303 and 8-53-501.	Given that existing language shows that monitoring is not required when using positive displacement pumps or gravity feed loading, WSPA is requesting that it be made clear that the limit also does not apply (since if it did, facilities with Title V operating permits could potentially be required to monitor for compliance with it).	Staff does not agree with this change. A vacuum truck that is used to load and convey material that is loaded with a PD pump needs to be maintained to be leak-free, consistent with a gasoline cargo tank requirements.
8-53-20x (no existing section)	**Routine vacuum truck operations:** Vacuum truck activities occurring at the same loading location on a regular frequency (e.g. daily, weekly, etc.)	WSPA is proposing this definition so that upon the request of a facility less burdensome monitoring requirements can be utilized as proposed in 8-53-501.2 for vacuum truck operations that are routine	Staff does not agree with the need for a definition of a "routine event." The definition is provided so that alternative monitoring can be allowed, but staff believes that the allowance should not be triggered by the routine nature of a loading event.
8-53-211	**Loading Event:** The loading at an affected facility of regulated materials from one location at the facility into a vacuum truck or other container through a vacuum truck	WSPA is proposing these changes to clarify that in case where there are short interruptions in a loading event at a given location, that starting up again after the interruption	This is a minor clarification and staff will add this language.

Citation	Suggested Rule Language (Proposed Changes Tracked/Struck Out)	Discussion	Staff Response
	operation.	does not constitute a new "loading event" and trigger additional monitoring.	
8-53-218	**Regulated Material:** A regulated material is any of the following: 218.1 Gasoline, aviation gasoline, gasoline blending stock, naphtha; 218.2 Transmix, slop, or any other hydrocarbon mixture that includes a material listed in Section 8-53-218.1 <u>if they have a TVP >0.5 psi and contain at least 10% by volume of a material listed in 218.1</u>; or 218.3 Any material collected during dewatering of a tank storing any material listed in Sections 8-53-218.1 or 8-53-218.2. Crude oil is not a regulated material.	The broadness of the current language in 8-53-218.2 will result in the unnecessary inclusion of mixtures that are less volatile than the materials that the District is planning on excluding; i.e., a mixture with a low concentration of volatile material would be subjected even though the combined mixture has a very low vapor pressure. WSPA is therefore proposing to change the language to avoid this situation. The specific TVP value of 0.5 psi was chosen for two reasons; one, this value is already familiar (e.g., it is also used in Regulation 8-5); and two, the TVP value of 0.5 psi (3.4% by volume at atmospheric pressure) is approximately consistent with the differences in volatilities between the District's proposed "regulated materials" and unregulated materials. Specifically, the tables in Appendix A of the District's staff report show that the mixtures that the District is proposing to not regulate (in Table A-2) had headspace concentrations up to 5.89% by volume C_1, and that the mixtures that the District was proposing to regulate (in Table A-3) had headspace concentrations between 8.35%C_1 and 187.3%C_1. The 10% exemption was identified because, in some cases, compliance with it can be more easily/directly confirmed than the 0.5 psi criterion.	Staff attempted to craft the definition of "regulated material" in such a way as to minimize the amount of resources facilities would have to utilize in order to differentiate regulated materials from non-regulated materials. Staff's intent is to control vacuum truck loading of materials that produce the highest vapor emissions and not to require controls and emission monitoring requirements when vacuum trucks load low-emitting materials. In staff's opinion, WSPA's suggested language adds complexity, however, if refineries are willing to conduct tests to demonstrate that certain materials do not need to be controlled, staff is willing to accommodate that desire. Staff will add language to Section 218 of the rule that will include a TVP threshold of 0.5 psi and a 10% by volume threshold. Doing this will also require the addition of test methods to the 600 Section of the rule.
8-53-301	**Emission Limit:** Effective <u>April 1</u>, 2013, for any loading event, the owner or operator of a facility subject to this rule shall control emissions <u>by 95% or</u> so that the TOC concentration does not exceed 500 ppmv, expressed as methane (C_1), above background, as measured at the exhaust outlet of a vacuum truck operation or, if an auxiliary control device is used to control emissions from a vacuum truck operation, at the exhaust outlet of the control device unless: 301.1 A second concentration reading taken within 60 seconds fails to confirm the exceedance, or 301.2 A second concentration reading taken within 60 seconds confirms <u>an exceedance</u>, but the loading event is shut down within 3 minutes after the second reading. <u>301.3 - If a normally operating auxiliary control device or a set of dual brand new carbon canisters with industry standard capacity cannot control the emissions below the 95% or 500 ppmv limit per 8-53-301, facilities are required to report to APCO immediately but the vacuum truck activities can be continued should discontinuing the vacuum truck activities will make normal operations</u>	The District's staff report identifies that design efficiencies for thermal oxidizers can be 98% and above and that there was a case in which an internal combustion engine controlled emissions by 99.6%. However, this will not always be sufficient to achieve a 500 ppmv outlet concentration; for example, the staff report identifies one instance in which the inlet concentration was 1,872,592 ppmvC1, and reducing emissions to 500 ppmvC_1 would require a 99.97% control efficiency. WSPA is therefore proposing these changes to ensure that the rule does set a standard which cannot be met by the available technologies. The staff report also states that the District believes that the standard of 500 ppmvC_1 is consistent with SCAQMD Rule 1149 and Texas permitting requirements; however, those rules specify 500 ppmvC_1 of VOC (not TOC), and control efficiencies for components such as methane and ethane (which are TOC but not VOC) are considerably lower for some of the control technologies (i.e., carbon adsorption and refrigerated condenser systems). In addition, TCEQ Chapter 115, Sections 115.540-.549 also allows for alternative means of	When controlling organic vapor emissions from vacuum truck operations with the highest potential to emit, carbon adsorption is not necessarily the best choice of control. Nevertheless, when emissions were measured as C_1, staff has observed carbon adsorption control devices with the ability to control organic vapor emissions from high vapor pressure materials, such as gasoline, to below 500 ppmv. The refineries are already subject to a 500 ppmv standard in EPA's national standards for benzene waste streams. Staff will recommend the timeline for the rule be revised to April 1, 2013. At least two affected facilities already utilize PD pumps almost exclusively when regulated materials are loaded into vacuum trucks. Staff expects that additional facilities will switch to this method and/or gravity feed methods.

Citation	Suggested Rule Language (Proposed Changes Tracked/Struck Out)	Discussion	Staff Response
	impossible.	compliance in lieu of meeting the 500 ppmvC_1 TOC standard. Due to limited source testing, it is uncertain if current available technology (auxiliary control device, carbon adsorption, etc.) can help achieve 500 ppmv for specific loading events. This situation may occur during normal operations or maintenance turnarounds and ending the vacuuming activities will seriously disturb or stop facility operations. We suggest that facilities be allowed to collect data on these types of activities so that the Air District will have the opportunity to reevaluate the requirements in this rule. If facilities encounter this type of burden, facilities should be required to report these activities to APCO immediately but are allowed to continue the activities without being enforced by the rule.	Staff does not agree with the suggested language to Section 301.3. "Normally operating auxiliary control device" is not defined, nor is "industry standard capacity", nor "normal operations." The suggested language gives a facility owner the option to avoid diligence in determining appropriate means of compliance for the material being loaded. The date by which compliance is required (one year) should give operators ample time to determine whether abatement equipment can meet the standard.
8-53-302	**Liquid Leaks:** Effective April 1, 2013, for any loading event, the following requirements apply: 302.1 The owner or operator of a facility subject to this rule shall maintain all equipment associated with the operation up to, but not including, the first connection at the vacuum truck such that the following liquid leak limit is not exceeded (except during hose connects and disconnects): three drops per minute, unless the leak is discovered by the operator and eliminated within approximately 3 minutes of discovery or unless the safe shutdown procedures are initiated within approximately 3 minutes of the discovery of the leak. 302.2 The owner or operator of a vacuum truck being used to comply with this rule shall maintain all equipment associated with the operation up to and including the first connection at the truck to the facility such that the following limits are not exceeded (except during hose connects and disconnects): three drops per minute, unless the leak is discovered by the operator and eliminated within approximately 3 minutes of discovery or unless the safe shutdown procedures are initiated within approximately 3 minutes of the discovery of the leak.	As mentioned by WSPA members in the July 25, 2011 workshop, specific the leakiness of some equipment components are controlled more by the vacuum truck owner/operators than the facility, and there should be language which encourages responsibility on the part of the latter. This same issue has been addressed previously by the District in rules 8-33 and 8-44, and the proposed language is similar to that in 8-44-305. In addition, it is not technically feasible for all of the vacuum loading connects and disconnects to meet this standard Separately, it is not always feasible or safe to shut down within 3 minutes of discovery, and in the July 21, 2011 workshop District staff stated that unsafe shutdown was not the intent. WSPA has proposed the second change to address this issue	The suggested language is problematic. All contractors at a refinery have standard clauses stipulating compliance with local, state and federal regulations. Consequently, the facility operator has a recovery mechanism if a vacuum truck operator violates the rule, intentionally or not. The liquid leak standard is not intended to include disconnects. Finally, whether or not a vacuum truck is shut down in three minutes or "approximately three minutes" (with good intentions) is the sort of discretion that staff is empowered to use and normally exercises. Staff does not believe that this suggested language is necessary.

Citation	Suggested Rule Language (Proposed Changes Tracked/Struck Out)	Discussion	Staff Response
8-53-303	**Vapor Leaks:** Effective April 1, 2013, for any loading event, the following requirements apply: 303.1 The owner or operator of a facility subject to this rule shall maintain all equipment associated with the operation up to, but not including, the first connection at the vacuum truck such that the following vapor leak limit is not exceeded: 500 ppmv, expressed as methane (C_1), above background unless the leak is discovered by the operator and minimized to a concentration below 500 ppmv within approximately 3 minutes after discovery or unless shutdown of the loading event is initiated within approximately 3 minutes after the discovery of the leak. 303.2 The owner or operator of a vacuum truck being used to comply with this rule shall maintain all equipment associated with the operation up to and including the first connection at the truck to the facility such that the following limits are not exceeded: 500 ppmv, expressed as methane (C1), above background unless the leak is discovered by the operator and minimized to a concentration below 500 ppmv within approximately 3 minutes after discovery or unless shutdown of the loading event is initiated within approximately 3 minutes after the discovery of the leak.	As mentioned by WSPA members in the July 25, 2011 workshop, some equipment components are controlled more by the vacuum truck owner/operators than the facility, and there should be language which encourages responsibility on the part of the latter. This same issue has been addressed previously by the District in rules 8-33 and 8-44, and the proposed language is similar to that in 8-44-305. Separately, it is not always feasible or safe to shut down within 3 minutes of discovery, and in the July 21, 2011 workshop District staff stated that unsafe shutdown was not the intent. WSPA has proposed the second change to address this issue.	See response above.
8-53-304	**Unloading of Regulated Material:** Effective April 1, 2013, the owner or operator of a facility subject to this rule shall meet the following requirements for unloading of regulated material from a vacuum truck at the facility where the vacuum truck was loaded: 304.1 Unload the material into a tank, vessel or sump that meets the control requirements in Regulation 8 Rule 5 or Regulation 8 Rule 8; or 304.2 If regulated material is unloaded into a non-regulated tank, vessel or other type of container, splash loading shall not be employed except in cases where the tank is appropriately designed for submerged loading and the liquid level is below the point at which submerged loading can occur. 304.3 If regulated material is unloaded into a sump, regulated material shall be promptly cleaned from the sump, and sump contents shall be promptly pumped into storage.	This section of the draft proposed rule applies to the unloading of material from vacuum trucks. In the July 21, 2011 workshop, it was pointed out that facilities cannot control the unloading of vacuum trucks offsite, and District staff stated that the intent of this section was to apply it to on-site unloading. WSPA's first proposed change addresses this issue. If a facility is unloading the material into a tank, vessel or other equipment that is vapor controlled or meets the tank control requirements, it shouldn't matter how you unload the material since any vapors generated by the unloading will be controlled, WSPA has inserted the proposed language for a new section 304.1 to address this. With respect to "splash loading", sometimes it is necessary to unload into an empty tank, which is not possible to do without "splash loading" (as defined in 8-53-217). WSPA's proposed change addresses this issue.	Staff agrees with the suggested language to Section 304.1 and will add it to the rule. These controls (compliance with Reg. 8-5 or 8-8) are considered equivalent to submerged loading. Staff does not believe that the suggested language in Section 304.2 is appropriate. Submerged fill is defined in other District rules, notably, Regulation 8, Rule 5: Storage of Organic Liquids. It is defined as fill that goes to within 6 inches of the bottom of the tank (if filled from overhead) or 18 inches from the bottom of the tank (if filled from the side).

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8-53-401	**Loading Event Schedule Reporting Requirements:** Effective April 1, 2013, upon request by the APCO or the designee of the APCO, the owner or operator of an affected facility subject to this rule shall provide a list of scheduled loading events and the following information for each event: 401.1 Loading event start date and time; 401.2 Facility name, plant number (if applicable), and source number (if applicable),tank, pipeline, or reservoir address, and equipment location; 401.3 Vacuum truck company name, owner/operator's name, and telephone number; 401.4 Control equipment company name, control equipment type, operator's name and telephone number if the control equipment is operated by someone other than the vacuum truck owner/operator; and, 401.5 Tank, pipeline, box, container, or reservoir capacity, estimated volume and type of material to be loaded. The list shall include loading events that are scheduled within thirty (30) days. The list shall be provided to District staff within three (3) working days and may be provided via hard copy or electronically. For loading events that the District has identified an interest in witnessing, provide changes to loading event schedules shall be reported to District staff as soon as practicable prior to loading events.	Changes to loading events could happen on weekends, and changes can occur within less than 24 hours, so reporting changes in less than 24 hours could be unrealistic and is likely to be unduly cumbersome. In the July 21, 2011 workshop (at which time the proposed rule listed a timeframe of 48 hours instead of 24 hours), District staff indicated that this was not the intent. WSPA has proposed the language shown to address this issue.	Staff does not agree with the addition of language that affected facilities only need to notify staff of changes if staff indicates that they are "interested in witnessing an event." Staff realizes that vacuum truck loading events are subject to change at any time, however, the rule already stipulates that staff only be notified of events on request, and that the only events subject are those that are scheduled, such as during a turnaround. It is difficult to see how notification of a change in scheduled events (which, according to refinery operators, are small minority) is unduly cumbersome.

Citation	Suggested Rule Language (Proposed Changes Tracked/Struck Out)	Discussion	Staff Response
8-53-501	Effective April 1, 2013, the owner or operator of an affected facility using a vacuum truck operation shall monitor and record emissions as follows: 501.1 When TOC emissions from a vacuum truck operation are controlled primarily by technology other than a carbon adsorption system, emission concentrations from the control device shall be measured using the method specified in Section 8-53-601 and recorded as follows: 1.1 Conduct one measurement for each loading event before the vacuum truck is approximately 20% full. Conduct an additional measurement before the vacuum truck is approximately 60% full. If a vacuum truck is already 20% full prior to a loading event, conduct an initial measurement as soon as possible after the start of the loading event and an additional measurement before the vacuum truck is approximately 60% full. If a vacuum truck is already 60% full prior to a loading event, conduct one measurement as soon as possible after the start of the loading event.	The current language alternately used the terms “barrel” and “vacuum truck” to refer to the same thing; “vacuum truck” is a term that is defined and “barrel” is not. WSPA is proposing these language changes to make the wording clear and consistent.	Staff will change the term “barrel” to “vacuum truck” in the rule for the sake of clarify and consistency.

Citation	Suggested Rule Language (Proposed Changes Tracked/Struck Out)	Discussion	Staff Response
8-53-501.2	When TOC emissions from a vacuum truck operation are controlled primarily by a carbon adsorption system, emissions measurements from the control device shall be measured using the method specified in Section 8-53-601 and recorded as follows: 2.1 Commence emission measurements within 2 minutes of startup for each loading event. Additional measurements shall be performed approximately every 15 minutes during loading thereafter; For routine vacuum truck operation activities facilities are in compliance with 8-53-2.1 if: 2.1.1 A dual carbon canister system is used; And 2.1.2 Facilities take three sets of measurements per day with the first measurement of each set taken between the primary and the secondary canisters; and the second measurement of each set at the outlet of the secondary canister immediately following the first measurement; and the time interval between two readings is at least approximately one (1) hour; and 2.1.3 The primary carbon canister is replaced within four (4) hours with a brand new carbon canister when the readings after the primary carbon canister are near or greater than 4000 ppm. 2.2 When a TOC Stream is switched to a back-up or replacement carbon vessel, a new TOC emission measurement must occur within 2 minutes of the carbon vessel replacement; 2.3 An alternative monitoring plan for routine vacuum activities can be utilized upon submittal and approval of the APCO. 2.4 Record the information required by Section 8-53-502.	While WSPA understands concerns regarding potential breakthrough, the current requirements are onerous, and do not provide any relief for systems that incorporate dual (rather than single) carbon adsorption systems, arrive with fresh carbon, and/or have built-in monitoring systems for determining whether the carbon is spent. Thus provisions have been added for allowances for alternative monitoring of routine vacuum truck operation	While an alternative monitoring plan might be feasible for some facilities, staff does not believe such a plan should be limited only to routine vacuum truck activities. Nor should routine activities automatically qualify for such a plan. Typically, routine activities might consist of a series of small loading events. Monitoring for compliance only three times each day could result in a vacuum truck being used all afternoon and not meeting the emissions standards. Staff propose to add the following, “An alternative monitoring plan can be submitted and approved by the APCO.” This allows the use of equipment such as automatic monitors, incorporated into the design of vacuum trucks of at least one company.

Citation	Suggested Rule Language (Proposed Changes Tracked/Struck Out)	Discussion	Staff Response
8-53-502	**Recordkeeping Requirement:** A person subject to this rule shall keep the following records: 502.1 Effective April 1, 2013, record the following information for each loading event: 1.1 The date, time of commencement, and duration of the loading event; 1.2 The type and volume of regulated materials loaded; 1.3 Whether loading was by vacuum, positive displacement pump, or gravity; 1.4 Where vacuum truck control equipment or external control equipment is used, record the make and model of the control equipment, the results of the emission measurements required by Section 8-53-501, and the make, model, and serial number of the device used to measure the TOC concentrations; 1.5 Where loading was by positive displacement pump, the make and model of the pump. 1.6 Where **Exemption, Low Volume** is used record the estimated volume of the material and the reason a PD pump or gravity fill could not be utilized. , 502.2 Effective April 1, 2013, record the ~~daily~~ volume of crude oil and oil recovered from centrifuging that is loaded into vacuum trucks. 502.3 The owner or operator of an affected facility shall retain records required by this Section for two years and shall make them available for inspection by the APCO upon request.	As identified in WSPA's earlier proposed change requesting an exemption for low volume transfers, we have added in an associated recordkeeping requirement. In Section 502.2, we are proposing to remove the word "daily", since these records would need to be kept per truck and there is no apparent reason to have to separate out transfers that occur across midnight into two separate days.	As previously indicated, staff will add the April 1, 2013 compliance date. Staff does not agree with the remaining suggestions. The Low Volume exemption was discussed previously, and staff believes that it is inappropriate. Because emissions from crude and centrifuged oil may be significant, staff believes that daily recordkeeping is appropriate.

Citation	Suggested Rule Language (Proposed Changes Tracked/Struck Out)	Discussion	Staff Response
8-53-601	**Measurement of TOC Concentrations:** Measurements of TOC concentration for determining compliance with the limit set forth in Section 301 of this rule shall be conducted in accordance with USEPA Reference Methods 21 or 25A; BAAQMD Manual of Procedures, Volume IV, ST-7; or alternatives approved by the APCO. If USEPA Reference Method 21 is used to determine compliance, the portable analyzer shall use flame ionization detection and shall meet the specifications and performance criteria of, and shall be calibrated in accordance with, EPA Reference Method 21 (40 CFR 60, Appendix A).	As mentioned in the July 21, 2011 workshop, Method 21 (handheld FID) is very onerous in terms of requirements for training, calibration, etc. and the requirement to use this method will be problematic when nighttime or offhour vacuum truck operations are needed and no Method 21-trained personnel are available. Method 25A and BAAQMD Method ST-7 are even more onerous (to the point that they are not economically feasible). Keeping these requirements was not accounted for in the District's cost analyses. Also, because handheld FIDs tend to be two-gas monitors (i.e., air from the sample is needed for the flame, rather than having a separate air supply for the flame) designed for ambient air monitoring, their accuracy may not be superior to other alternatives in situations where there is considerable flow (e.g., in the control equipment exhaust) and/or where there is significant moisture (e.g., downstream of a thermal oxidizer). In some cases, vacuum trucks may be equipped with their own monitoring equipment. WSPA is therefore proposing to change the language to allow for APCO-approved monitoring alternatives.	Method 25A and ST-7 are measurement methods that have been added to the rule specifically at the request of the BAAQMD Technical Services Division so District staff can use such methods if needed. Method 25A and ST-7 measure mass or organic emissions. This is not necessary for facilities to conduct to determine compliance with the rule. WSPA's rationale, that some trucks are equipped with their own monitoring equipment, can be accommodated by the suggested language in Section 501, as described above. The monitoring must meet the performance specifications of Method 21.

Appendix C

Socioeconomic Analysis

Socio-Economic Impact Study of the Proposed Bay Area 2010 Clean Air Plan, Control Measure SSM-5, BAAQMD Regulation 8, Rule 53: Vacuum Truck Operations

Submitted to: Bay Area Air Quality Management District

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bae urban economics

San Francisco
1285 66th Street
Second Floor
Emeryville, CA 94608
510.547.9380

Sacramento
803 2nd Street
Suite A
Davis, CA 95616
530.750.2195

Los Angeles
5405 Wilshire Blvd.
Suite 291
Los Angeles, CA 90036
213.471.2666

Washington DC
1346 U Street NW
Suite 403
Washington, DC 20009
202.588.8945

New York City
121 West 27th Street
Suite 705
New York, NY 10001
212.683.4486

www.bae1.com

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EXECUTIVE SUMMARY

The Bay Area Air Quality Management District (BAAQMD) proposes to enact Regulation 8, Rule 53 (Rule 8-53) to limit organic vapor emissions from vacuum truck operations at petroleum refineries, petroleum bulk plants, and petroleum bulk terminals. Until now, vacuum truck operations have been exempt from District requirements. The proposed Rule would limit emissions applied at the outlet of the vacuum truck or associated equipment, as well as from vapor and/or liquid leaks from vacuum truck equipment, and would potentially reduce emissions by up to 1.05 tons per day.

Socio-Economic Impacts

In order to estimate the economic impacts of enacting Rule 8-53 on the affected industries, this report compares the affected industries' annualized compliance costs with their profit ratios. The analysis uses data from the BAAQMD, US Census County Business Patterns, the IRS, and the 2007 US Economic Census.

Economic Profile of Affected Industries

The BAAQMD identifies the affected industries as Petroleum Refineries (SIC 2911) and Petroleum Bulk Stations and Terminals (SIC 5171). According to BAAQMD records, there are five petroleum refinery establishments, 17 bulk terminal establishments, and 18 bulk plant establishments in the Bay Area that would be subject to the proposed rule.

Economic Impacts to Affected Industries

IRS data indicate that firms in the petroleum refinery sector, which includes the affected industry, earn 6.3 percent profits on total revenue, resulting in total annual industry net profits of $1.7 billion. According to BAAQMD data, the total annualized compliance costs to refinery establishments would be approximately $1.1 million. Dividing the compliance costs ($1.1 million) by annual profits ($1.7 billion) shows that the proposed Rule would result in a 0.06 percent reduction in establishments' profits, which is well below well below the California Air Resources Board's (ARB's) 10 percent threshold used to determine cost burden.

IRS data also indicate that firms in the wholesale trade, petroleum and petroleum related products sector, which includes both the bulk terminals and bulk plants (termed stations in IRS data) industries, earn 1.5 percent profits on total revenue, resulting in total annual bulk terminal industry net profits of $1.1 billion and bulk plant industry profits of $4.5 million.

According to BAAQMD data, the total annualized compliance costs for the bulk terminals establishments would be approximately $98,534. Dividing the compliance costs ($98,534) by annual profits ($1.1 billion) shows that the proposed Rule would result in a 0.01 percent reduction in bulk terminals establishments profits. BAAQMD estimates that the annualized compliance costs to bulk plant establishments would be $247. Dividing compliance costs ($247) by annual profits ($4.5 million) shows that the proposed Rule would result in a 0.01 percent impact to bulk plant establishments. Thus, the compliance costs as a share of profits for both industries fall well below well below the ARB's 10 percent threshold used to determine cost burden.

Regional Employment, Indirect, and Induced Impacts

Since on average, the proposed Rule 8-53 would not result in significant economic impacts to establishments within the affected industries, the proposed rule would not impact the affected industries or regional employment. In addition, adoption of the proposed Rule would not result in any additional regional spinoff, or multiplier, impacts.

Impacts to Small Businesses

Using the California Government Code 14835's definition of a small business, approximately 37 percent of affected bulk plant establishments are small businesses. However, as the ARB and this analysis both assume that compliance costs are small enough not to significantly impact profitability, adopting Rule 8-53 would not adversely impact small businesses.

DESCRIPTION OF PROPOSED RULE

The Bay Area Air Quality Management District (BAAQMD) proposes to enact Regulation 8, Rule 53 (Rule 8-53) to limit organic vapor emissions from vacuum truck operations at certain facilities that handle materials likely to produce ozone-forming emissions, effective April 1, 2013. Until now, vacuum truck operations have been exempt from District requirements. The proposed Rule would reduce total organic compound (TOC) emissions within the BAAQMD's District through an organic emissions limit applied at the outlet of the vacuum truck or associated equipment, an emissions limit for vapor and/or liquid leaks from vacuum truck equipment, monitoring requirements, and reporting requirements. The implementation of Rule 8-53 would potentially reduce emissions by up to 1 ton per day as per staff estimate. Table 1 shows the proposed emissions limits under Rule 8-53.

Table 1: Proposed TOC Emissions Limits, Regulation 8, Rule 53

Operation	TOC Emissions Limits
Exhaust Emissions (vacuum truck pump, blower exhaust, or control device)	500 ppmv
Equipment Liquid Leaks (hoses, connectors, flanges, lines, and stingers)	3 drops per minute
Equipment Vapor Leaks (hoses, connectors, flanges, lines, and stingers)	500 ppmv

Sources: BAAQMD; BAE, 2011.

The proposed emissions limits would be consistent with the South Coast Air Quality Management District's (SCAQMD) Rule 1149 that limits organic vapor emissions from vacuum trucks used in conjunction with tank degassing and the Texas Commission on Environmental Quality (TCEQ) under Title 30 of the Texas Administrative Code, Chapter 101, Subchapter F.

Rule 8-53 would apply to commercial facilities that use vacuum trucks to load materials containing organic compounds and are capable of emissions of at least 500 parts per million by volume (ppmv) measured as methane for those high vapor pressure materials subject the proposed rule (and already subject to other District refinery rules; Regulation 8, Rule 5: Storage of Organic Liquids, and Regulation 8, Rule 8: Wastewater (Oil-Water) Separators, or Regulation 8, Rule 44: Marine Tank Vessel Operations). However, emissions from vacuum trucks responding to oil spills or other environmental emergencies would be exempt.

REGIONAL TRENDS

This section provides background information on the demographic and economic trends for the San Francisco Bay Area, which represents the BAAQMD's District. The San Francisco Bay Area includes Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties. Regional trends are compared to statewide demographic and economic patterns since 2000, in order to show the region's unique characteristics relative to the State.

Regional Demographic Trends

Table 2 shows the population and household trends for the nine county Bay Area and California between 2000 and 2010. During this time, the Bay Area's population increased by 5.4 percent, compared to 10 percent in California. Likewise, the number of Bay Area households grew by 5.8 percent, compared to a 9.3 percent statewide increase.

Table 2: Population and Household Trends, 2000-2010

Bay Area (a)	2000	2010	Total Change 2000-2010	Percent Change 2000-2010
Population	6,784,348	7,150,739	366,391	5.4%
Households	2,466,020	2,608,023	142,003	5.8%
Average Household Size	2.7	2.7		
California				
Population	33,873,086	37,253,956	3,380,870	10.0%
Households	11,502,871	12,577,498	1,074,627	9.3%
Average Household Size	2.9	2.9		

Notes:
(a) Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties.

Sources: California, Department of Finance; US Census; BAE 2011.

The slower growth in the Bay Area is related to its relatively built out environment, compared to the state overall. While Central Valley locations, such as the Sacramento region, experienced large increases in the number of housing units, the Bay Area, which was relatively built out before the housing boom, only experienced moderate increases in housing units.

Regional Economic Trends

In the five-year period, between 2005 and 2010, the Bay Area's economic base shrank by 4.4 percent, decreasing from 3.23 million jobs to 3.09 million jobs. This represents slightly slower job loss than the State, where the number of jobs shrank by nearly six percent.

Manufacturing, Retail Trade, Professional, Scientific, and Technical Services, and Healthcare and Social Assistance, the largest private (non-government) sectors in the Bay Area's economy, each constituted 10 percent of the region's total jobs in 2010. Over the five-year period the Manufacturing sector lost 13 percent of its jobs, while the Retail Trade sector lost nine percent of its jobs. However, during this period, the Professional, Scientific, and Technical Services sector grew by 10 percent, while the Healthcare and Social Assistance sector grew by nearly 14 percent. Statewide, the Manufacturing and Retail Trade sectors declined by 17 and nine percent, respectively. However, the Professional, Scientific, and Technical Services and Healthcare and Social Assistance sectors grew by five and 13 percent, respectively. Overall, the Bay Area's economic base reflects the state's base, sharing a similar distribution of employment across sectors. Table 3 shows the jobs by sector in 2005 and 2010.

The affected industries, Petroleum Refineries and Petroleum Bulk Plants (referred to as Bulk Stations) and Terminals, fall into the Manufacturing, and Wholesale Trade sectors, respectively. The Manufacturing sector represents 9.9 percent of the region's job base, while the Wholesale Trade sector represents 3.7 percent of the region's jobs base. Although both sectors' employment contracted between 2005 and 2010, the Wholesale Trade sector's share of the region's jobs remained constant, while the Manufacturing sector's share of the region's jobs decreased one percent.

Table 3: Jobs by Sector, 2005-2010 (a)

	Bay Area					California				
	2005 (b)		2010 (c)		% Change	2005 (b)		2010 (c)		% Change
Industry Sector	**Jobs**	**% Total**	**Jobs**	**% Total**	**2005-2010**	**Jobs**	**% Total**	**Jobs**	**% Total**	**2005-2010**
Agriculture	20,400	0.6%	19,000	0.6%	-6.9%	378,200	2.5%	381,600	2.7%	0.9%
Mining and Logging	800	0.0%	500	0.0%	-37.5%	23,600	0.2%	26,800	0.2%	13.6%
Construction	74,800	2.3%	50,100	1.6%	-33.0%	905,300	6.0%	559,800	3.9%	-38.2%
Manufacturing	350,400	10.8%	305,400	9.9%	-12.8%	1,502,600	9.9%	1,242,400	8.7%	-17.3%
Wholesale Trade	123,000	3.8%	113,200	3.7%	-8.0%	675,800	4.5%	643,200	4.5%	-4.8%
Retail Trade	336,700	10.4%	305,900	9.9%	-9.1%	1,659,300	10.9%	1,508,800	10.6%	-9.1%
Transportation, Warehousing, and Utilities	100,300	3.1%	90,200	2.9%	-10.1%	487,100	3.2%	464,900	3.3%	-4.6%
Information	112,900	3.5%	110,800	3.6%	-1.9%	473,600	3.1%	429,000	3.0%	-9.4%
Finance and Insurance	151,000	4.7%	118,200	3.8%	-21.7%	636,600	4.2%	511,900	3.6%	-19.6%
Real Estate and Rental and Leasing	55,600	1.7%	47,900	1.6%	-13.8%	283,600	1.9%	247,900	1.7%	-12.6%
Professional, Scientific, and Technical Services	289,100	8.9%	318,800	10.3%	10.3%	970,200	6.4%	1,020,600	7.1%	5.2%
Management of Companies and Enterprises	52,500	1.6%	54,200	1.8%	3.2%	222,100	1.5%	190,500	1.3%	-14.2%
Administrative and Waste Services	182,100	5.6%	167,100	5.4%	-8.2%	968,300	6.4%	858,300	6.0%	-11.4%
Educational Services	73,000	2.3%	81,700	2.6%	11.9%	272,200	1.8%	307,900	2.2%	13.1%
Health Care and Social Assistance	284,500	8.8%	324,100	10.5%	13.9%	1,321,200	8.7%	1,479,000	10.4%	11.9%
Arts, Entertainment, and Recreation	47,600	1.5%	37,200	1.2%	-21.8%	239,000	1.6%	241,200	1.7%	0.9%
Accommodation and Food Services	261,300	8.1%	209,600	6.8%	-19.8%	1,236,200	8.1%	1,252,500	8.8%	1.3%
Other Services, except Public Administration	108,800	3.4%	108,800	3.5%	0.0%	505,500	3.3%	484,700	3.4%	-4.1%
Government (d)	446,300	13.8%	430,200	13.9%	-3.6%	2,420,200	15.9%	2,427,100	17.0%	0.3%
Subtotal (e)	**3,071,100**	**95.1%**	**2,892,900**	**93.7%**	**-5.8%**	**15,179,500**	**100.0%**	**14,278,000**	**100.0%**	**-5.9%**
Additional Suppressed/Confidential Employment (f)	159,800	4.9%	195,900	6.3%	22.6%	n/a	n/a	n/a	n/a	
Total, All Employment	**3,230,900**	**100.0%**	**3,088,800**	**100.0%**	**-4.4%**	**15,179,500**	**100.0%**	**14,278,000**	**100.0%**	**-5.9%**

Notes:
(a) Includes all wage and salary employment covered by unemployment insurance.
(b) Represents employment for calendar year, 2005.
(c) Represents employment for calendar year, 2010.
(d) Government employment includes workers in all local, state and Federal sectors, not just public administration. For example, all public school staff are in the Government category.
(e) Totals may not add due to independent rounding.
(f) County employment for some industries were suppressed by EDD due to the small number of firms reporting in the industry for a given county.

Sources: California Employment Development Department, BAE, 2011.

Affected Industries

The proposed rule would affect vacuum truck operations, which are part of the truck transportation sector. However, the responsibility of compliance would fall on the refineries, bulk terminals, and bulk plants (or stations). BAAQMD staff stated that vacuum truck operators would be able to fully pass compliance costs on to the refineries, bulk terminals, and bulk stations. Thus, this analysis focuses on the impacts to the petroleum refinery, and petroleum bulk terminals, and petroleum bulk stations industries.

According to the US Census, in 2009, the Bay Area had 7 Petroleum Refinery establishments that accounted for 4,210 jobs, averaging 601 jobs per establishment. However, BAAQMD staff indicated that there are five major petroleum refineries in the Bay Area, and one re-refiner. Inaccurate self-coding and reporting can result in Census data including inaccurate entries, which could account for the differences between BAAQMD and Census petroleum refinery counts.

Census data also states that there were also 57 Petroleum Bulk Stations and Terminals establishments that accounted for between 1,064 jobs, averaging 19 workers per establishment (See Table 4). Because the bulk terminals and bulk stations industries share a common six-digit NAICS code (424710, Petroleum Bulk Stations and Terminals), data from the County Business Patterns does not distinguish between these industries. However, the analysis calculates the impacts of the proposed Rule on each industry, individually.

The BAAQMD provided data to establish the distribution of establishments by size for the Bulk Terminals and Bulk Stations industries. BAAQMD staff indicated that Bulk Terminals tend to be large establishments, and Bulk Stations tend to be smaller. Because some bulk terminal establishments are co-located with refineries, the County Business Patterns data may have excluded or mis-categorized some bulk terminal establishments, which could explain the underrepresentation of larger establishments in the County Business Patterns data. The analysis uses establishment counts and sizes from the BAAQMD to estimate industry impacts.

Although the proposed Rule could also affect marine terminals and organic liquid pipeline facilities, this analysis does not consider their impacts. BAAQMD staff indicates that firms in these industries use vacuum trucks infrequently enough, or load materials regulated by the rule in small enough quantities, that their share of vacuum truck usage would be close to zero; therefore, they are excluded from the analysis.

Table 4: Profile of Affected Industries, 2009

Industry	Petroleum Refineries (a)	Petroleum Bulk Stations and Terminals (b)
Employment (c)	4,210	1,084
Average Employment per Establishment	601	19
Number of Establishments (by workforce size)		
1-4	0	24
5-9	1	9
10-19	0	11
20-49	0	9
50-99	1	2
100+	5	2
Total	7 (d)	57 (e)

Notes:
(a) The petroleum refinery industry is defined as NAICS 324110, Petroleum Refineries.
(b) The bulk terminals and bulk stations industry is defined as NAICS 424710, Petroleum Bulk Stations and Terminals.
(c) In cases where the actual employment number is not disclosed for confidentiality purposes, the analysis uses the midpoint employment number for each size cohort.
(d) BAAQMD estimates that the Bay Area has six establishments in this sector will be affected by the proposed Rule.
(e) BAAQMD estimates that the Bay Area has 35 establishments in this sector will be affected by the proposed Rule.

Sources: U.S. Census County Business Patterns, 2009; BAE, 2011.

SOCIO-ECONOMIC IMPACTS

This section discusses the methodology, economic profile of the affected industry, annualized compliance costs, and estimates the economic impacts associated with the proposed adoption of Rule 8-53.

Methodology

In order to estimate the economic impacts of amending Rule 8-53 on the affected industries, this report compares the affected industries' annualized compliance costs with their profit ratios. The analysis uses data from the BAAQMD, US Census County Business Patterns, the IRS, and the 2007 US Economic Census.

The BAAQMD identifies the affected industries as Petroleum Refineries (SIC 2911) and Petroleum Bulk Stations and Terminals (SIC 5171). According to BAAQMD records, there are five petroleum refinery establishments, 17 bulk terminal establishments, and 18 bulk plant establishments in the Bay Area that would be subject to the proposed rule.

Economic Profile of Affected Industries

As shown in Table 5, according to 2007 US Economic Census data, the average California firm in the Petroleum Refinery sector has average annual sales per employee of approximately $7.4 million. Multiplying the average statewide revenues per employee by the County Business Pattern's estimated regional average employees per establishment (601 workers) shows that on average, Bay Area petroleum refineries have total annual revenues of $4.5 billion per establishment.

The Economic Census also provides average revenues per employee data for the Bulk Terminals and Bulk Stations industries, individually. According to the data, the average California Bulk Terminals establishment has average revenues per employee of $26.3 million, while the average California Bulk Stations establishment has average revenues per employee of $1.5 million. Multiplying average revenues per employee figures by the average number of employees per Bay Area establishment shows that on average, bulk terminal establishments receive total annual revenues of $4.6 billion, while the average bulk station establishment receives total annual revenues of $17 million.

BAAQMD staff and US Economic Census data indicate that all of the bulk terminal operators are large multinational energy firms, while the bulk station firms tend to be smaller. Thus, the analysis distributes the bulk terminals establishments into the largest establishment size cohort. The bulk stations establishments are primarily distributed according to the County Business Pattern's distribution of smaller establishments by size. Table 5 shows the average number of employees and sales of all affected industries.

Table 5: Petroleum Refinery, Bulk Terminal, and Bulk Station Industries, Sales

Petroleum Refinery Industry

Number of Employees	Number of Businesses (a)	Average # of Employees (b)	Average Annual Sales (c)	Total Sales	Total Employees
1-4	0	0	$0	$0	0
5-9	0	0	$0	$0	0
10-19	0	0	$0	$0	0
20-49	0	0	$0	$0	0
50-99	0	0	$0	$0	0
100+	6	601	$4,465,560,946	$26,793,365,674	3,608
Total	**6**	**601**	**$4,465,560,946**	**$26,793,365,674**	**3,608**

Petroleum Bulk Terminals Industry

Number of Employees	Number of Businesses (a)	Average # of Employees (d)	Average Annual Sales (e)	Total Sales	Total Employees
1-4	0	0	$0	$0	0
5-9	0	0	$0	$0	0
10-19	0	0	$0	$0	0
20-49	0	0	$0	$0	0
50-99	0	0	$0	$0	0
100+	17	175	$4,596,795,497	$78,145,523,444	2,967
Total	**17**	**175**	**$4,596,795,497**	**$78,145,523,444**	**2,967**

Petroleum Bulk Stations Industry

Number of Employees	Number of Businesses (f)	Average # of Employees (d)	Average Annual Sales (g)	Total Sales	Total Employees
1-4	8	3	$3,798,668	$30,962,727	20
5-9	3	7	$10,636,270	$32,510,863	21
10-19	4	15	$22,032,274	$82,309,249	54
20-49	3	35	$52,421,617	$160,232,113	105
50-99	0	0	$0	$0	0
100+	0	0	$0	$0	0
Total	**18**	**11**	**$17,000,831**	**$306,014,953**	**201**

Notes:
(a) The number and sizes of businesses affected for each industry comes from BAAQMD data.
(b) Based on 2009 Census County Business Patterns Data for Refineries in the Bay Area.
(c) Based on 2007 Economic Census data for petroleum refinery businesses in California. 324110, Petroleum Refineries.
Average revenues per employee $7,425,805
(d) Based on 2009 Census County Business Patterns Data for Bulk Stations and Terminals in the Bay Area.
(e) Based on 2007 Economic Census data for petroleum bulk terminal businesses in California. 42471012, Petroleum Bulk Terminals.
Average revenues per employee $26,342,668
(f) The number of firms comes from BAAQMD data. The distribution of firms by size comes from 2009 County Business Patterns data for Bulk Stations and Terminals establishments in the Bay Area, and information from BAAQMD.
(g) Based on 2007 Economic Census data for petroleum bulk station businesses in California. 42471011, Petroleum Bulk Stations.
Average revenues per employee $1,519,467

Sources: Economic Census, 2007; BAAQMD, 2011; BAE, 2011.

The IRS provides data on total sales and net income for the Petroleum Refineries and Wholesale Trade, Petroleum and Petroleum Related Products sectors, which includes both the bulk terminals and bulk stations industries. According to IRS data, petroleum refinery firms average a 6.3 percent rate of return on total sales, while wholesale trade firms that sell petroleum and petroleum related products average a 1.5 percent rate of return on total sales. Table 6 presents the profits for petroleum refinery, petroleum bulk terminals, and petroleum bulk stations firms of varying sizes.

Table 6: Petroleum Refinery, Bulk Terminals, and Bulk Stations Profits

Petroleum Refinery Industry					
Number of Employees	Number of Businesses	Average Annual Sales (a)	Average Return on Sales (b)	Average Profits	Total Profits
1-4	0	$0	6.3%	$0	$0
5-9	0	$0	6.3%	$0	$0
10-19	0	$0	6.3%	$0	$0
20-49	0	$0	6.3%	$0	$0
50-99	0	$0	6.3%	$0	$0
100+	6	$4,465,560,946	6.3%	$281,276,100	$1,687,656,600
Total	**6**	**$4,465,560,946**	**6.3%**	**$281,276,100**	**$1,687,656,600**

Petroleum Bulk Terminals Industry					
Number of Employees	Number of Businesses	Average Annual Sales (c)	Average Return on Sales (d)	Average Profits	Total Profits
1-4	0	$0	1.5%	$0	$0
5-9	0	$0	1.5%	$0	$0
10-19	0	$0	1.5%	$0	$0
20-49	0	$0	1.5%	$0	$0
50-99	0	$0	1.5%	$0	$0
100+	17	$4,596,795,497	1.5%	$66,830,300	$1,136,115,100
Total	**17**	**$4,596,795,497**	**1.5%**	**$66,830,300**	**$1,136,115,100**

Petroleum Bulk Stations Industry					
Number of Employees	Number of Businesses	Average Annual Sales (e)	Average Return on Sales (d)	Average Profits	Total Profits
1-4	8	$3,798,668	1.5%	$55,200	$449,932
5-9	3	$10,636,270	1.5%	$154,600	$472,551
10-19	4	$22,032,274	1.5%	$320,300	$1,196,592
20-49	3	$52,421,617	1.5%	$762,100	$2,329,438
50-99	0	$0	1.5%	$0	$0
100+	0	$0	1.5%	$0	$0
Total	**18**	**$17,000,831**	**1.5%**	**$247,200**	**$4,448,513**

Notes:
(a) Based on 2007 Economic Census data for petroleum refinery businesses in California. 324110, Petroleum Refineries.
(b) Based on net income and total receipts for petroleum refineries (including integrated) businesses in 2008 as reported by the IRS.
(c) Based on 2007 Economic Census data for petroleum bulk terminal businesses in California. 42471012, Petroleum Bulk Terminals.
(d) Based on net income and total receipts for wholesale trade, petroleum and petroleum related products businesses in 2008 as reported by the IRS.
(e) Based on 2007 Economic Census data for petroleum bulk station businesses in California. 42471011, Petroleum Bulk Stations.

Sources: Economic Census, 2007; IRS, 2008; BAE, 2011.

As Table 6 shows, petroleum refinery firms have average annual net profits of approximately $281.3 million per establishment, and bulk terminals firms have average annual profits of approximately $66.8 million, per establishment. Bulk station establishments have profits that range from $55,200 to $762,100, depending on the size of the establishment, with the average establishment netting approximately $247,200 in annual profits.

Description of Compliance Costs

There are several methods by which firms can comply with the proposed Rule 8-53. According to the BAAQMD's Workshop Report, firms can use one or more of three primary methods to reduce emissions at the vacuum truck's outlet or the outlet from connected control equipment:

- Carbon adsorption,
- Thermal incineration, or
- A positive displacement pump or gravity feed.

While each method has its drawbacks, BAAQMD estimates that due to costs and familiarity, firms will use carbon absorption 40 percent of the time, thermal incineration 10 percent of the time, and positive displacement pumps and gravity feed 50 percent of the time. BAAQMD also estimates that 3.6 trucks per day on average will require the use of compliance equipment.

As Table 7 shows, compliance costs can average between $2,694 and $3,222 per day for 3.6 trucks. However, these costs may be higher than firms would likely encounter. The analysis uses daily rental rates for abatement equipment. However, extended rental periods generally cost less per day, resulting in lower per day rental costs than Table 7 shows. To the extent that firms would rent equipment for periods longer than one day at a time, the stated compliance costs are likely higher than actual compliance costs.

Table 7: Compliance Costs by Industry

	Cost Per Day	Percentage Using Technology
Control Technology		
Carbon Adsorption	$400 - $515	40% (a)
Thermal Incineration	$4,900 - $5,780	10% (a)
Positive Displacement Pump	$80 - $105	50% (a)
Control Technology		
Ongoing Monitoring Cost	$85	100%
Monitoring Device (b)	$19	
Total Cost Per Day, 3.6 Trucks (c)		
Low Estimate	$2,694	
High Estimate	$3,222	
Share of Costs per Industry (a)		
Petroleum Refineries	91.6%	
Bulk Terminals	8.38%	
Bulk Plants	0.02%	
Number of Trucks Affected		
Petroleum Refineries	3.30	
Bulk Terminals	0.30	
Bulk Stations	0.00	
Total	3.60	
Total Annual Costs, Oil Refineries (d)		
Low Estimate	$900,855	
High Estimate	$1,077,186	
Total Annual Costs, Bulk Terminals (d)		
Low Estimate	$82,405	
High Estimate	$98,534	
Total Annual Costs, Bulk Plants (d)		
Low Estimate	$207	
High Estimate	$247	

Notes:
(a) Based on BAAQMD information of vacuum truck throughputs.
(b) Monitoring Device Daily Costs:

Cost of Device	$2,500	
Number of Devices	14	
Lifespan of Device	5	years
Daily Amortized Cost, using Straight Line Depreciation Method	$19	per day

(c) Per BAAQMD, assumes monitoring would occur on 4.5 trucks per day.
(d) Assumes trucks operate 365 days of the year.

Sources: BAAQMD; BAE, 2011.

Table 7 also shows that the BAAQMD anticipates that petroleum refineries would be responsible for 91.6 percent of compliance costs, with bulk terminals responsible for 8.38 percent, and bulk stations responsible for the remaining 0.02 percent. This translates into refineries using 3.3 of the total trucks requiring regulation, bulk terminals using 0.3 trucks, and bulk stations using a negligible number of trucks, only a few per year. Annually, compliance would cost petroleum refineries

between $990,855 and $1,077,186, would cost bulk terminals between $82,405 and $98,534, and would cost bulk plants between $207 and $247, collectively.

As previously stated, although the bulk plants and terminals are included in the same NAICS and SIC categories, the BAAQMD distinguishes between their potential impacts based on relative material throughputs. The BAAQMD estimates that of the total 8.4 percent of compliance costs applicable to the bulk terminals and plants establishments, 99.75 percent will apply to bulk terminals, with bulk plants responsible for the remaining 0.25 percent.

Affected Industries Economic Impacts Analysis

In order to determine the impacts to establishments of various sizes, this analysis compares each establishment size cohort's annualized compliance costs to annual profits. The analysis estimates compliance costs using an average cost per truck methodology, where the number of trucks per establishment are determined by the BAAQMD's knowledge of each establishment's truck usage and the distribution of establishments by size. Average revenue estimates come from the 2007 US Economic Census' revenues, in conjunction with IRS profit ratios.

The analysis then calculates the compliance costs as a percentage of profits to determine the level of impact. The BAAQMD uses the ARB's 10 percent threshold as a proxy for burden. Annualized compliance costs resulting in profit losses of 10 percent or more indicate that the proposed Rule has the potential for significant adverse economic impacts. Table 8 shows the annualized compliance costs as a share of total profits for the petroleum refinery, bulk terminals, and bulk plant industries.

Table 8: Rule 8-53 Compliance Cost as Share of Profit

Petroleum Refinery Industry

Number of Employees	Number of Businesses	Average Annual Sales	Average Return on Sales	Average Profits	Total Profits	Number of Trucks by Firm Size	Compliance Cost (a)	Share of Annual Profit
1-4	0	$0	6.3%	$0	$0	0	$0	0.00%
5-9	0	$0	6.3%	$0	$0	0	$0	0.00%
10-19	0	$0	6.3%	$0	$0	0	$0	0.00%
20-49	0	$0	6.3%	$0	$0	0	$0	0.00%
50-99	0	$0	6.3%	$0	$0	0	$0	0.00%
100+	6	$4,465,560,946	6.3%	$281,276,100	$1,687,656,600	3.3	$1,077,186	0.06%
Total	**6**	**$4,465,560,946**	**6.3%**	**$281,276,100**	**$1,687,656,600**	**3.3**	**$1,077,186**	**0.06%**

Petroleum Bulk Terminals Industry

Number of Employees	Number of Businesses	Average Annual Sales (a)	Average Return on Sales	Average Profits	Total Profits	Number of Trucks by Firm Size (c)	Compliance Cost (a)	Share of Annual Profit
1-4	0	$0	1.5%	$0	$0	0.0	$0	0.00%
5-9	0	$0	1.5%	$0	$0	0.0	$0	0.00%
10-19	0	$0	1.5%	$0	$0	0.0	$0	0.00%
20-49	0	$0	1.5%	$0	$0	0.0	$0	0.00%
50-99	0	$0	1.5%	$0	$0	0.0	$0	0.00%
100+	17	$4,596,795,497	1.5%	$66,830,300	$1,136,115,100	0.3	$98,534	0.01%
Total	**17**	**$4,596,795,497**	**1.5%**	**$66,830,300**	**$1,136,115,100**	**0.3**	**$98,534**	**0.01%**

Petroleum Bulk Plant Industry

Number of Employees	Number of Businesses	Average Annual Sales (a)	Average Return on Sales	Average Profits	Total Profits	Number of Trucks by Firm Size (c)	Compliance Cost (a)	Share of Annual Profit
1-4	8	$3,798,668	1.5%	$55,200	$449,932	0.0	$112	0.02%
5-9	3	$10,636,270	1.5%	$154,600	$472,551	0.0	$42	0.01%
10-19	4	$22,032,274	1.5%	$320,300	$1,196,592	0.0	$51	0.00%
20-49	3	$52,421,617	1.5%	$762,100	$2,329,438	0.0	$42	0.00%
50-99	0	$0	1.5%	$0	$0	0.0	$0	0.00%
100+	0	$0	1.5%	$0	$0	0.0	$0	0.00%
Total	**18**	**$17,000,831**	**1.5%**	**$247,200**	**$4,448,513**	**0.0**	**$247**	**0.01%**

Note:
(a) Assumes high compliance costs.

Sources: US Census County Business Patterns, 2009; US Economic Census, 2007; BAAQMD, 2011; BAE, 2011.

Overall, annualized compliance costs represent approximately 0.06 percent of profits for all petroleum refinery establishments, 0.01 percent for bulk terminals establishments, and 0.01 percent for bulk plant establishments. Thus, compliance costs are well below the 10 percent threshold. In addition, to the extent that these establishments would rent compliance equipment on a longer-term basis than per day or buy their own equipment, these impacts are likely overstated.

Affected Industries and Regional Employment Impacts

Since on average, the proposed Rule would not result in significant economic impacts to establishments within the affected industries, implementing the proposed Rule would not impact the affected industries or regional employment.

Regional Indirect and Induced Impacts

Indirect and induced impacts refer to regional multiplier effects of increasing or decreasing regional economic activity. If the Rule were to significantly impact local businesses, any closures would result in direct regional economic losses. Firms would no longer buy goods from local suppliers, thereby resulting in reduced indirect impacts, or business-to-business expenditures. In addition, firms would no longer employ regional residents, resulting in reduced induced impacts, or household spending.

However, since the proposed Rule is not expected to result in significant direct impacts, its adoption would not result in any indirect or induced impacts either.

IMPACT ON SMALL BUSINESSES

According to California Government Code 14835, a small business is any business that meets the following requirements:

- 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:
    - A business with 100 or fewer employees, and an average annual gross receipts of $10 million or less over the previous three tax years, or
    - A manufacturer with 100 or fewer employees.

Using these definitions, none of the petroleum refineries or bulk terminal establishments would qualify as small businesses. Approximately 45 percent of all affected bulk plant establishments would qualify as small businesses. However, this analysis has shown that establishments with lower revenues will not necessarily experience higher impacts on return on profits as a result of the proposed rule. In addition, on average, the impacts of the proposed Rule fall under the ARB's 10 percent threshold of burden, which indicates that the proposed rule would not adversely impact establishments.

Appendix D

California Environmental Quality Act Initial Study and Negative Declaration

Initial Study/Negative Declaration for the Bay Area Air Quality Management District Regulation 8, Rule 53: Vacuum Truck Operations

Prepared for:

Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109
Contact: William Thomas Saltz
(415) 749-4698

Prepared By:

Environmental Audit, Inc.
1000-A Ortega Way
Placentia, CA 92870
Contact: Debra Bright Stevens
(714) 632-8521

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Chapter 1

Introduction

Purpose of this Document

This Negative Declaration assesses the environmental impacts of the proposed adoption of Regulation 8, Rule 53 – Vacuum Truck Operations (Regulation 8-53) - by the Bay Area Air Quality Management District (BAAQMD or District). This assessment is required by the California Environmental Quality Act (CEQA) and in compliance with the state CEQA Guidelines (Title 14 California Code of Regulations §15000 et seq.). A Negative Declaration 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 new rule when determining whether to adopt them. The BAAQMD has prepared this Negative Declaration because no significant adverse impacts are expected to result from the proposed Regulation 8-53.

Scope of this Document

This document evaluates the potential impacts of the proposed amendments on the following resource areas:

- aesthetics,
- agriculture and forestry resources,
- air quality,
- biological resources,
- cultural resources,
- geology / soils,
- greenhouse gas emissions,
- hazards & hazardous materials,
- hydrology / water quality,
- land use / planning,
- mineral resources,

- noise,
- population / housing,
- public services,
- recreation,
- transportation / traffic, and
- utilities / service systems.

Impact Terminology

The following terminology is used in this Initial Study/Negative Declaration to describe the levels of significance of impacts that would result from the proposed new rule:

- 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 53, describes the proposed rule, and describes the area and facilities that would be affected by the proposed rule.

- 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.

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Chapter 2

Description of the Proposed Rule

INTRODUCTION

The Bay Area Air Quality Management District (BAAQMD or District) is proposing a new regulation which would control emissions from vacuum trucks and similar equipment at certain Bay Area industrial facilities. Vacuum trucks are used to collect, contain and move materials, primarily waste liquids and semi-solids. If the materials contain petroleum, petroleum products, or other hydrocarbon liquids, vacuum truck operations have the potential to release ozone forming compounds into the atmosphere. The proposed new rule, Regulation 8, Rule 53 (Regulation 8-53): Vacuum Truck Operations, would apply only to certain types of facilities handling materials likely to produce ozone-forming emissions. The rule would reduce total organic compound (TOC) emissions by establishing a TOC emission limit that would apply at the outlet of a vacuum truck or associated equipment. In addition, the rule would establish TOC emission limits for vapor leaks and liquid leaks from vacuum truck equipment.

The BAAQMD currently does not regulate vacuum truck emissions. Regulation 2, Rule 1, Section 103.1 exempts vacuum truck operations from permitting requirements. However, permits may be required for control equipment used to limit organic vapor emissions from a vacuum truck. The District committed to investigating this type of equipment in Control Measure SSM-5 of the District's Bay Area 2010 Clean Air Plan, which sets forth a plan to achieve the California ozone standards as well as other air quality objectives. Organic compounds contribute to the formation of ground-level ozone, which is the principal ingredient in smog. The Bay Area is not in compliance with State and federal ozone standards, and has committed to implement all feasible measures to reduce emissions of ozone precursors, including organics.

The proposed limits would be consistent with the only current California air quality regulation – South Coast Air Quality Management District (SCAQMD) Rule 1149 – that limits organic vapor emissions from vacuum truck operations. Whereas SCAQMD Rule 1149 limits VOC emissions from vacuum trucks that are involved with the cleaning or degassing of storage tanks and pipelines, Regulation 8-53 would limit organic vapor emissions, including methane, from specific types of industrial facilities that utilize the services of vacuum truck operations. The emission limits in Regulation 8-53 have also been derived from vacuum truck emission limits that have been established for refinery maintenance, startup and shutdown operations by the Texas Commission on Environmental Quality (TCEQ).

Organic emission reductions from the proposed rule will depend upon the level of vacuum truck activity involving hydrocarbon-containing material. Co-benefits will

include the reduction of Toxic Air Contaminants (TAC) such as benzene, toluene, xylene, hexane, and greenhouse gas (GHG) emissions, specifically methane.

Industry impacts will depend upon the extent to which the Bay Area vacuum truck fleet is currently equipped with control technologies. Cost-effective technologies that can achieve the proposed TOC emission limits required by Regulation 8-53 are readily available. Such technologies are used in the South Coast Air Basin, Texas refineries, and New Jersey refineries. The necessity to use control technology may require facilities to adjust some of their operational procedures.

OBJECTIVES

The objective of the proposed Regulation 8-53 is to further reduce emissions of ozone precursors, specifically organic compounds, from vacuum trucks, in order to reduce ozone levels in the Bay Area and reduce transport of air pollutants to neighboring air basins.

The Bay Area and neighboring regions are not yet in attainment of State and federal ozone standards. Further reductions in ozone precursors, organic vapor emissions (including methane), are needed. Reductions can be achieved by minimizing the agitation of the liquid and sludge which creates organic vapor. Once organic vapors are generated, a variety of technologies are available to limit emissions. By minimizing the introduction of air and turbulence into a loading event, and incorporating control devices, the District proposes to meet the objectives of reductions in organic and methane emissions into the ambient air, thus, reducing the formation of ground-level ozone.

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. The California Air Resources Board (CARB) has also set a California ozone standard. The Bay Area is a non-attainment area for the state one-hour ozone standard and federal eight-hour ozone standard. Under State law, ozone non-attainment areas must prepare plans showing how they will attain the state standard. The 2010 Clean Air Plan (CAP) is the most recent planning document for the State one-hour ozone standard. At a public hearing on September 15, 2010, the Air District Board of Directors adopted the final Bay Area 2010 CAP, and certified the Final Environmental Impact Report for the CAP. The Bay Area is also not in attainment of California ambient air standards for particulate matter of 10 microns or less (PM10) or for particulate matter of 2.5 microns or less (PM2.5).

PROPOSED REGULATION 8-53

Vacuum truck operations associated with maintenance, shutdown, and start-up activities in petroleum refineries in Texas and New Jersey are currently required to use control technology to limit organic vapor emissions from vacuum trucks. The SCAQMD currently requires vacuum truck operations that are associated with the cleaning and degassing of tanks and pipelines to control organic vapor emissions below 500 parts per million (ppm). BAAQMD staff has reviewed information from vacuum truck operations

in the Bay Area, Southern California, New Jersey, and Utah. BAAQMD staff has observed a variety of vacuum truck loading events at different facility types and has conducted thirty-two source tests in order to develop Regulation 8-53.

Emission and Leak Standards

Based on BAAQMD's technical evaluation as well as the source tests that have been conducted, the District proposes the following emission and leak standards for vacuum trucks that operate at petroleum refineries, bulk terminals, bulk plants, marine terminals and organic liquid pipeline facilities in the Bay Area:

- Exhaust Emission Limit: Vacuum truck pump, blower exhaust, or control device shall not emit TOC concentrations that are greater than or equal to 500 ppmv;

- Equipment Liquid Leaks: Components of vacuum trucks such as hoses, connectors, flanges, lines and stingers shall not emit liquid leaks at a rate in excess of three (3) drops per minute; and,

- Equipment Vapor Leaks: Components of vacuum trucks such as hoses, connectors, flanges, lines and stingers shall not emit TOC concentrations that are greater than or equal to 500 ppmv.

Staff believes the 500 ppmv limit is feasible based on the limits within SCAQMD and Texas. The equipment and vapor leak standards are consistent with requirements for gasoline handling in District Regulation 8 Rules.

Emission Monitoring Requirements

The District proposes the following emissions monitoring requirements for vacuum trucks during loading events:

- Vacuum trucks shall be checked for vapor and liquid leaks prior to and during each loading event;

- Prior to reaching 20 percent of fill capacity, vacuum trucks would be required to monitor TOC emissions. A second emissions reading would be required prior to reaching 60 percent of fill capacity;

- When carbon adsorption is used as the primary control, emissions monitoring would be required every ten minutes after the initial emissions reading is taken; and,

- Emission measurements shall include the date and time of the loading event, the TOC concentration, the material flow rate (in acfm or scfm), and the model of the emission control device.

If a control device is connected to a vacuum truck during a loading event, emissions monitoring would be required to be performed at the exhaust of the control device.

Recording and Reporting Requirements

The District proposes the following recordkeeping requirements for each vacuum truck loading event:

- Vacuum truck owners/operators would be required to maintain records of emission monitoring readings; and,

- Vacuum truck owners/operators and facilities would be required, within five working days of a request, to submit a list of future scheduled loading events. This will enable staff to schedule an inspection of operations from time to time to determine compliance.

Bay Area facilities that operate vacuum trucks or contract for the services of vacuum trucks would be responsible for compliance with the proposed requirements in Regulation 8-53. Vacuum trucks in petroleum refineries and other facilities are operated by independent companies under contract to the facility. The facility operator is responsible for ensuring compliance with District regulations, consistent with contractors who service and degas tanks, monitor fugitive emissions and construct new equipment.

PROPOSED METHOD OF CONTROL

Controlling Emissions

The organic vapor emissions generated from vacuum truck operations may be minimized by utilizing external positive displacement, submersible or diaphragm pumps. While these pumps may not load liquid and sludge materials into the barrel of a vacuum truck as quickly as the truck itself, they minimize the agitation of the liquid and sludge which decreases vapor emissions. The drawback to these methods of loading materials is the extra time it takes to complete the loading event.

Once vapors are generated, a variety of technologies are available to limit emissions. Most of them can achieve capture and control efficiencies that are greater than 95 percent. Technologies include carbon adsorption systems, internal combustion engines, thermal oxidizers, liquid condenser systems and liquid scrubbers. Sometimes these technologies are combined as in the case of an engine/chiller or carbon/scrubber.

However, most vacuum trucks in the Bay Area are not equipped with control equipment. Of the group that use control equipment, most are currently using carbon adsorption systems while others use thermal oxidation or internal combustion engine technologies, according to industry sources. Organic vapor emissions can be limited with control technologies that are integrated into the truck or connected to the truck via a mobile unit that is sometimes referred to as a “skid-mount” or “portable trailer unit”. Some of the

small percentage of vacuum trucks operating in the Bay Area that currently use control equipment are doing so on a voluntary basis for odor control, while others use control equipment to comply with Federal requirements, (e.g., Subpart FF—National Emission Standard for Benzene Waste Operations).

Carbon Adsorption Systems

A carbon adsorption system is a system that is comprised of a tank or vessel containing a specific amount of activated carbon onto which organic gases or vapors molecularly adhere as they flow through the particles. Activated carbon is a form of carbon that has been processed to make it extremely porous. Its porosity results in a very large internal surface which enables it to adsorb gases within its structure. The degree to which activated carbon adsorbs organic vapors is affected by the temperature, humidity, flowrate, concentration, and molecular structure of the gas. High vacuum truck blower discharge temperatures may actually desorb previously adsorbed hydrocarbons, thus allowing them to vent into the ambient air. According to various industry sources, it may take anywhere from two to ten pounds of carbon to control one pound of organics.

One type of carbon adsorption system is a small-to-intermediate sized container integrated into the vacuum truck which contains 200 - 300 pounds of carbon. This container is typically used to control during two types of loading events: 1) those lasting a short duration because a small amount of material-containing hydrocarbon is loaded into the vacuum truck barrels; and 2) loading events that include hydrocarbon-containing materials loaded into a vacuum truck barrel at a low flow rates. A second type of carbon adsorption is a larger, portable system that includes two or three vessels, each containing 1,000 pounds of activated carbon. This type of system controls larger volumes, flow rates and concentrations of organic emissions.

Portable carbon adsorption is best used for the control of emissions from small cleanup operations like spills; emissions from large operations like the degassing and cleaning of a large crude oil tank would quickly overwhelm the capacity of most portable carbon adsorption units. Once a carbon adsorption unit has reached its holding limit, “breakthrough” occurs, and organic emissions pass through unabated.

A potential drawback to using carbon adsorption as the primary method to control organic emissions is its inability to control methane, an organic compound that is a component of TOC emissions. Methane is not adsorbed effectively by activated carbon. Depending on the concentration and flow rate of a given hydrocarbon containing material in a given vacuum truck operation, if a carbon adsorption unit is used as the primary method of control, an additional control such as an engine or oxidation may be necessary to control methane vapor, if any is present during the loading event. As the loading events to be controlled are petroleum based, significant methane is not expected.

In order to be effective, carbon adsorption units must be monitored frequently to determine when breakthrough occurs. BAAQMD staff observed a vacuum truck loading event at a local refinery that used carbon adsorption to control organic vapor emissions

from naphtha that was extracted from a pipeline. In spite of an unusually low flow-rate (3-4 scfm) used to load the material, the emission concentrations were determined to be approximately 80,000 ppmv when the carbon adsorption unit reached breakthrough. Thus the emissions that should have been abated went straight through the carbon vessel and into the ambient air uncontrolled. This can be avoided by having the operator monitor the emissions from the carbon adsorption unit more frequently and be able to replace the carbon before breakthrough. A larger carbon adsorption system might be more suitable for larger jobs.

Under certain circumstances, carbon adsorption can be a less expensive technology compared to other control methods, specifically when it is used to control vapor emissions from materials containing relatively low organic compound concentrations. However, carbon adsorption is limited by virtue of the dimensions of portable carbon vessels because they must be sized to allow for sufficient residence time to maximize adsorption efficiency. Temperature and humidity also affect carbon's ability to adsorb. When carbon adsorption systems are used to control emissions from loading events with materials that have high organic concentrations, there is some risk of spontaneous combustion due to temperature increase.

All adsorption is exothermic, meaning that the adsorption process releases heat, causing the temperature in the carbon bed to rise. U.S. EPA, as well as industry sources, indicate that under certain conditions, especially when high concentrations of organic vapors are adsorbed on activated carbon at a high flow rate, the temperature of the carbon bed can increase to a level at which the carbon or the organic vapors spontaneously ignite, starting a fire in the carbon vessel. Common practice is to add a pre-scrubbing type of device to lower organic levels, and thus the temperature, before the organic vapor stream reaches the carbon.

Internal Combustion Engines

Internal combustion engine technology is currently available to control organic vapor emissions. The equipment contains the vacuum source and vapor control device in one unit. Internal combustion engines that are utilized to control organic vapors from vacuum trucks are able to do so because they have a large cubic inch displacement and are able to run on compressed gas such as propane. When an internal combustion engine is used to control organic vapor emissions, it initially runs on propane and then switches to the incoming organic vapors as the primary fuel source. In some applications, the engines can power a refrigerated condenser to condense a portion of the organic vapor stream back to liquid.

Thermal Oxidizers

Portable or "skid-mounted" thermal oxidizers can be used at controlled flow rates to control organic emissions in vapor streams containing hydrocarbons diluted down to less than 50 percent of the lower explosive limit (LEL) to meet National Fire Protection Association (NFPA) Safety Guidelines. Thermal oxidizers are sometimes referred to as "afterburners." Thermal oxidizers are a type of incinerator that destroys organic emissions by raising the temperature of the organic materials in the vapor stream above their auto–ignition point in the presence of oxygen, and maintains the high temperature for a sufficient amount of time to complete the combustion of the materials to carbon dioxide and water. Time, temperature, turbulence (for mixing), and the availability of oxygen are all factors that affect the rate and efficiency of the combustion process. Destruction efficiency depends upon design criteria which include chamber temperature, residence time, inlet concentration, compound type, and degree of mixing. Typical design efficiencies range from 98 percent and above depending on system requirements and characteristics of the vapor stream.

Refrigerated Condenser Systems

A refrigerated condenser system can effectively reduce organic vapor discharge. It is a device that cools a vapor emission stream containing hydrocarbons by changing it from a vapor state to a liquid state. The condensed organic vapors can be recovered for transportation or refining, preventing their release to the ambient air. A refrigerated condenser works best on emission streams containing high concentrations of volatile organic emissions. They are less effective on dilute streams (i.e., where the air flow is much greater than organic vapor flow).

A refrigerated condenser functions by exposing influent organic vapor streams to a chilled heat exchanger surface, causing the organic vapors to condense on the cold heat exchanger (or heat transfer) surface. As the organic vapor stream condenses, it loses volume, which produces a lower vapor concentration near the heat exchanger surface. The condensation process is assisted by turbulence in the emission stream that also brings the emission stream close enough for heat transfer and subsequent condensation of the organic vapors.

Liquid Scrubbers

Organic emissions can be controlled effectively by liquid scrubbing technology via a chemical process known as absorption. A variety of wet scrubber designs are used to extract gaseous pollutants from vacuum truck vapor streams: packed towers, bubble tray towers, sparging scrubbers, and a new wet scrubber process called hydraulic amalgamation. Usually, the exhaust stream from a vacuum truck is introduced at the bottom of the scrubber tower. The gas stream flows upward through the tower where the organic compounds come into contact with the absorptive chemicals. Packed and bubble tray towers are designed to introduce the waste gas into the tower chamber where a liquid absorption chemical is introduced through a series of spray nozzles that emit liquid

droplets downward in a counter direction to the stream. The interaction between the upward flowing waste gas and the downward flowing liquid absorption chemical creates an environment for the absorption process. Sparging scrubbers and hydraulic amalgamation scrubbers introduce the waste gas through a submerged reaction chamber. The interaction between the waste gas and the absorption liquid within the reaction chamber creates an environment in which the organics are absorbed.

A high hydrocarbon-to-liquid contact ratio is essential to maximize the efficiency of the absorption process. Physical absorption depends on properties of the exhaust stream and the liquid such as density and viscosity, as well as specific characteristics of the hydrocarbons in the exhaust stream. These properties are temperature dependent: lower temperatures generally favor absorption of hydrocarbons by solvent. Absorption is also enhanced by higher liquid-gas ratios and higher concentrations in the hydrocarbon stream. Chemical absorption may be limited by the rate of reaction, although the rate-limiting factor is typically the physical absorption rate, not the chemical reaction rate.

Conclusion

To achieve desired hydrocarbon control objectives, some companies provide custom designed systems that utilize combinations of control technologies discussed above. In order to comply with the proposed 500 ppmv TOC emission limit in Regulation 8-53, client-specific configurations will sometimes be necessary. For example, under certain conditions, controls that utilize carbon adsorption as the primary method to minimize organic emissions might have to be further customized to control methane emissions.

POTENTIAL EMISSION REDUCTIONS

Vacuum trucks are used by a variety of Bay Area industries to remove materials from storage tanks, vessels, boxes, and pipelines; to transfer materials from one container to another; and, to transport materials from one location to another such as a landfill or processing facility. Vacuum trucks are also used to clean equipment such as barges and to clean up spills. The types of industries that utilize vacuum truck services include petroleum refineries, marine terminals, industrial wharfs, gasoline bulk terminals, gasoline bulk plants, gasoline cargo tanks and pipelines that deliver gasoline and other petroleum products.

In order to determine accurate information on vacuum truck activity and emission rates, staff requested throughput information from the refineries, vacuum truck operators and conducted source tests at various facilities using vacuum trucks during loading of various materials. Source tests have found that emission rates range from very few to over 600 pounds organic compounds per hour per loading event. Emission rates depend on material vapor pressure, material flow rate into the vacuum truck barrel, ambient temperature, and other factors as well, including the diameter and length of hose the material travels through. Based on staff's analysis, emissions from vacuum trucks in the Bay Area are estimated to be 1.50 tons/day. The proposed rule is estimated to reduce emissions by 1.05 tons/day.

Greenhouse Gas and Toxic Reductions

Limiting vapor stream emissions from vacuum truck loading events may result in methane emission reductions as well. Methane, a significant GHG that has over 20 times the global warming potential of CO_2, is present in several materials that are typically loaded into vacuum trucks. Because methane is included in the definition of TOC, and is therefore subject to the 500 ppmv emission limit proposed to be included in Regulation 8-53, compliance with the limit will reduce methane emissions.

However, the compliance technology used will determine the overall effects of the rule on GHGs. Internal combustion engines utilize energy from the organic vapor waste stream to run the engine and destroy methane in the process. In addition to organic and methane emission reductions, organic TAC emissions will be reduced as well. Toxic air contaminants include benzene, toluene, xylene, and hexane.

Even though refrigerated condensation technology emits a small amount of GHGs from the energy source used to generate the cold temperatures needed to condense organic vapor streams, generally speaking, this technology has the potential to emit the least amount of GHG emissions of all the vacuum truck control technologies that are available. This is because the vapors that are condensed can be re-refined or blended with fresh product and resold. The recycling of organic vapors offsets CO_2 emissions that are generated during the condensation process, which can result in a net global warming benefit.

AFFECTED AREA

The proposed new Regulation 8-53 would apply to facilities under BAAQMD jurisdiction. The BAAQMD jurisdiction 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. See Figure 1 depicting the area covered by the Bay Area Air Quality Management District.

BAAQMD proposes to regulate certain materials in specific facilities currently subject to District regulations. These facilities are petroleum refineries, gasoline bulk plants, gasoline bulk terminals, marine terminals and organic liquid pipeline facilities. In an effort to provide certainty to the regulated community and to control vacuum truck loading events with significant emissions, the proposed new rule is further limited to a subset of the types of materials already regulated in these facilities, gasoline and other high vapor pressure organic liquids. Regulated materials are iterated in the proposed rule. BAAQMD does not propose to require control on vacuum truck operations associated with emergencies such as spills.

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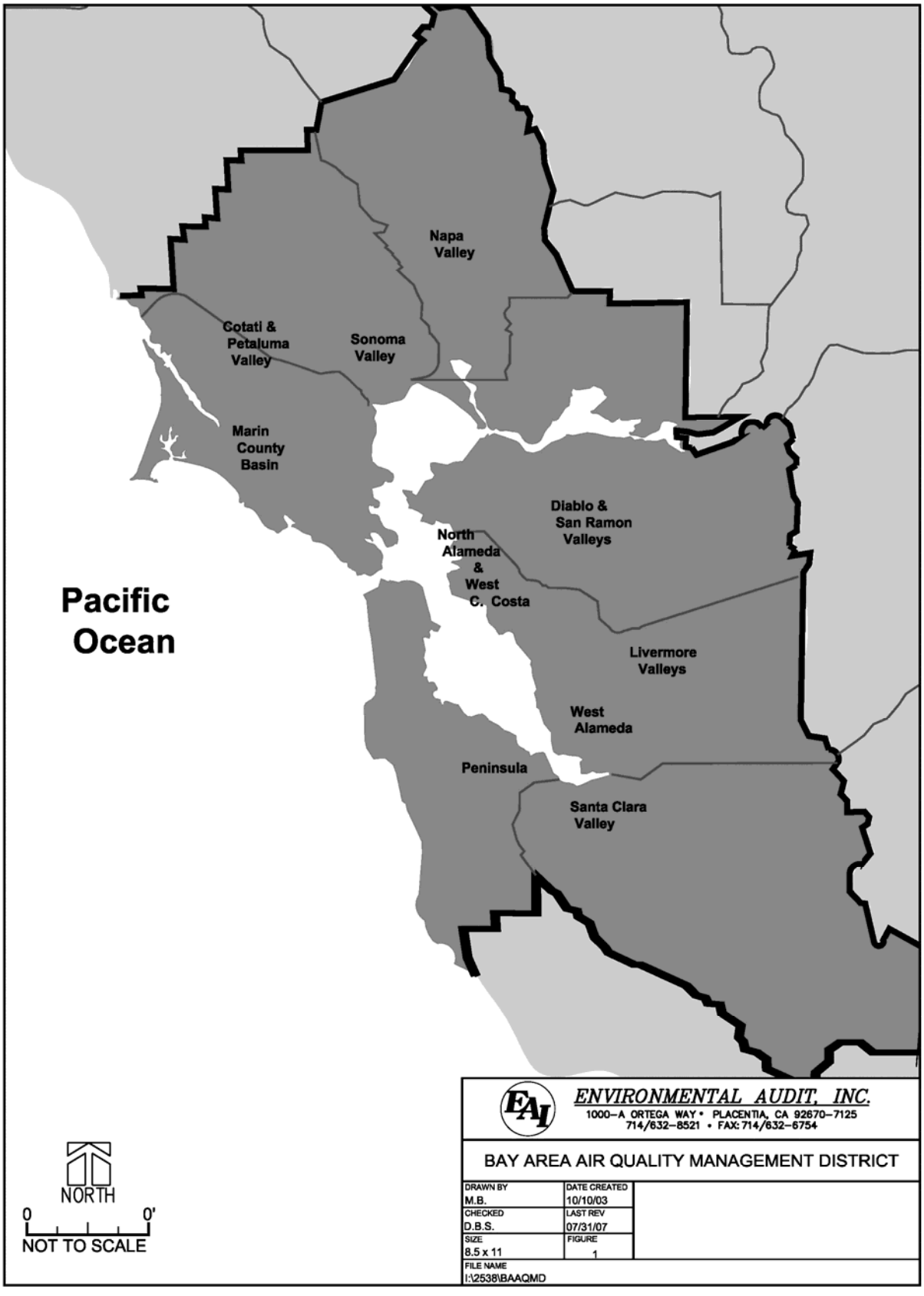
Napa Valley
Cotati & Petaluma Valley
Sonoma Valley
Marin County Basin
Diablo & San Ramon Valleys
North Alameda & West C. Costa
Pacific Ocean
Livermore Valleys
West Alameda
Peninsula
Santa Clara Valley
NORTH
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NOT TO SCALE
ENVIRONMENTAL AUDIT, INC.
1000-A 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 07/31/07
SIZE 8.5 x 11
FIGURE 1
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Chapter 3

Environmental Checklist

INTRODUCTION

The environmental checklist provides a standard evaluation tool to identify a project's adverse environmental impacts. This checklist identifies and evaluates potential adverse environmental impacts that may be created by the proposed project.

GENERAL INFORMATION

Project Title:	Bay Area Air Quality Management District (BAAQMD) Proposed Regulation 8, Rule 53.
Lead Agency Name:	Bay Area Air Quality Management District
Lead Agency Address:	939 Ellis Street San Francisco, California 94109
Contact Person:	William Thomas Saltz
Contact Phone Number:	415-749-4698
Project Location:	This proposed new rule 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.
Project Sponsor's Name:	Bay Area Air Quality Management District
Project Sponsor's Address:	939 Ellis Street San Francisco, California 94109
General Plan Designation:	Regulation 8-53 applies to vacuum trucks that are used in petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipelines that deliver gasoline, natural gas, crude oil, petroleum products, and ethanol throughout the District, which are primarily located in industrial areas.
Zoning:	See “General Plan Designation” above
Description of Project:	See “Background” in Chapter 2.
Surrounding Land Uses and Setting:	See “Affected Area” in Chapter 2.
Other Public Agencies Whose Approval is Required:	None

Environmental Factors Potentially Affected:

The following environmental impact areas have been assessed to determine their potential to be affected by the proposed project. As indicated by the checklist on the following pages, environmental topics marked with an "✓" may be adversely affected by the proposed project. An explanation relative to the determination of impacts can be found following the checklist for each area.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology / Soils
☐ Greenhouse Gas Emissions	☐ 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

An analysis was conducted and an Environmental Impact Report was prepared in association with the District's 2010 Clean Air Plan that assessed the potential environmental impacts of this control measure (SSM-5) as described in the plan. The EIR examined potential impacts from this control measure on secondary air quality impacts, greenhouse gas emissions, energy and solid and hazardous waste. The potential for impacts was analyzed because the use of carbon adsorption to control organic emissions requires energy use associated with reclamation (stripping) of the carbon for re-use, and carbon is eventually disposed in hazardous waste landfills. The EIR found that these impacts would be less than significant.

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 in 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 a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, 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 EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature: Date:

Printed Name: Date:

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis.

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant with Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, Program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063 (c)(3)(D). In this case, a brief discussion should identify the following:

   a) Earlier Analysis Used. Identify and state where they are available for review.

   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This checklist is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:

   a) the significance criteria or threshold, if any, used to evaluate each question; and

   b) the mitigation measure identified, if any, to reduce the impact to less than significance.

ENVIRONMENTAL CHECKLIST AND DISCUSSION

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less-than-Significant Impact	No Impact
I.	**AESTHETICS.**				
	Would the project:				
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☑
b)	Substantially damage to 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 proposed new rule focuses on organic emissions from vacuum trucks used in petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipelines. The new rule for these vacuum trucks will affect numerous facilities currently operating within the Bay Area which are generally located in industrial areas. Scenic highways or corridors are generally not located in the vicinity of these facilities.

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 proposed new Regulation 8-53 would further reduce organic emissions from vacuum trucks in petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipelines in order to reduce ozone levels in the Bay Area and reduce transport of air pollutants to neighboring air basins. The proposed new rule is not expected to require the construction of any new structures that would be visible to areas outside of existing facility boundaries, and are not expected to result in any adverse aesthetic impacts. Once implemented, the new rule would affect vacuum trucks which are not expected to be permanently visible as they would move from location to location to perform service and any air emission control devices would also move with the vacuum truck. The vacuum trucks affected by the proposed new rule operate within existing facilities within the Bay Area, which are not typically located in areas with scenic vistas. The proposed Regulation 8-53 is not expected to require construction of any major new structures that would be visible to areas outside of the affected facilities, and is not expected to result in adverse aesthetic impacts. The proposed Regulation 8-53 would also not require any new sources of light or glare, since no new construction would be required as a result of the proposed new rule.

Based upon these considerations, no significant adverse aesthetic impacts are expected from the implementation of Regulation 8-53.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact

II. AGRICULTURE and FOREST 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 as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.--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)	Conflict with existing zoning for, or cause rezoning of, forest land as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				
d)	Result in the loss of forest land or conversion of forest land to non-forest use?				
e)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or	☐	☐	☐	☑

conversion of forest land to non-forest 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 proposed new rule focuses on organic emissions from vacuum trucks used in petroleum refineries, gasoline bulk terminals, gasoline bulk plants and pipelines. The new rule for these vacuum trucks will affect numerous facilities currently operating within the Bay Area which are generally located in industrial areas. Agricultural or forest resources are currently not located within the confines of the existing facilities located within the Bay Area associated with Regulation 8-53.

Regulatory Background

Agricultural and forest 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-e. The proposed Regulation 8-53 would reduce organic emissions from vacuum trucks in petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipelines in order to reduce ozone levels in the Bay Area and reduce transport of air pollutants to neighboring air basins. The affected facilities are located in industrial areas where agricultural or forest resources are generally not located. The facilities operating within the Bay Area may comply with Regulation 8-53 by using various control technologies incorporated on existing or new vacuum trucks, thus reducing the emissions of TOC and methane. No development outside of existing facilities would be required by the proposed Regulation 8-53.

Based upon these considerations, no significant adverse impacts to agricultural and forest resources are expected from the implementation of the proposed new rule.

	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?	☐	☐	☐	☑

Setting

Meteorological Conditions

The summer climate of the West Coast is dominated by a semi-permanent 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, weak 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; 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), PM10, PM2.5, 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. 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 monitored levels of various criteria pollutants at 23 monitoring stations in 2010. The 2010 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, NOx, and SO_2. The District is not considered to be in attainment with the State PM10 and PM2.5 standards.

The 2010 air quality data from the BAAQMD monitoring stations are presented in Table 3-2. All monitoring stations were below the state standard and federal ambient air quality standards for CO, NO_2, and SO_2. The federal 8-hour ozone standard was exceeded on 9 days in the District in 2010, while the state 8-hour standard was exceeded on 11 days. The Bay Area is designated as a non-attainment area for the California 1-hour ozone standard. The State 1-hour ozone standard was exceeded on 8 days in 2010 in the District. The ozone standards are most frequently exceeded in the Eastern District (Bethel Island (7 days) and Livermore (6 days)), and the Santa Clara Valley (San Martin (8 days), and Gilroy (7 days)) (see Table 3-2).

All monitoring stations were in compliance with the federal PM10 standards. The California PM10 standards were exceeded on two days in 2010, at the San Rafael and Bethel Island monitoring stations. The Air District exceeded the federal PM2.5 standard on 6 days, most frequently in San Rafael in 2010 (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. > 0.070 ppm, 8-hr	0.075 ppm, 8-hour 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-hour avg.> 35 ppm, 1-hour 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.> 0.100 ppm, 1-hour 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-hour avg.> 0.075 ppm, 1-hour 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-hour 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)	12 $\mu g/m^3$, annual arithmetic mean>	15 $\mu g/m^3$, annual arithmetic mean> 35 $\mu g/m^3$, 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> 0.15 ug/m^3, rolling 3-month avg.>	(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 - 2010

MONITORING STATIONS	OZONE						CARBON MONOXIDE			NITROGEN DIOXIDE			SULFUR DIOXIDE			PM_{10}				$PM_{2.5}$				
	Max 1-hr	Cal 1-hr Days	Max 8-hr	Nat 8-Hr Days	Cal Days	3-Yr Avg	Max 1-hr	Max 8-hr	Nat/ Cal Days	Max 1-Hr	Ann Avg	Nat/ Cal Days	Max 1-hr	Max 24-hr	Nat/ Cal Days	Ann Avg	Max 24-hr	Nat Days	Cal Days	Max 24-hr	Nat Days	3-Yr Avg	Ann Avg	3-Yr Avg
North Counties	(ppb)						(ppm)			(ppb)			(ppb)			(μm^3)				(μm^3)				
Napa	106	1	89	2	2	66	2.3	1.4	0	56.0	9	0	--	--	--	17.4	37	0	0	--	--	--	--	--
San Rafael*	83	0	69	0	0	54	1.7	1.1	0	57.0	12	0	--	--	--	16.7	51	0	1	46.5	4	*	10.7	*
Santa Rosa	84	0	68	0	0	54	2.5	1.1	0	42.0	8	0	--	--	--	--	--	--	--	26.6	0	26	7.2	8.1
Vallejo	91	0	80	1	2	63	2.9	1.9	0	55.0	9	0	11.0	2.4	0	--	--	--	--	29.5	0	31	7.7	9.1
Coast/Central Bay																								
Berkeley*	75	0	49	0	0	44	2.5	1.5	0	53.4	13	0	9.0	2.4	0	21.0	43	0	0	--	--	--	--	--
Oakland	97	1	58	0	0	53	3.0	1.6	0	64.1	13	0	11.0	3.7	--	--	--	--	--	25.2	0	23	7.8	8.9
Oakland West	--	--	--	--	--	--	2.7	1.7	0	68.6	16	0	--	--	--	--	--	--	--					
Richmond	--	--	--	--	--	--	--	--	--	--	--	--	26.0	6.5	0	--	--	--	--	--	--	--	--	--
San Francisco	79	0	51	0	0	47	1.8	1.4	0	92.9	13	0	--	--	--	19.9	40	0	0	45.3	3	26	10.5	10.0
San Pablo*	97	1	81	1	1	*	*	*	*	*	*	*	*	*	*	*	*	*	*	--	--	--	--	--
Eastern District																								
Bethel Island	106	3	86	4	7	76	1.4	0.8	0	32.3	6	0	19.0	3.3	0	18.7	70	0	1	--	--	--	--	--
Concord	103	2	87	1	4	74	1.2	1.0	0	42.0	8	0	9.0	2.4	0	13.7	41	0	0	36.4	1	30	7.6	9.0
Crockett	--	--	--	--	--	--	--	--	--	--	--	--	16.3	4.1	0	--	--	--	--	--	--	--	--	--
Fairfield	103	1	81	2	3	69	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Livermore	150	3	97	3	6	80	--	--	0	58.4	11	0	--	--	--	--	--	--	--	34.7	0	30	7.6	9.0
Martinez	--	--	--	--	--	--	--	--	--	--	--	--	37.0	5.5	0	--	--	--	--	--	--	--	--	--
South Central Bay																								
Fremont*	120	1	81	1	1	62	*	*	*	*	*	*	--	--	--	--	--	--	--	*	*	*	*	*
Hayward*	*	*	*	*	*	*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Redwood City	113	2	77	1	1	57	3.3	1.7	0	52.7	12	0	--	--	--	--	--	--	--	36.5	1	25	8.3	8.7
Santa Clara Valley																								
Gilroy	94	0	81	5	7	74	--	--	--	--	--	--	--	--	--	--	--	--	--	29.9	0	23	8.2	8.6
Los Gatos	109	2	87	2	3	73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
San Jose Central	126	5	86	3	3	66	2.8	2.2	0	64.0	14	0	4.9	1.8	0	19.5	47	0	0	41.5	3	30	8.8	10.1
San Martin	109	2	87	5	8	75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Days over Standard		**8**		**9**	**11**				**0**			**0**			**0**			**0**	**2**		**6**			

* The Fremont site was closed on October 31, 2010; statistics are not available for all but the summer 2010 ozone season. The Berkeley site was closed on December 31, 2010 at the conclusion of a 3-year monitoring study. The San Pablo site was temporarily closed from March 2009 to May 2010 due to damage from a building fire. 2010 statistics are not available except for the summer peak ozone season. 3-year ozone statistics are not available. The Hayward site was temporarily closed in 2010 due to a major construction project adjacent to the site. Annual and 3-year average ozone statistics are not available. $PM_{2.5}$ monitoring began in San Rafael in October 2009. Three-year average $PM_{2.5}$ statistics are not available. A new site was opened in Cupertino on September 1, 2010 for a one-year monitoring study. Due to the brief period of monitoring in 2010, Cupertino data are not shown in this table.

(ppb) = parts per billion (ppm) = parts per million, ($\mu g/m^3$) = micrograms per cubic meter.

TABLE 3-3

Bay Area Air Quality Summary
Days over standards

YEAR	OZONE			CARBON MONOXIDE				NO_X	SULFUR DIOXIDE		PM10		PM2.5
	1-Hr	8-Hr	8-Hr*	1-Hr		8-Hr		1-Hr	24-Hr		24-Hr*		24-Hr**
	Cal	Cal	Nat	Nat	Cal	Nat	Cal	Cal	Nat	Cal	Nat	Cal	Nat
2001	15	-	7	0	0	0	0	0	0	0	0	10	5
2002	16	-	7	0	0	0	0	0	0	0	0	6	7
2003	19	-	7	0	0	0	0	0	0	0	0	6	0
2004	7	-	0	0	0	0	0	0	0	0	0	7	1
2005	9	9	1	0	0	0	0	0	0	0	0	6	0
2006	18	22	12	0	0	0	0	0	0	0	0	15	10
2007	4	9	1	0	0	0	0	0	0	0	0	4	14
2008	9	20	12	0	0	0	0	0	0	0	0	5	12
2009	11	13	8	0	0	0	0	0	0	0	0	1	11
2010	8	11	9	0	0	0	0	0	0	0	0	2	6

* Ozone exceedance days beginning in 2008 reflect new U.S.EPA standard of 0.075 ppm.
** PM2.5 exceedance days beginning in 2006 reflect new U.S.EPA standard of 35 $\mu g/m^3$.

Toxic Air Pollutants

The BAAQMD maintains a database that contains information concerning emissions of TACs from permitted stationary sources in the Bay Area. This inventory, and a similar inventory for mobile and area sources compiled by CARB, is used to plan strategies to reduce public exposure to TACs. The detailed concentrations of various TACs are reported in the BAAQMD, Toxic Air Contaminant Control Program, 2009 Annual Report (BAAQMD, 2012) and summarized in Table 3-4. The 2009 TAC data show decreasing concentrations of many TACs in the Bay Area. The most dramatic emission reductions in recent years have been for certain chlorinated compounds that are used as solvents including 1,1,1-trichloroethane, methylene chloride, and perchloroethylene. Table 3-4 contains a summary of ambient air toxics listed by compound.

TABLE 3-4

Summary of 2009 BAAQMD Ambient Air Toxics Monitoring Data

Compound	LOD (ppb)[1]	% of Samples < LOD[2]	Max. Conc. (ppb)[3]	Min. Conc. (ppb)[4]	Mean Conc. (ppb)[5]
1,3-butadiene	0.10	88	0.25	0.05	0.039
Acetaldehyde[6]	0.0344*	0	4.26*	0.31*	1.300*
Acetone	0.10	0	16.2	0.3	1.757
Acetonitrile[7]	0.12	29	3.36	0.06	0.726
Benzene	0.02	2	1.14	0.01	0.172
Carbon tetrachloride	0.01	0	0.15	0.09	0.095
Chloroform	0.01	48	0.09	0.005	0.021
Dichloromethane (MeCl)	0.10	45	2.00	0.05	0.155
Ethyl Alcohol[7]	0.39	0	70.6	4.5	15.894
Ethylbenzene	0.04	47	0.68	0.02	0.072
Ethylene dibromide	0.01	100	-	0.005	0.005
Ethylene dichloride	0.10	100	-	0.05	0.05
Formaldehyde[6]	0.0541*	0	5.53*	0.51*	0.054*
Freon 113 (CFC 113)	0.01	0	1.22	0.04	0.01
Methyl chloroform (1,1,1 TCE)	0.02	91	1.79	0.01	0.035
Methyl ethyl ketone	0.10	21	1.68	0.05	0.168
Tetrachloroethylene (Perc)	0.005	43	0.157	0.0025	0.013
Toluene	0.04	0	5.41	0.02	0.571
Trichloroethylene	0.01	90	0.16	0.005	0.009
Trichlorofluoromethane	0.01	0	0.68	0.06	0.283
Vinyl chloride	0.05	100	-	0.025	0.025
m/p-xylene	0.04	5	2.63	0.02	0.301
o-xylene	0.04	29	0.88	0.02	0.101

NOTES: Table 3-4 summarizes the results of the BAAQMD gaseous toxic air contaminant monitoring network for the year 2009. These data represent monitoring results at 19 sites at which samples were collected, except as indicated. Data from the Fort Cronkhite "clean-air" background site was not included. Acetone, ethyl alcohol, Freon 113 and trichlorofluoromethane are not toxic air contaminants, but are included in the monitoring network.

* Indicates concentration measured in $\mu g/m^3$.

(1) "LOD" is the limit of detection of the analytical method used.

(2) "% of samples < LOD" is the percent of the total number of air samples collected in 2003 that had pollutant concentrations less than the LOD.

(3) "Maximum Conc." is the highest daily concentration measured at any of the 19 monitoring sites.

(4) "Minimum Conc." is the lowest daily concentration measured at any of the 19 monitoring sites. Non-detects reported as one half the LOD concentration.

(5) "Mean Conc." is the arithmetic average of the air samples collected in 2003 at the 19 monitoring sites. One half the LOD (for minimum concentrations) was used to calculate the mean.

(6) Samples collected only at Berkeley and San Jose – Jackson Street stations.

(7) Samples collected only at San Jose – Jackson Street station.

Regulatory Background

Criteria Pollutants

At the federal level, the Clean Air Act (CAA) Amendments of 1990 gave the U.S. EPA additional authority to require states to reduce emissions of ozone precursors and particulate matter in non-attainment areas. The amendments set 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 is governed by a 22-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 were to 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 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.

Facility Risk Reduction Plans: 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.

In addition to federal and State programs, BAAQMD implements a Toxics New Source Review Program, implemented through Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants. This program applies preconstruction permit review to new and modified sources of toxic air contaminants; contains project health risk limits and requirements for Toxics Best Available Control Technology. Also, in 2004, BAAQMD developed the Community Air Risk Evaluation Program (CARE) program to identify locations with high emissions of toxic air contaminants (TAC) and high exposures of sensitive populations to TAC and to use this information to help establish policies to guide mitigation strategies that obtain the greatest health benefit from TAC emission reductions. For example, BAAQMD will use information derived from the CARE program to develop and implement targeted risk reduction programs, including grant and incentive programs, community outreach efforts, collaboration with other governmental agencies, model ordinances, new regulations for stationary sources and indirect sources, and advocacy for additional legislation.

Discussion of Impacts

III a. Regulation 8-53 is a proposed new rule that would apply to vacuum trucks generally operating at specified industrial facilities located in the jurisdictional area of BAAQMD. The objectives of the proposed rule is to implement SSM-5 from the Bay Area 2010 Clean Air Plan in order to help reduce ozone emissions from vacuum trucks, thus, tightening organic compound emission limits to further reduce ozone concentrations in the Bay Area. Because the proposed new rule would directly implement a control measure in the 2010 Clean Air Plan, the proposed project is in compliance with the local air quality plan and is expected to provide beneficial impacts associated with reduced ozone concentrations in the Bay Area.

III b and c. Currently, the District does not regulate vacuum truck emissions. The District committed to investigating this type of equipment in Control Measure SSM-5 of the District's Bay Area 2010 Clean Air Plan, which sets forth a plan to achieve the California ozone standards as well as other air quality objectives. The proposed limits would be consistent with the only current California air quality regulation – South Coast Air Quality Management District (SCAQMD) Rule 1149 – which limits organic vapor emissions from vacuum truck operations. Whereas SCAQMD Rule 1149 limits VOC emissions from vacuum trucks that are involved with the cleaning or degassing of storage tanks and pipelines, Regulation 8, Rule 53 would limit organic vapor emissions, including methane, from specific types of industrial facilities that utilize the services of vacuum truck operations.

Controlling Organic Vapor Emissions

The organic vapor emissions generated from vacuum truck operations may be minimized by utilizing external positive displacement, submersible or diaphragm pumps. While these pumps may not load liquid and sludge materials into the barrel of a vacuum truck as quickly as the truck itself, they minimize the agitation of the liquid and sludge which decreases vapor emissions. The drawback to these methods of loading materials is the extra time it takes to complete the loading event.

Once vapors are generated, a variety of technologies are available to limit organic emissions. Most of them can achieve capture and control efficiencies that are greater than 95 percent. Technologies include carbon adsorption systems, internal combustion engines, thermal oxidizers, refrigerated condensers and liquid scrubbers. Sometimes these technologies are combined as in the case of an engine/chiller or carbon/scrubber.

Vacuum trucks are used by a variety of Bay Area industries to remove materials from storage tanks, vessels, boxes, and pipelines; to transfer materials from one container to another; and, to transport materials from one location to another such as a landfill or processing facility. Vacuum trucks are also used to clean equipment such as barges and to clean up spills. The types of industries that utilize vacuum truck services include petroleum refineries, marine terminals, industrial wharfs, gasoline dispensing facilities, gasoline bulk terminals, gasoline bulk plants, gasoline cargo tanks, gas well and oil well fields, railcar loading facilities, soil remediation projects, truck loading racks, auto dismantlers, and pipelines that deliver gasoline, natural gas, crude oil, petroleum products, and ethanol.

Based on approximately 32 source tests that have been conducted thus far, the emission rates have ranged from very few to over 600 pounds per hour per loading event. Emission rates depend on material vapor pressure, material flow rate into the vacuum truck barrel, ambient temperature, and other factors as well, including the diameter and length of hose the material travels through. In Control Measure SSM-5, the District estimated potential emission reductions for the control measure to be up to six tons per day. As a result of the source testing and throughput information that staff was able to gather, vacuum truck emissions are estimated to be 1.50 tons per day from the targeted facilities.

A detailed description potential control technologies can be found in Chapter 2, under the Proposed Method of Control Section. The overall impact of the proposed Regulation 8-53 is a decrease in organic emissions including methane. Therefore, no air quality standard is expected to be violated, and no contribution is expected to be made to an existing or projected air quality violation.

CEQA Guidelines indicate that cumulative impacts of a project shall be discussed when the project's incremental effect is cumulatively considerable, as defined in CEQA Guidelines §15065(c). The overall impact of the proposed Regulation 8-53 is a decrease in organic emissions, including methane, and an associated decrease in ozone concentrations. Therefore, the cumulative air quality impacts of the proposed new rule are expected to be beneficial.

III d. Vacuum truck operations are expected to comply with the proposed Regulation 8-53 by adding control and monitoring equipment. No new waste streams are expected to be involved in loading events as a result of the proposed new rule. Disposal of materials involved in loading events will continue to be processed as they are currently. As a result, no increase in exposure of sensitive receptors to substantial pollutant concentrations is anticipated as a result of the proposed project. Additionally, the organic reductions associated with the proposed Regulation 8-53 will also lead to a reduction in TAC emissions throughout the Bay Area. Reductions in both organics and TACs will actually reduce exposure of sensitive receptors to pollutant concentrations. Therefore, no significant impacts associated with Regulation 8-53 are expected.

III e. The proposed project is not expected to result in an increase in odors. The proposed Regulation 8-53 proposes to minimize organic emissions from vacuum truck operation. Affected vacuum truck operations are expected to comply by installing control and monitoring equipment to existing vacuum trucks. The control and monitoring equipment added to vacuum trucks will reduce organic and methane emissions, and will not change the fuel source or result in odors produced during loading events.

Based upon these considerations, no significant adverse air quality impacts are expected from the implementation of the proposed new rule. In fact, the proposed Regulation 8-53 is expected to provide beneficial air quality impacts by reducing organic and methane emissions and subsequent formation of ozone.

		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 areas affected by the proposed rule 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 areas affected by the proposed new rule are located within the boundaries of existing facilities within the Bay Area. The affected areas have been graded to develop various permanent structures. Native vegetation, other than landscape vegetation, has generally been removed from areas to minimize safety and 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 new rule which would apply to existing facilities. Existing vacuum trucks affected by the proposed Regulation 8-53 will operate within existing industrial facilities which do not typically include sensitive biological species. The facilities have been graded and developed, and biological resources, with the exception of landscape species, have been removed. No construction activities are expected and no new permanent structures are expected to be required as a result of proposed Regulation 8-53.

Based upon these considerations, no significant adverse impacts to biological resources are expected from the implementation of the proposed Regulation 8-53.

		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 § 15064.5?	☐	☐	☐	☑
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☐	☐	☑
c)	Directly of indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☑
d)	Disturb any human remains, including those interred outside of 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 their abundant combination of littoral and oak woodland resources.

The petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipelines affected by the proposed new rule are existing facilities within the Bay Area. These facilities have already been graded to develop and are typically surrounded by other industrial uses. Cultural resources are generally not located within these areas.

Regulatory Background

The State CEQA Guidelines define a significant cultural resource 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 Regulation 8-53 which would apply to vacuum trucks operating within the Bay Area. The vacuum trucks affected by the proposed new rule already exist and are typically operated within the confines of existing facilities. Any modifications to existing equipment and any new equipment would be installed or modified on existing or new vacuum trucks and operate in existing facilities. The existing areas have been graded and developed. No new construction would be required outside of the existing facility boundaries due to the adoption of the proposed Regulation 8-53. Therefore, no significant adverse impacts to cultural resources are expected due to the proposed Regulation 8-53.

Based upon these considerations, no significant adverse impacts to cultural resources are expected from the implementation of the proposed Regulation 5-53.

		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:				
i)	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 know fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☑
ii)	Strong seismic ground shaking?	☐	☐	☐	☑
iii)	Seismic-related ground failure, including liquefaction?	☐	☐	☐	☑
iv)	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 facilities affected by the proposed new rule are located primarily in industrial areas within the Bay Area.

The affected petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipelines 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 inter-fingered 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. The vacuum trucks affected by the proposed rule already exist and operate within the confines of existing industrial facilities in the Bay Area. No new construction activities are expected to be required as a result of adopting the proposed Regulation 8-53, rather, existing and new vacuum trucks would need to be upgraded or put into service incorporating new control equipment. No new permanent structures are expected to be required as a result of the new rule. The Uniform Building Code is considered to be a standard safeguard against major structural failures and loss of life. Any new construction at industrial facilities being serviced by vacuum trucks regulated by the new rule will be constructed in compliance with the Uniform Building Code. The goal of the code is to provide structures that will: (1) resist minor earthquakes without damage; (2) resist moderate earthquakes without structural damage, but with some non-structural damage; and (3) resist major earthquakes without collapse, but with some structural and non-structural damage. The Uniform Building Code bases seismic design on minimum lateral seismic forces ("ground shaking"). The Uniform Building Code requirements operate on the principle that providing appropriate foundations, among other aspects, helps to protect buildings from failure during earthquakes. The basic formulas used for the Uniform Building Code seismic design require determination of the seismic zone and site coefficient, which represent the foundation conditions at the site.

Any new development at facilities being serviced by vacuum trucks regulated by the new rule would be required to obtain building permits, as applicable, for new structures at any site. The issuance of building permits from the local agency will assure compliance with the Uniform Building Code requirements which include requirements for building within seismic hazard zones. No significant impacts from seismic hazards are expected since no new development is required due to implementation of the proposed Regulation 8-53.

VI b. No new significant construction activities would be required due to the adoption of Regulation 8-53. Vacuum trucks affected by the proposed new rule already exist and operate within the confines of existing industrial facilities. No new construction or new permanent structures are expected as a result

of the proposed new rule. Therefore, the proposed Regulation 8-53 is not expected to result in substantial soil erosion or the loss of topsoil as no major construction activities would be required.

VI c – e. The vacuum trucks affected by the proposed new rule already exist and are operated within the confines of existing industrial facilities so no major construction activities are expected. No new structures are expected to be required as a result of the proposed new rule. Since the industrial facilities already exist, no construction activities are expected to occur on a geologic unit or soil that is unstable or that would become unstable, or potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse. Likewise, no structure would be constructed on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property. Compliance with the Uniform Building Code would minimize the impacts associated with existing geological hazards. If construction were to occur at industrial facilities serviced by the vacuum trucks affected by the proposed new rule, it would not affect 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, as the proposed rule has no impact on wastewater treatment/disposal systems. Therefore, no adverse significant impacts to geology and soils are expected due to the proposed Regulation 8-53.

Based upon these considerations, no significant geology and soils impacts are expected from the implementation of the proposed new rule.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GREENHOUSE GAS EMISSIONS.				
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☐	☑
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☑

Setting

Global climate change refers to changes in average climatic conditions on the earth as a whole, including temperature, wind patterns, precipitation and storms. Global warming, a related concept, is the observed increase in the average temperature of the earth's surface and atmosphere. One identified cause of global warming is an increase of greenhouse gases (GHGs) in the atmosphere. The six major GHGs identified by the Kyoto Protocol are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), haloalkanes (HFCs), and perfluorocarbons (PFCs). The GHGs absorb longwave radiant energy reflected by the earth, which warms the atmosphere. GHGs also radiate longwave radiation both upward to space and back down toward the surface of the earth. The downward part of this longwave radiation absorbed by the atmosphere is known as the "greenhouse effect." Some studies indicate that the potential effects of global climate change may include rising surface temperatures, loss in snow pack, sea level rise, more extreme heat days per year, and more drought years.

Events and activities, such as the industrial revolution and the increased combustion of fossil fuels (e.g., gasoline, diesel, coal, etc.), have heavily contributed to the increase in atmospheric levels of GHGs. The GHG inventory for California is presented in Table 3-5 (CARB, 2007 and CARB, 2009). Approximately 80 percent of GHG emissions in California are from fossil fuel combustion and over 70 percent of GHG emissions are carbon dioxide emissions (see Table 3-5).

TABLE 3-5

California GHG Emissions and Sinks Summary
(Million Metric Tons CO2 Equivalent)

Categories Included in the Inventory	1990 (1)	2006 (2)
ENERGY	**386.41**	**419.32**
Fuel Combustion Activities	**381.16**	**414.03**
Energy Industries	157.33	160.82
Manufacturing Industries & Construction	24.24	19.03
Transport	150.02	184.78
Other Sectors	48.19	49.41
Non-Specified	1.38	2.16
Fugitive Emissions from Fuels	**5.25**	**5.28**
Oil and Natural Gas	2.94	3.25
Other Emissions from Energy Production	2.31	2.03
INDUSTRIAL PROCESSES & PRODUCT USE	**18.34**	**30.22**
Mineral Industry	4.85	5.92
Chemical Industry	2.34	0.37
Non-Energy Products from Fuels & Solvent Use	2.29	1.85
Electronics Industry	0.59	0.77
Product Uses as Substitutes for Ozone Depleting Substances	0.04	13.38
Other Product Manufacture & Use Other	3.18	1.67
Other	5.05	6.25
AGRICULTURE, FORESTRY, & OTHER LAND USE	**19.11**	**25.10**
Livestock	11.67	15.68
Land	0.19	0.19
Aggregate Sources & Non-CO_2 Emissions Sources on Land	7.26	9.24
WASTE	**9.42**	**9.23**
Solid Waste Disposal	6.26	6.31
Wastewater Treatment & Discharge	3.17	2.92
EMISSION SUMMARY		
Gross California Emissions	**433.29**	**483.87**
Sinks and Sequestrations	**-6.69**	**-4.07**
Net California Emissions	**426.60**	**479.80**

Source: (1) CARB, 2007.
(2) CARB, 2009.

Regulatory Background

In response to growing scientific and political concern regarding global climate change, California has adopted a series of laws to reduce both the level of GHGs in the atmosphere and to reduce emissions of GHGs from commercial and private activities within the state. In September 2002, Governor Gray Davis signed Assembly Bill (AB) 1493, requiring the development and adoption of regulations to achieve "the maximum feasible reduction of greenhouse gases" emitted by non-commercial passenger vehicles, light-duty trucks, and other vehicles used primarily for personal transportation in the State. Setting emission standards on automobiles is normally the responsibility of the U.S. EPA. The Federal Clean Air Act, however, allows California to set a state-specific emission standard on automobiles if it first obtains a waiver from the U.S. EPA. On March 6, 2008 the U.S. EPA denied California's request

for a waiver. In response, California sued the U.S. EPA claiming that the denial was not based on the scientific data. Subsequently, U.S. EPA has granted the request by California for a waiver of Clean Air Act preemption for California's greenhouse gas emission standards for 2009 and later model years of new motor vehicles, which was adopted the CARB on September 24, 2004.

In June 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05, which established GHG emissions reduction targets for the state, as well as a process to ensure that the targets are met. As a result of this executive order, the California Climate Action Team (CAT), led by the Secretary of the California State Environmental Protection Agency (CalEPA), was formed. The CAT published its report in March 2006, in which it laid out several recommendations and strategies for reducing GHG emissions and reaching the targets established in the Executive Order.

The greenhouse gas targets are:

- By 2010, reduce to 2000 emission levels;
- By 2020, reduce to 1990 emission levels; and,
- By 2050, reduce to 80 percent below 1990 levels.

In September 2006, Governor Schwarzenegger signed California's Global Warming Solutions Act of 2006 (AB32). AB32 will require CARB to:

- Establish a statewide GHG emissions cap for 2020, based on 1990 emissions, by January 1, 2008;
- Adopt mandatory reporting rules for significant sources of GHG emissions by January 1, 2008;
- Adopt an emissions reduction plan by January 1, 2009, indicating how emissions reductions will be achieved via regulations, market mechanisms, and other actions; and,
- Adopt regulations to achieve the maximum technologically feasible and cost-effective reductions of GHGs by January 1, 2011.

SB1368, a companion bill to AB32, requires the CPUC and the CEC to establish GHG emission performance standards for the generation of electricity, whether generated inside the State, or generated outside, and then imported into California. SB1368 provides a mechanism for reducing the emissions of electricity providers, thereby assisting CARB to meet its mandate under AB32. On January 25, 2007, the CPUC adopted an interim GHG Emissions Performance Standard (EPS), which is a facility-based emissions standard requiring that all new long-term commitments for baseload generation to serve California consumers be with power plants that have GHG emissions no greater than a combined cycle gas turbine plant. That level is established at 1,100 pounds of CO_2 per megawatt-hour (MW-hr). Further, on May 23, 2007, the CEC adopted regulations that establish and implement an EPS of 1,100 pounds of CO_2 per MW-hr (see CEC order No. 07-523-7).

SB97, passed in August 2007, is designed to work in conjunction with CEQA and AB32. SB97 required the California Office of Planning and Research (OPR) to prepare and develop guidelines for the mitigation of GHG emissions or the effects thereof, including but not limited to, effects associated with transportation and energy consumption. These guidelines were required to be transmitted to the Resources Agency by July 1, 2009, and certified and adopted by January 1, 2010. The guidelines became effective March 18, 2010. The OPR and the Resources Agency shall periodically update these guidelines to incorporate new information or criteria established by CARB pursuant to AB32.

In 2008, Governor Schwarzenegger signed the Sustainable Communities and Climate Protection Act (SB375). SB375 is intended as a companion measure to attain the goals of AB32. SB375 requires CARB to develop regional greenhouse gas emission reduction targets for passenger vehicles. CARB is to establish targets for 2020 and 2035 for each region covered by one of the State's 18 metropolitan planning organizations (MPO). Each of these 18 MPOs then prepare a "sustainable communities strategy (SCS)" that demonstrates how that region will meet its greenhouse gas reduction target through integrated land use, housing and transportation planning. Once adopted by the MPO, the SCS will be incorporated into that region's federally enforceable regional transportation plan.

There has also been activity at the Federal level on the regulation of GHGs. In *Massachusetts v. Environmental Protection Agency* (Docket No. 05–1120), argued November 29, 2006 and decided April 2, 2007, the U.S. Supreme Court held that not only did the U.S. EPA have authority to regulate greenhouse gases, but that the U.S. EPA's reasons for not regulating greenhouse gases did not fit the statutory requirements. The U.S. Supreme Court ruled that CO_2 and other greenhouse gases are pollutants under the Clean Air Act, which U.S. EPA must regulate if it determines they pose an endangerment to public health or welfare. On October 30, 2009, the U.S. EPA issued 40 CFR Part 98, which requires reporting of greenhouse gas (GHG) emissions from large sources and suppliers in the United States. Under Part 98, suppliers of fossil fuels or industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions are required to submit annual reports to EPA, with abbreviated report required in 2011 (for 2010 emissions), and full reporting in 2012 (for 2011 emissions). Part 98 became effective December 29, 2009.

The BAAQMD has established GHG CEQA significance thresholds as follows:

- For land use development projects, the threshold is compliance with a qualified GHG reduction strategy; or annual emissions less than 1,100 metric tons per year (MT/yr) of carbon dioxide equivalent emissions (CO_2e); or 4.6 MT CO_2e/SP/yr.
- For stationary-source projects, the threshold is 10,000 MT/yr of CO_2e.
- For regional plans (transportation and air quality plans), no net increase in GHG emissions.

Discussion of Impacts

VII a – b. Regulation 8-53 is part of a comprehensive ongoing regulatory program that includes implementing related 2010 CAP control measures or new rules to attain and maintain with a margin of safety state and national ambient air quality standards ozone and particulate matter in all areas within the jurisdiction of the BAAQMD. The 2010 CAP included SSM-5 which was intended to reduce emissions

from vacuum trucks by imposing organic and methane emission limits to further reduce ozone concentrations. Regulation 8-53 would implement SSM-5 from the 2010 CAP.

The 2010 CAP includes measure to reduce GHG emissions and estimates that implementation of the 2010 CAP would result in a reduction of over 15,000 metric tons per day or over 5 million metric tons per year (BAAQMD, 2010). Therefore, implementation of Regulation 8-53 in connection with other 2010 CAP measures is not considered to be cumulatively significant.

Regulation 8-53 would control total organic emissions, including methane. Methane is a significant GHG that has over 20 times the global warming potential of CO_2 and is typically present in certain materials loaded into vacuum trucks. Because methane is within the definition of TOCs and is subject to the 500 ppmv emission limit proposed to be included in Regulation 8-53, compliance with the limit will reduce methane emissions to the extent that methane is present in controlled materials.

The control method most often used for compliance with Regulation 8-53 is expected to be positive displacement pumps to slow down the transfer of material and minimize the generation of organic vapors. Positive displacement pumps would be operated in much the same manner as current loading operations. While loading operations may take a longer period of time, organic emissions, including methane, would be reduced under the proposed regulation. Therefore, the use of positive displacement pumps is not expected to generate GHG emissions. The use of positive displacement pumps may reduce the generation of GHG emissions. The use of a vacuum truck's blower to generate a vacuum to draw the material into the truck's barrel is an energy intensive process. The use of an auxiliary piece of equipment such as a positive displacement pump to push material into the barrel is expected to be less energy intensive, resulting in fewer GHG emissions.

Regulation 8-53 could also result in the use of additional emission control technologies, some of which could generate GHG emissions. Carbon adsorption could be used for loading events of short duration or when hydrocarbon-containing materials were loaded using low flow rates. High concentrations of organic compounds could overwhelm carbon adsorption systems. The use of carbon adsorption is not expected to require a significant amount of energy and it is expected that it would be operated using the truck engines, as is the current practice. Therefore, no significant increase in GHG emissions would be expected.

It is expected that the use of other emission control strategies, e.g., thermal oxidizers, and refrigerated condenser systems would be used less frequently and during high organic concentration loading events. Even though condensation technology emits a small amount of GHG emissions from the energy source used to generate the cold temperatures needed to condense organic vapor streams, this technology has the potential to emit the least amount of GHG emissions of all the organic control technologies. This is because the vapors that are condensed can be recycled. The recycling of organic vapors would offset the potential GHG emissions generated during the condensation process. Similarly, thermal oxidizers would generate small amounts of GHG emissions from the energy source. However, they would control TOC emissions, including methane, reducing the amount of GHG emissions from loading events.

A variety of emission control technologies could be used to comply with Regulation 8-53. Those technologies that are expected to be most commonly used are not expected to generate significant quantities of GHG emissions. Further, Regulation 8-53 is expected to reduce organic emissions, including methane emissions, from truck loading events. Any GHG emissions increases associated with control equipment is

expected to be offset by the reduction in emissions from vacuum truck loading operations. Therefore, implementation of Regulation 8-53 is not expected to result in a significant increase in GHG emissions.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII.	**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 § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☑
e)	For a project 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)	For a project 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 residences are intermixed with wildlands?	☐	☐	☑	☐

Setting

The affected petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipelines 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 handling such materials are a function of the materials being processed, processing systems, and procedures used to operate and maintain the facilities where they exist. 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 or vessel 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 many types of industrial facilities. 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 affected facilities, risks to the public are reduced if there is a buffer zone between industrial processes and residences or other sensitive land uses, or the prevailing wind blows away from residential areas and other sensitive land uses. The risks posed by operations at each facility are unique and determined by a variety of factors. The areas affected by the proposed rule are typically located in industrial areas.

Regulatory Background

There are many federal and state rules and regulations that facilities handling hazardous materials 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.

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.

Affected facilities that store materials 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 business 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 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 considers human factors as part of process hazards analyses, incident investigations, training, operating procedures, among others.

Discussion of Impacts

VII a - c. It is expected that the proposed Regulation 8-53 will lead to a reduction in organic and methane emissions from existing vacuum trucks operated at affected petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipelines, thus reducing ozone emissions. Control and monitoring equipment will be incorporated in vacuum truck operations and the impact of the proposed new rule is expected to be a reduction in organic emissions, including methane, generated during vacuum truck loading operations.

The ignitability or explosivity of a gas or vapor is limited by its concentration in the air. The concentration at which a gas or vapor may ignite or explode is bounded by two explosive limits: the upper and lower explosive limits. Above the upper explosive limit, there is not enough oxygen to ignite the gas or vapor. Below the lower explosive limit, the gas or vapor concentration is too low to burn or explode.

Currently, the vapors/gasses from vacuum truck loading events are vented to the atmosphere, and higher vapor/gas concentrations are allowed to escape than would be allowed under Regulation 8-53. Regulation 8-53 may lengthen the time required to load vacuum trucks using positive displacement pumps. The increase loading time would reduce the amount of organic emissions generated, thus reducing the possible explosive of flammability hazards associated with vacuum truck loading operations. Therefore, Regulation 8-53 could reduce hazards for vacuum truck loading events.

Carbon adsorption systems are expected to be a common method for compliance with Regulation 8-53. When carbon adsorption systems are used to control emissions from loading events with materials that have high organic concentration, there is a risk of spontaneous combustion due to temperature increases. All adsorption is exothermic, meaning that the adsorption process releases heat, causing the temperature in the carbon bed to rise. When high concentrations of organic vapors are adsorbed on activated carbon at a high flow rate, the temperature of the carbon bed can increase to a level at which the carbon or the organic vapors spontaneously ignite, starting a fire in the carbon vessel. Carbon adsorption is expected to be used for loading events of short duration or when hydrocarbon-containing materials were loaded using low flow rates, as the technology, is generally not appropriate when high organic concentrations are present.

Regulation 8-53 could involve the combustion of organic emissions, including air toxics, using propane-fired thermal oxidizers or Internal Combustion Engines (ICEs). The accidental release of propane could result in adverse hazard impacts. Since the probability of accidents is related to the miles traveled, there would be an increase in probability of hazards from an accidental release of propane. However, the national truck accident rate is small (on the order of one accident per ten million miles traveled) and the accident rate with chemical releases is even less, so this would not be a significant risk factor.

In case of a rupture, there is the potential for the gas to pool and boil off. This presents the possibility of a boiling liquid, vapor cloud explosion, and fire with potential consequences to nearby structures, storage tanks, pipelines, etc., and off-site receptors. Propane vapors are heavier than air, so that leaks

from the fuel system tend to pool at ground level rather than disperse. Propane is a non-toxic gas. High propane concentrations reduce oxygen levels that may cause asphyxiation, with early symptoms of dizziness. No harmful long-term effects have been reported from exposure to propane vapors. An odorant added to propane generally enables its detection at concentrations that are below the lower flammability limit and substantially below the concentrations needed for asphyxiation.

Propane has a narrow range of flammability compared to other transportation fuels. The fuel will only burn within a fuel-to-air ratio between 2.2 percent and 9.6 percent. Propane will rapidly dissipate beyond its flammability range in the open atmosphere. Propane fuel leaks can pose a significant explosion hazard relative to gasoline in enclosed areas. Since propane would be used for combusting organic compounds from vacuum truck loading events, it is expected that this operation would occur in an open area.

Since the accident release risk of propane is low and propane is likely to dissipate into the atmosphere, the adverse hazard risk from Regulation 8-53 is expected to be less than significant. By better control of TOCs under the proposed Regulation 8-53, the possibility of an explosion or fire caused by the uncontrolled release of vapors would be reduced. Therefore, no significant new hazard impacts are expected.

VII d. No impacts on hazardous material sites are anticipated from the proposed new rule that would typically apply to existing petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipeline operations. Some of the affected areas may be located on the hazardous materials sites list pursuant to Government Code Section 65962.5. Regulation 8-53 is expected to reduce organic emissions from vacuum truck loading operations. As a result, Regulation 8-53 is not expected to adversely affect any facilities included on a list of hazardous materials sites and therefore, would not create a significant hazard to the pubic or environment. Vacuum trucks already exist and are operated within the confines of existing industrial facilities. The proposed new rule neither requires, nor is 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. Regulation 8-53 is not expected to result in a safety hazard for people residing or working within two miles or a public airport or air strip. No impacts on airports or airport land use plans are anticipated from the proposed new rule which would apply to vacuum trucks operating in the Bay Area. Any changes required by the proposed rule are expected to be made with the existing fleet of vacuum trucks which operate within the confines of the existing industrial facilities. No development is expected to be required as a result of implementing Regulation 8-53. Therefore, no significant adverse impacts on an airport land use plan or on a private air strip are expected.

VII g. No impacts on emergency response plans are anticipated from the proposed new rule that would apply to existing petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipelines facilities. The vacuum trucks affected by the proposed new rule already exist and operate within the confines of existing industrial facilities. The proposed new rule neither requires, nor is likely to result in, activities that would impact the emergency response plan. Some of the existing industrial facilities affected by the proposed new rule already store and transport hazards materials, so emergency response plans already include hazards associated with hazardous events that would apply under

different circumstances. Therefore, no significant adverse impacts on emergency response plans are expected.

VII h. No increase in hazards associated with wildfires is anticipated from the proposed new rule. The vacuum trucks affected by the proposed rule already exist and are operated within the confines of existing industrial facilities. Native vegetation has been removed from the operating portions of the affected facilities to minimize fire hazards. Regulation 8-53 is not expected to increase the risk of fire hazard in general and specifically in areas with flammable materials. Therefore, Regulation 8-53 would not expose people or structures to significant risk of loss, injury or death involving wildland fires.

Based upon these considerations, no significant adverse hazards and hazardous materials impacts are expected from the implementation of the proposed Regulation 8-53.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. 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 petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipelines affected by the proposed new rule are located throughout the Bay Area. Affected areas are generally surrounded by other industrial or commercial facilities. 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 throughout the Bay Area.

The affected areas 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, which have been updated in 2005 as the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California. 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 constituent 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, f. No significant adverse impacts on hydrology and water quality resources are anticipated from the proposed new rule, which would apply to vacuum trucks operating within existing industrial facilities. The proposed new rule is not expected to require additional water use and no increase in wastewater discharge is expected. Therefore, no violation of any water quality standards or waste discharge requirements, and no decrease in water quality is expected from the proposed Regulation 8-53.

VIII b. The vacuum trucks affected by the proposed Regulation 8-53 already exist and are operated within the confines of existing petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipeline facilities. The 2010 CAP EIR addressed the impacts of control measures on water demand. The proposed Regulation 8-53 is not expected to require additional water use. The control technologies for vacuum trucks do not require additional use of water. Therefore, the proposed new rule is not expected to deplete groundwater supplies or interfere with groundwater recharge. Therefore, no significant impacts on groundwater supplies are expected due to the proposed Regulation 8-53.

VIII c - f. Vacuum truck operators are expected to comply with the proposed Regulation 8-53 in the form of installing control equipment. The affected equipment is typically operated in industrial areas, where storm water drainage has been controlled and no new construction activities outside of the existing industrial facilities is expected to be required. Therefore the proposed new rule is not expected to substantially alter the existing drainage or drainage patterns, result in erosion or siltation, alter 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. Materials collected and processed by vacuum trucks are disposed of at designated facilities based on the nature of the product being handled. Additionally, the proposed rule is not expected to 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. The proposed Regulation 8-53 is not expected to substantially degrade water quality. Therefore, no significant adverse impacts to storm water runoff are expected.

VIII g – i. The vacuum trucks affected by the proposed new rule are operated within industrial areas. No major construction activities outside the boundaries of existing facilities are expected due to the adoption of the proposed Regulation 8-53. Petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipelines are generally located to avoid flood zone areas and other areas subject to flooding. Further, storm water is controlled and collected onsite for analysis and subsequent discharge at such facilities. The proposed new rule is not expected to require any substantial construction activities, place any additional structures within 100-year flood zones, or other areas subject to flooding. Therefore, no significant adverse impacts due to flooding are expected.

VIII j. The petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipelines affected by the proposed new rules are located within industrial areas. No major construction activities are expected outside of the boundaries of the existing facilities due to the adoption of the proposed Regulation 8-53. The proposed new rule is not expected to place any additional structures within areas subject to inundation by seiche, tsunami or mudflow. Therefore, no significant adverse impacts on hydrology/water due to seiche, tsunami or mudflow are expected as a result of the proposed new rule.

Based upon these considerations, no significant adverse hydrology and water quality impacts are expected from the implementation of the proposed Regulation 8-53.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
X.	**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 facilities affected by the proposed new rule are primarily located in industrial areas throughout the Bay Area.

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 vacuum trucks affected by the proposed new rule already exist and are operated within the confines of existing industrial facilities. The operators of vacuum trucks in the Bay Area are expected to comply with Regulation 8-53 by upgrading or installing control equipment. These changes are expected to be made to existing and new vacuum trucks. No new permanent structures are expected to be required as a result of Regulation 8-53. No new construction outside of the confines of the existing industrial facilities is expected to be required due to the adoption of the proposed new rule.

Based upon these considerations, no significant adverse land use impacts are expected from the implementation of the proposed Regulation 8-53.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XI.	**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 facilities affected by the proposed Regulation 8-53 are primarily located in industrial areas within the Bay Area.

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 vacuum trucks affected by the proposed new rule operate within the confines of existing facilities. Any new vacuum trucks and control equipment are expected to operate at similar facilities. The proposed new rule is 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.

Based upon these considerations, significant mineral resource impacts are not expected from the implementation of the proposed rule.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XII.	**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 ground-borne vibration or ground-borne noise levels?	☐	☐	☐	☑
c)	Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☑
d)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☑
e)	For a project 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)	For a project 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 facilities affected by the proposed new rule are located in industrial areas of the Bay Area, which are surrounded by other industrial or commercial 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 Plans 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-d. The petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipelines affected by the proposed new rule already exist and are primarily located in industrial areas. The proposed new rule imposes limits on organic emissions from vacuum trucks operating in such facilities. Compliance will be achieved in the form of control and monitoring equipment operating in conjunction with vacuum trucks. The primary method of control is expected to be the use of positive displacement pumps, followed by carbon adsorption equipment. These control methods are not expected to create greater noise levels than currently exist in vacuum truck loading operations.

The existing noise environment at affected facilities is typically dominated by noise from existing equipment onsite, vehicular traffic around the facilities, and trucks entering and exiting facility premises. Noise from control equipment associated with the proposed new rule is not expected to produce noise in excess of current operations at existing facilities. Vacuum truck loading events are intermittent and temporary in nature. It is not expected that any air pollution control equipment operating in conjunction with vacuum trucks would substantially increase ambient operational noise levels in areas typically associated with vacuum truck loading events, or expose people to excessive noise levels that would be noticeable above and beyond existing ambient levels.

Depending on the air pollution control technology utilized, vacuum truck loading events may temporarily add additional sources of noise to the affected facilities. As an example, noise increases associated with additional emissions control technology are expected to be limited to a small pumps or blowers. This type of equipment is similar to the existing vacuum truck pumps. It is expected that each vacuum truck affected will comply with all existing noise control laws or ordinances. Further, OSHA and California-OSHA (Cal/OSHA) have established noise standards to protect worker health. These potential noise increases are expected to be small, if at all, used in an industrial setting, and thus less than significant. Therefore, no adverse significant impacts to noise are expected due to the proposed Regulation 8-53.

It is also not anticipated that control or monitoring equipment will cause an increase in ground-borne vibration levels because such equipment is not typically vibration intensive. Consequently, the proposed new rule will not directly or indirectly cause substantial noise or excessive ground-borne vibration impacts.

XI. e-f. If applicable, the petroleum refineries, marine terminals, gasoline bulk terminals, gasoline bulk plants and pipelines affected by the proposed new rule would still be expected to comply, and not interfere, with any applicable airport land use plans. All noise producing equipment must comply with local noise ordinances and applicable OSHA or Cal/OSHA workplace noise reduction requirements. In addition to noise generated by current operations, noise sources in each area may include nearby freeways, truck traffic to adjacent businesses, and operational noise from adjacent businesses.

Based upon these considerations, significant noise impacts are not expected from the implementation of the proposed Regulation 8-53.

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. 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 areas affected by the proposed Regulation 8-53 are located in industrial areas within the jurisdiction of the BAAQMD.

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. No new construction activities associated with the proposed project are expected. Since no new construction is required, no relocation of individuals, no new housing or commercial facilities, or no change in the distribution of the population is anticipated. The reason for this conclusion is that operators of affected vacuum trucks who need to add control or monitoring equipment to comply with the proposed new rule will be drawn from the existing labor pool in the local Bay Area. Further, it is not expected that replacing existing equipment with new equipment or installing air pollution control equipment will require new employees to operate the new/modified equipment. Human population within the jurisdiction of the BAAQMD is anticipated to grow regardless of implementing the proposed

project. As a result, the proposed new rule is not expected to generate any significant adverse effects, either direct or indirect, on population growth in the district or population distribution.

XII b-c. Because the proposed project includes modifications and/or changes at existing equipment operated in industrial settings, the proposed project is not expected to result in the creation of any industry that would affect population growth, directly or indirectly induce the construction of single- or multiple-family units, or require the displacement of people or housing elsewhere in the Bay Area. Based upon these considerations, significant population and housing impacts are not expected from the implementation of the proposed project.

Based upon these considerations, significant population and housing impacts are not expected from the implementation of the proposed Regulation 8-53.

	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 areas affected by the proposed new rule are primarily located in industrial areas throughout the Bay Area.

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. Implementation of the proposed new rule by installing control equipment to vacuum trucks is not expected to affect current operations at existing facilities. In the event of an accidental release from an industrial facility being serviced by vacuum trucks affected by the proposed new rule, fire

departments are typically first responders for control and clean-up and police may be need to be available to maintain perimeter boundaries. The proposed project is not expected to significantly affect fire or police departments because while vacuum trucks will be incorporating new control and monitoring equipment, the number of loading events utilizing vacuum trucks is not anticipated to change. Therefore, the proposed project is not expected to increase the need or demand for additional public services (e.g., fire departments, police departments, government, et cetera) above current levels.

As noted in the "Population and Housing" discussion above, the proposed project is not expected to induce population growth in any way because the local labor pool (e.g., workforce) is expected to be sufficient to accommodate any activities that may be necessary at affected facilities. Additionally, operation of new control or monitoring equipment on vacuum trucks is not expected to require additional employees. Therefore, there will be no increase in local population and thus no impacts are expected to local schools or parks.

Based upon these considerations, significant public services impacts are not expected from the implementation of the proposed Regulation 8-53.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. 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 facilities affected by the proposed Regulation 8-53 are located in industrial areas throughout the Bay Area. Public recreational land can be located adjacent to, or in reasonable proximity to these areas.

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. As discussed under "Land Use" above, there are no provisions of the proposed project that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments; no land use or planning requirements will be altered by the proposed Regulation 8-53. Any required changes would take place on existing and new mobile sources that operate within the confines of the existing facilities so no changes in land use would be required. Further, the proposed new rule would not increase the use of existing neighborhood and regional parks or other recreational facilities or include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment because the proposed project is not expected to induce population growth. Therefore, no significant adverse impacts on recreation are expected.

Based upon these considerations, significant recreation impacts are not expected from the implementation of the proposed new rule.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. TRANSPORTATION/TRAFFIC. Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☑
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established b 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) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such 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). Transportation systems located within the Bay Area include railroads, airports, waterways, and highways. The Port of Oakland and three international airports in the area serve as hubs for commerce and transportation. The transportation infrastructure for vehicles and trucks in the Bay Area ranges from single lane roadways to multilane interstate highways. The Bay Area contains over 19,600 miles of local streets and roads, and over 1,400 miles of state highways. In addition, there are over 9,040 transit route miles of services including rapid rail, light rail, commuter, diesel and electric buses, cable cars, and ferries. The Bay Area also has an extensive local system of bicycle routes and pedestrian paths and sidewalks. At a regional level, the share of workers driving alone was about 68 percent in 2007. The portion of commuters that carpool was about 10 percent in 2007. About 4 percent of commuters walked to work in 2007. In addition, other modes of travel (bicycle, motorcycle, etc.), account for 3 percent of commuters in 2007 (MTC, 2008). Cars, buses, and commercial vehicles travel about 145 million miles a day (2000) on the Bay Area Freeways and local roads. Transit serves about 1.6 million riders on the average weekday (MTC, 2008).

The region is served by numerous interstate and U.S. freeways. On the west side of San Francisco Bay, Interstate 280 and U.S. 101 run north-south. U.S. 101 continues north of San Francisco into Marin County. Interstates 880 and 660 run north-south on the east side of the Bay. Interstate 80 starts in San Francisco, crosses the Bay Bridge, and runs northeast toward Sacramento. Interstate 80 is a six-lane north-south freeway which connects Contra Costa County to Solano County via the Carquinez Bridge. State Routes 29 and 84, both highways that allow at-grade crossings in certain parts of the region, become freeways that run east-west, and cross the Bay. Interstate 580 starts in San Rafael, crosses the Richmond-San Rafael Bridge, joins with Interstate 80, runs through Oakland, and then runs eastward toward Livermore. From the Benicia-Martinez Bridge, Interstate 680 extends north to Interstate 80 in Cordelia. 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 state and county level. Planning for interstate highways is generally done by the California Department of Transportation.

Most local counties maintain a transportation agency that has the duties of transportation planning and administration of improvement projects within the county and implements the Transportation Improvement and Growth Management Program, and the congestion management plans (CMPs). 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. No construction activities are expected as a result of implementing the proposed Regulation 8-53. The proposed project is not expected to cause a significant increase in traffic at any industrial facility or require any additional employees. No increase in the number of vacuum trucks in the existing

fleet are expected as a result of adopting the new rule. Also, the proposed project is not expected to exceed, either individually or cumulatively, the current level of service of the areas surrounding the affected facilities. The work force at each affected facility is not expected to significantly increase as a result of the proposed project and no increase in operation-related traffic is expected. Thus, the traffic impacts associated with the proposed new rule is expected to be less than significant.

XV c. Though some of the facilities that will be affected by the proposed project may 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, actions that would be taken to comply with the proposed project, such as installing new air pollution control equipment on vacuum trucks servicing the facilities, is not expected to significantly influence or affect air traffic patterns. Further, the size and type of air pollution control devices that would be installed would not be expected to affect navigable air space. Thus, the proposed project would not result in a change in air traffic patterns including an increase in traffic levels or a change in location that results in substantial safety risks.

XV d - e. The proposed project will not alter traffic patterns or existing roadways. The proposed Regulation 8-53 is not expected to substantially increase traffic hazards or create incompatible uses at or adjacent to facilities serviced by vacuum trucks. No construction activities at existing industrial facilities is expected as a result of the proposed new rule, and, the proposed project is not expected to alter any existing long-term circulation patterns. The proposed project is not expected to require a modification to circulation, thus, no long-term impacts on the traffic circulation system are expected to occur. The proposed project does not involve construction of any roadways, so there would be no increase in roadway design feature that could increase traffic hazards. Emergency access at each affected facility is not expected to be impacted by the proposed project. Further, each affected facility is expected to continue to maintain their existing emergency access gates and will not be impacted by the proposed new rule.

XV f. Operational activities resulting from the proposed new rule is not expected to conflict with policies supporting alternative transportation since the proposed project does not involve or affect alternative transportation modes (e.g. bicycles or buses) because the operational activities related to the proposed project will occur solely in existing industrial, commercial, and institutional areas.

Based upon these considerations, significant transportation/traffic impacts are not expected from the implementation of the proposed Regulation 8-53.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less-than-Significant Impact	No Impact
XVII. 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.

Given the large area covered by the BAAQMD, public utilities are provided by a wide variety of local agencies. The affected facilities have wastewater and storm water treatment facilities and discharge treated wastewater under the requirements of NPDES permits.

Water is supplied to affected facilities 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 maintained within the local jurisdiction.

Discussion of Impacts

XVI a, b, d and e. The vacuum trucks affected by the proposed new rule already exist and are generally operated within the confines of existing industrial facilities. Modifications to existing facilities are not expected as a result of proposed Regulation 8-53. The proposed new rule would not result in the use of any additional water or an increase in any wastewater generated at the affected facilities. No increase in water consumption would be associated with vacuum truck control equipment. Therefore, no impacts on wastewater treatment requirements or wastewater treatment facilities are expected.

XVI c. Vacuum truck operators are expected to comply with the proposed new rule by the use of control and monitoring equipment and improved operating procedures. Therefore, the proposed Regulation 8-53 is not expected to alter the existing drainage or require the construction of new storm water drainage facilities. Nor is the proposed rule expected to create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. Therefore, no significant adverse impacts on storm drainage facilities are expected.

XVI f and g. The proposed new rule would not affect the ability of vacuum truck operators to comply with federal, state, and local statutes and regulations related to solid waste. No significant impacts on waste generation are expected from the proposed new rule, since the proposed Regulation 8-53 would add control equipment to existing vehicles. Adding control equipment to existing vacuum trucks is not expected to create waste while being installed on vacuum trucks. Waste streams handled by vacuum

trucks are not expected to change. Waste streams will be processed similarly as currently, so no significant impact to land disposal facilities would be expected.

The proposed project is not expected to create additional hazardous waste streams. Therefore, no significant impacts to hazardous waste disposal facilities are expected due to the proposed new rule. Facilities are expected to continue to comply with all applicable federal, state, and local statutes and regulations related to solid and hazardous wastes.

Based upon these considerations, significant impacts to utilities and service systems are not expected from the implementation of the proposed Regulation 5-53.

		Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII.	**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?	☐	☐	☐	☑

18. MANDATORY FINDINGS OF SIGNIFICANCE

Discussion of Impacts

XVII a. Proposed Regulation 8-53 does 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 is expected to result in emission reductions from vacuum truck loading operations, thus providing a beneficial air quality impact and improvement in air quality. The construction of additional structures is not expected to be required under the proposed rule. As discussed in Section IV, Biological Resources and Section V, Cultural Resources, no significant adverse impacts are expected to biological or cultural resources.

XVII b-c. The proposed rule is expected to result in emission reductions of organic compounds, including toxic air contaminants and methane, from vacuum truck loading operations, thus providing a beneficial air quality impact through the reduction in ambient ozone concentrations and toxic air contaminants. The proposed rule are part of a long-term plan to bring the Bay Area into compliance with the state ambient air quality standards for ozone, thus reducing the potential health impacts due to ozone exposure. The proposed rule does not have adverse environmental impacts that are limited individually, but cumulatively considerable when considered in conjunction with other regulatory control projects. Proposed Regulation 8-53 is not expected to have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly. No significant adverse environmental impacts are expected.

Chapter 4

References

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