



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

BOARD OF DIRECTORS
REGULAR MEETING
MAY 18, 2011

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

**Questions About
an Agenda Item**

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

Meeting Procedures

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

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

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 WEBCASTED

WEDNESDAY
MAY 18, 2011
9:45 A.M.

BOARD ROOM
7TH FLOOR

CALL TO ORDER

Opening Comments
Roll Call
Pledge of Allegiance

Chairperson, Tom Bates
Clerk of the Boards

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.

CLOSED SESSION

1. **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):

- A.) California Building Industry Association v. Bay Area AQMD, San Francisco Superior Court, Case No. RG 10548693

CONSENT CALENDAR (ITEMS 1 –5)

Staff/Phone (415) 749-

2. Minutes of May 4, 2011

K. Krow/5073
kkrow@baaqmd.gov

3. Board Communications Received from May 4, 2011 through May 17, 2011

J. Broadbent/5052
jbroadbent@baaqmd.gov

A list of communications directed to the Board of Directors received by the Air District from May 4, 2011 through May 17, 2011 if any, will be at each Board Member's place.

4. Quarterly Report of Executive Office and Division Activities

J. Broadbent/5052
jbroadbent@baaqmd.gov

A summary of Board of Directors, Hearing Board and Advisory Council meeting activities for the second quarter is provided for information only. Also included, is a summary of the Executive Office and Division Activities for the months of January – March 2011.

5. Consider Approval of Hiring Recommendation at Step E of Salary Range 124 for the Air Quality Instrument Specialist I Position
J. Broadbent/5052
jbroadbent@baaqmd.gov

The Board of Directors will consider approval of the hiring recommendation at Step E of Salary Range 124 for the Air Quality Instrument Specialist I Position.

6. Consider Establishing a new Job Classification of Air Quality Intern
J. Broadbent/5052
jbroadbent@baaqmd.gov

The Board of Directors will consider establishing a new job classification for Air Quality Intern.

COMMITTEE REPORTS AND RECOMMENDATIONS

7. Report of the **Stationary Source Committee** Meeting of May 5, 2011
CHAIR: G. UILKEMA
J. Broadbent/5052
jbroadbent@baaqmd.gov

8. Report of the **Climate Protection Committee** Meeting of May 16, 2011
CHAIR: J. HOSTERMAN
J. Broadbent/5052
jbroadbent@baaqmd.gov

PRESENTATION

9. Update on the Implementation of the Air District's California Environmental Quality Act (CEQA) Guidelines
J. Broadbent/5052
jbroadbent@baaqmd.gov

The Board of Directors will receive an update on the implementation of the CEQA Guidelines, pursuant to Board direction at the June 2, 2010 meeting to provide the Board with an annual review of the Guidelines' implementation.

PUBLIC HEARING(S)

10. Public Hearing to Consider Adoption of Proposed Regulation 11, Rule 17: Limited Use Stationary Compression Ignition (Diesel) Engines in Agricultural Use; and Certification of a CEQA Environmental Impact Report
H. Hilken/4642
hhilken@baaqmd.gov

The Board of Directors will hold a Public Hearing to Consider Adoption of Proposed Regulation 11, Rule 17: Limited Use Stationary Compression Ignition (Diesel) Engines in Agricultural Use; and Certification of a CEQA Environmental Impact Report.

PRESENTATION

11. Overview of Strategic Facilities Planning for a Joint Regional Agency Co-Location Facility
J. Broadbent/5052
jbroadbent@baaqmd.gov

The Board of Directors will receive an overview of Strategic Facilities Planning for a Joint Regional Agency Co-Location Facility.

CLOSED SESSION

12. **CONFERENCE WITH REAL PROPERTY NEGOTIATOR – (Government Code Section 54956.8)** Pursuant to Government Code Section 54956.8 to confer with real property negotiators to discuss a potential acquisition and/or lease with option to purchase of real property as follows:

Negotiating Parties: Bay Area Air Quality Management District
CB Richard Ellis

Air District Negotiators: Jack P. Broadbent, Executive Officer/APCO
Darin R. Bosch, CBRE Senior Vice President

For Counterparties:

For 1945 Broadway St, Oakland, CA: John Guillory, Northridge Partners (Agent)
For 1221 Broadway St, Oakland, CA: Craig Zodikoff, CresaPartners (Agent)
For 1100 Broadway St, Oakland, CA: Ken Meyersieck, Colliers (Agent)
For 875 Stevenson St, San Francisco, CA: Jim Collins, Shorenstein Realty Services, LP (Agent)
For 390 Main St, San Francisco, CA: John Jenson, Grubb & Ellis (Agent)

Potential Address; Owned by the Corresponding Parties as listed:

1945 Broadway St, Oakland CA: Sears Development Company, to be developed with
Phelps Development and SUDA (Owner)
1221 Broadway St, Oakland CA: The Clorox Company (Owner)
1100 Broadway St, Oakland CA: SKS Investments, LLC (Owner)
875 Stevenson St, San Francisco CA: Shorenstein Realty Services, LP (Owner)
390 Main St, San Francisco, CA: Angelo, Gordon & Co., L.P. Amerimar Enterprises, Inc
and Barnes RHPO Partners, LLC (Joint Venture)

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

13. Report of the Executive Officer/APCO
14. Chairperson's Report
15. Time and Place of Next Meeting – 9:45 A.M. Wednesday, June 1, 2011 – 939 Ellis Streets, San Francisco, CA 94109
16. 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**

MAY 2011

<u>TYPE OF MEETING</u>	<u>DAY</u>	<u>DATE</u>	<u>TIME</u>	<u>ROOM</u>
Advisory Council Meeting	Wednesday	11	9:00 a.m.	Board Room
Joint Policy Committee, MTC Planning Committee, and ABAG Administrative Committee Joint Meeting	Friday	13	10:00 a.m.	MetroCenter Auditorium 101 8 th Street Oakland, CA 94607
Board of Directors Climate Protection Committee <i>(At the Call of the Chair)</i>	Monday	16	9:30 a.m.	4 th Floor Conf. Room
Board of Directors Regular Meeting <i>(Meets 1st & 3rd Wednesday of each Month)</i>	Wednesday	18	9:45 a.m.	Board Room
Board of Directors Budget Hearing <i>(At the Call of the Chair)</i>	Wednesday	18	Immediately following Board Meeting	Board Room
Board of Directors Budget & Finance Committee <i>(At the Call of the Chair)</i>	Wednesday	25	1:00 p.m.	4 th Floor Conf. Room
Board of Directors Executive Committee <i>(At the Call of the Chair)</i>	Thursday	26	9:30 a.m.	4 th Floor Conf. Room
Board of Directors Mobile Source Committee <i>(Meets 4th Thursday each Month)</i> - CANCELLED	Thursday	26	9:30 a.m.	4 th Floor Conf. Room

JUNE 2011

<u>TYPE OF MEETING</u>	<u>DAY</u>	<u>DATE</u>	<u>TIME</u>	<u>ROOM</u>
Board of Directors Regular Meeting <i>(Meets 1st & 3rd Wednesday of each Month)</i>	Wednesday	1	9:45 a.m.	Board Room
Advisory Council Meeting	Wednesday	8	9:00 a.m.	Board Room
Board of Directors Regular Meeting <i>(Meets 1st & 3rd Wednesday of each Month)</i>	Wednesday	15	9:45 a.m.	Board Room
Board of Directors Budget Hearing <i>(At the Call of the Chair)</i>	Wednesday	15	Immediately following Board Meeting	Board Room
Board of Directors Mobile Source Committee <i>(Meets 4th Thursday each Month)</i>	Thursday	23	9:30 a.m.	4 th Floor Conf. Room

JULY 2011

<u>TYPE OF MEETING</u>	<u>DAY</u>	<u>DATE</u>	<u>TIME</u>	<u>ROOM</u>
Board of Directors Regular Meeting <i>(Meets 1st & 3rd Wednesday of each Month)</i>	Wednesday	6	9:45 a.m.	Board Room
Board of Directors Stationary Source Committee <i>(At the Call of the Chair)</i>	Thursday	7	9:30 a.m.	Board Room
Advisory Council Meeting	Wednesday	13	9:00 a.m.	Board Room
Board of Directors Regular Meeting <i>(Meets 1st & 3rd Wednesday of each Month)</i>	Wednesday	20	9:45 a.m.	Board Room
Board of Directors Mobile Source Committee <i>(Meets 4th Thursday each Month)</i>	Thursday	28	9:30 a.m.	4 th Floor Conf. Room

HL – 5/9/11 (8:15 a.m.)
P/Library/Forms/Calendar/Calendar/Moncal

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Tom Bates and Members
of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: May 9, 2011

Re: Board of Directors Draft Meeting Minutes

RECOMMENDED ACTION

Approve attached draft minutes of the Board of Directors Regular Meeting of May 4, 2011.

DISCUSSION

Attached for your review and approval are the draft minutes of the Board of Directors Regular Meeting of May 4, 2011.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Kris Perez Krow
Reviewed by: Rex Sanders

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

Board of Directors Regular Meeting
Wednesday, May 4, 2011
9:45 a.m.

DRAFT MINUTES

CALL TO ORDER: Chairperson Tom Bates called the Regular Meeting to order at 9:48 a.m.

Pledge of Allegiance: Chairperson Bates led the Pledge of Allegiance.

Roll Call:

Present: Chairperson Tom Bates; Vice Chair John Gioia; and Directors Susan Gorin, Carole Groom, Jennifer Hosterman, David Hudson, Carol Klatt, Nate Miley, Mark Ross, James Spring, Gayle B. Uilkema, Brad Wagenknecht and Ken Yeager. Directors John Avalos, Susan Garner, and Eric Mar and arrived after the roll call was taken.

Absent: Secretary Ash Kalra; and Directors Harold Brown, Scott Haggerty, Liz Kniss, Johanna Partin and Shirlee Zane.

PUBLIC COMMENT ON NON-AGENDA MATTERS: Chairperson Bates opened the public comment period and seeing no one came forward to speak, he closed the public comment period at 9:50 a.m.

Chairperson Bates stated that Agenda Item 12, the presentation titled “Legal Framework for the Air District – How Do We Clean the Air?” will be postponed to a later date.

CONSENT CALENDAR (Items 1-6):

- 1. Minutes of the April 6, 2011 Regular Meeting.**
- 2. Board Communications Received from April 6, 2011 through May 3, 2011.**
- 3. District Personnel on Out-of-State Business Travel.**
- 4. Quarterly Report of California Air Resources Board Representative – Honorable Ken Yeager.**
- 5. Set Public Hearing to Consider Proposed Regulation 11, Rule 17; Limited Use Stationary Compression Ignition (Diesel) engines in Agricultural Use; and Certification of a CEQA Environmental Impact Report.**
- 6. Amend Executive Officer / APCO Employment Agreement.**

Board Action: Director Wagenknecht made a motion to approve Consent Calendar Items 1 through 6; Vice Chair Gioia seconded the motion; which carried unanimously without objection.

COMMITTEE REPORTS AND RECOMMENDATIONS

7. Report of the Executive Committee Meeting of April 11, 2011

Chair: Tom Bates

Chairperson Bates reported that the Executive Committee met on Monday, April 11, 2011 and approved the minutes of November 22, 2011.

The Committee received a Quarterly Report from Hearing Board Chair, Tom Dailey, for the fourth quarter of calendar year 2010, and the first quarter of calendar year 2011.

The Committee also received an update from the Joint Policy Committee presented by Ted Droettboom, which reviewed the history and the future direction of the Joint Policy Committee. The Committee recognized Mr. Droettboom's work with the Joint Policy Committee and his upcoming retirement.

The Committee received an update on the Implementation of the Air District's California Environmental Quality Act Guidelines and Community Risk Reduction Plans. Staff outlined the Air District's work with local governments and developers, and the development of standardized mitigation measures. The Committee also received a presentation from the San Francisco Planning Department and discussed San Francisco's Greenhouse Gas Reduction Strategy and Community Risk Reduction Plan.

The Committee heard an update regarding the Air District's Production System Project. Staff and industry training has begun and the Board of Directors will see a demonstration of the technology in the summer. The next meeting of the Executive Committee will be held at the Call of the Chair.

Board Action: Chairperson Bates made a motion to approve the report of the Executive Committee; Director Wagenknecht seconded the motion; which carried unanimously without objection.

8. Report of the Budget and Finance Committee Meeting of April 28, 2011

Chair: Carole Groom

Director Groom reported that the Budget and Finance Committee met on April 28, 2011 without a quorum. The approval of the meeting minutes of March 23, 2011 was delayed until the next meeting.

The Committee received the following three reports:

- A) Third Quarter Financial Report for Fiscal Year Ending (FYE) 2011
- B) Update on Proposed Fee Amendments for FYE 2012
- C) Continued Discussion of FYE 2012 Proposed Air District Budget and Consideration to Recommend Adoption

The Committee discussed the Third Quarter Financial Report for Fiscal Year Ending 2011 including third quarter revenues, expenses, investments and projected year-end fund balances with staff.

The Committee received the update for the Proposed Fee Amendments for Fiscal Year Ending 2012, which was a follow up on a report given at the March 23, 2011 meeting. The proposed fee schedule amendments would increase the fee schedule by 10% and the budgeted fee revenue by 5%.

The Committee discussed the Fiscal Year Ending 2012 Proposed Air District Budget. The Budget document was reviewed, Committee members asked questions, and staff emphasized the Air District's pro-active, balanced, multi-faceted and multi-year approach in responding to budget constraints with personnel costs, expenditures, fees, and reserves. The consensus of the Committee Members present was to recommend the Fiscal Year Ending 2012 Proposed Air District Budget for approval by the Board of Directors.

The next meeting of the Budget and Finance Committee is scheduled for Wednesday, May 25, 2011 at 1:00 p.m.

Board Action: Director Groom made a motion to approve the report and the consensus recommendation of the Budget and Finance Committee Members present at the April 28, 2011 meeting; Director Hudson seconded the motion; which carried unanimously without objection.

9. Report of the Mobile Source Committee Meeting of May 2, 2011

Chair: Scott Haggerty

Director Groom reported that the Mobile Source Committee met on Monday, May 2, 2011 and approved the minutes of March 24, 2011.

The Committee discussed Carl Moyer projects with grant awards over \$100,000, which included 18 projects to replace 41 pieces of off-road equipment and 11 marine engines, with \$3,138,251 in total awards and 33 tons per year of criteria pollutant emissions reductions. The Committee recommends the Board of Directors approve Carl Moyer Program projects with proposed grant awards over \$100,000; and authorize the Executive Officer/APCO to enter into agreements for the recommended projects.

The Committee discussed consideration of approximately \$20 million in California Goods Movement Bond Funding for Bay Area Ports. The Air District has received two applications for shore power projects at ten berths at the Port of Oakland, with two additional berths listed as alternates. Upon approval of the Board of Directors, funded projects will have to comply with a number of requirements during the project implementation period. The Air District receives funding for the administration of these grants through the I-Bond program. The Committee recommends the Board of Directors approve the proposed and alternate I-Bond shore power projects; and authorize the Executive Officer/APCO to enter into agreements for the projects.

The Committee discussed the Air District's participation in the Lawn and Garden Equipment Replacement Project. This program would be similar to the vehicle buyback program. Participants would turn in used gas operated lawn mowers and receive discount vouchers to purchase cordless electric lawn mowers. Staff will issue an RFP to find one or more vendors to implement the program. Approximately 2,000 lawnmowers are expected to be retired through the program.

The Committee recommends the Board of Directors adopt a resolution authorizing the Executive Officer/APCO to accept a grant from the California Air Resources Board of up to \$182,025 and commit the Air District to comply with the program requirements, and to allocate up to \$182,025 in Mobile Source Incentive Funding as matching funds; and to authorize the Executive Officer/APCO to execute all necessary agreements with the California Air Resources Board relating to the Air District's receipt of Lawn and Garden Replacement Project funds for fiscal year ending 2011.

The Committee discussed the allocation of Transportation Fund for Clean Air County Program Manager Expenditures Plans. The Air District received applications from all nine Program Managers. The Committee also discussed allocation of the remaining fiscal year ending 2008 funds for Napa County. There are now sufficient projects to expend this funding.

The Committee recommends the Board of Directors approve the allocation of 2012 Program Manager funds as identified in the staff memo, authorize the Executive Officer/APCO to enter into funding agreements with the County Program Managers for the total funds to be expended in fiscal year ending 2012; and approve the allocation of \$68,020.50 in remaining fiscal year ending 2008 funds to the Napa County Transportation and Planning Agency, and authorize the Executive Officer/APCO to amend the funding agreement with the agency to include the additional allocation.

The next meeting of the Mobile Source Committee will be held at the call of the Chair.

Board Action: Director Groom made a motion to approve the report and recommendations of the Mobile Source Committee; Director Wagenknecht seconded the motion; which carried unanimously without objection.

PUBLIC HEARINGS

10. Public Hearing to Consider Adoption of Proposed Amendments to Air District Regulation 3: Fees, and Approval of Notice of Exemption from California Environmental Quality Act (CEQA).

Brian Bateman, Director of Engineering, presented the staff report. Mr. Bateman explained that fees are amended as part of annual budget preparation. The Air District's fees are regulatory, and the Air District has the authority to assess fees to recover the reasonable costs of regulating stationary sources. The Air District's fee revenue falls short of 100% cost recovery according to the 2011 Cost Recovery and Containment Study prepared by Matrix Consulting Group. For fiscal year ending 2010, fee revenue recovered 62% of costs. The cost recovery gap is filled by county tax revenue. Best Management Practices and other cost cutting measures have helped with the gap. Fees are the largest source of revenue, and property tax is second. In the current fiscal year we will be drawing on reserves to fill the gap. The State subvention of \$1.7 million is currently in the Governor's budget, but that may change before the State budget is finalized.

New regulations and responsibilities present a challenge for the Air District. There are new and more complex federal, state, and District air quality requirements, including measurement of ozone, greenhouse gases, and creation of climate protection programs.

There is a decrease in the revenue expected to come from fees, fines and penalties, grant program and interest.

To address the decrease in revenue streams, the Air District has taken several cost cutting measures including: Reduction in personnel costs due to a vacancy rate of over 10%, and not filling vacant positions; reducing expenditures in all areas, especially capital and service/supplies; and increasing efficiency with use of our new production system. Reserves are needed to fill the gap, and without an increase in fees, reserves will continue to be used. After an initial decrease in 2012, reserves will

increase in 2013 and beyond. Fee increases will maintain reserves at the milestone level set by the Board of Directors.

The percentages of fee increases do not yield an equivalent percentage of increases in cost recovery. The proposed fee increases are designed to increase budgeted fee revenue by 5% (\$1.5 million) from FYE 2011 to FYE 2012. There is a shortfall between FYE 2011 budgeted and actual fee revenue. Fees related to levels of business activity or emissions are decreasing. Less permit applications have been received. Permit revenues are dependent on permits from big energy plants and no permits are expected this coming year. Decreases in emissions based fees are considered to be permanent reductions.

Actual revenue is tracking 4% lower than projected revenue to date, there is a \$1.2 million shortfall projected by end of this fiscal year. Assuming that business activity in FYE 2012 will be the same as it is currently, fee rates will need to be increased by an average of 10% in order to meet budget revenue targets.

The proposed fee increases are not across the board, but have been tailored to look at each fee schedule and the rate of cost recovery for each category. Fee categories with a cost recovery greater than 89% were not changed. There is a 10, 12 or 14% increase on other schedules based on cost recovery.

The proposed fee increases are as follows:

- No change for Schedule M: Major Stationary Source Fees
- 2% increase for Schedule R: Equipment Registration Fees
- New one-time fee of \$129 in Schedule R for low-use agricultural diesel engines with an Alternative Compliance Plan (ACP)
- 10% increase in permit application filing fees and permit renewal processing fees
- 10% increase in fees for ACP's that use Interchangeable Emission Reduction Credits (IERCs)
- For Schedule K: Solid Waste Disposal Sites, create separate fees for waste decomposition and material handling processes (fee neutral)

Typical increases will be approximately \$52 for a dry cleaner, \$ 46 for an auto shop, and \$33 for a backup generator.

The typical increase for a gas station will be \$231. The cost recovery for gas stations is 43%. The emissions potential is very large for gas stations and there is a great deal of staff time spent on gas stations. The Air District has 10 full time field inspectors exclusively assigned to gas stations.

For Title V Federal operating permits, the estimated FYE 2012 renewal fee increases are 4.4 to 7% for the five Bay Area petroleum refineries, with an average of 5.7%. Other Title V facilities have a proposed increase of 0.8 to 13.8%, with an average of 8.9%.

When compared with the South Coast Air District fees, the BAAQMD fee schedule is lower. The South Coast Air District has a cost recovery of 90%.

The process and schedule staff has implemented for the fee increases is as follows:

- February 18, 2011 - Draft fee proposal issued
- March 14, 2011 - Public workshop held
- March 23 and April 28, 2011 - Budget & Finance Committee briefings
- May 4, 2011 - Public hearing to consider adoption, except for fees for non-permitted sources
- June 15, 2011 - Public hearing to consider adoption of fees for non-permitted sources
- July 1, 2011 - Proposed effective date of fee amendments

Mr. Bateman reported that 8 written and 6 verbal public comments were received regarding the proposed fee increases. Almost all comments indicated opposition to the fee increases, mentioning economic downturn and past fee increases and/or compliance costs.

The California Council for Environmental and Economic Balance (CCEEB) also provided written comments. CCEEB echoed that double-digit fee increases are difficult to accept during this economic downturn; recommended establishment of a process to review and implement appropriate cost containment measures from 2011 study; suggested that the Air District review value of discretionary activities and clarify conformance with Proposition 26 requirements. Staff will be meeting with the CCEEB to discuss their recommendations and comments.

Staff recommends that the Board of Directors adopt the proposed amendments to the fee schedule.

Public Comments: Chair Bates opened the public hearing at 10:33 a.m. Janet Whittick, representing CCEEB, stated that they were looking forward to working with the Air District on this issue.

Board Comments:

Director Hosterman was concerned about implementing double-digit increases in this economy; preferred a phase-in approach.

Mr. Broadbent replied that the Air District understands that the economy is sputtering. This set of recommendations is the result of the cost recovery study. Time was tracked, and there are areas where we do not come close to recovering costs. We also have been cutting our spending. Fee increases are part of a larger plan. Vacancies have not been filled, and staff will continue to look at programs and make efforts to contain costs. We reluctantly make this recommendation to increase fees, but we have a shortfall. We need to create certainty for those we regulate. What is a reasonable expectation for cost recovery? Many of our fees are in 40, 50, 60% range, and we need to correct this.

Director Hosterman asked if staff had looked into keeping the increases under double - digits.

Deputy Air Pollution Control Officer Jeff McKay responded that the fee increases realize a net revenue increase of 5%. This recommendation is part of a multi-year approach. Presentations have been given to the Budget and Finance Committee and we are using every tool to keep costs down.

Director Ross stated that businesses need certainty. While no one wants to increase fees, we keep falling behind. We have to set a policy, and have a goal so businesses know what to expect in the future. There is currently no proposed increase for Schedule M fees. So we should consider a one to

two percent increase for this schedule. He expressed a desire to give small gas service station owners a break.

Mr. Bateman stated while there is no proposed increase on refineries this year, fees were increased 5% last year, and 15% the year before. We have been aggressive in the past on that fee schedule.

Director Sperring was concerned about a double digit increase and asked what the target percentage for cost recovery is. Small businesses will see cumulative impact of fee increases, there is tremendous costs for these businesses to comply. The phased approach is beneficial as it has the ability to adjust as things change.

Mr. Broadbent stated that it was appropriate to include comments and concerns as part of the budget discussion. The cost containment study has over 50 recommendations that have value and will produce savings, and those will be discussed with the Budget and Finance Committee. Results will take some time.

Director Wagenknecht reinforced the idea of robustness while going through cost containment methods. CCEEB has offered to help and that will be a good resource.

Director Gorin asked how fees have increased in the past and suggested that small regular fee increases be built in, to avoid huge increases in any one year. All agencies are looking at cost recovery issues.

Director Hudson commented on the presentation slide which showed cost recovery increasing from 62% to 67%, and felt that was an important indicator. He wants to focus on the service the Air District provides, cleaning up the air. He did not feel 14% was excessive, and felt that the Board has to make decisions of the direction the cost recovery should go. Cost recovery is needed.

Director Groom noted that she is the Chair of the Budget and Finance Committee, and she and the Committee have looked at the cost recovery issues at several meetings. The Air District is not filling vacancies, including vacancies in Enforcement. The Committee has reviewed these increases, and discussed the burdens to businesses at length. The Committee has made this recommendation because the overall fiscal health of this agency is at risk. We have a long term plan and this is just one piece of it. The Committee struggled with the fact that small businesses are being asked to pay more.

Director Garner supported the comments of the other Board members. She wanted a minimal fee increase, up to 2%, to be considered for refineries, that may off-set the burden to smaller businesses. She supports the Air District being fiscally solvent.

Director Uilkema acknowledged that California Unified Program Agency (CUPA) fees have gone up, and businesses are also impacted by those rising costs. Contra Costa County has a number of refineries that are greatly impacted by the fee increases from all sources. One complaint is that increases are unpredictable. It is preferred to have staged increases, set for several years in advance, to assist businesses plan for the future. The Executive Committee should look at this, in addition to the Budget and Finance Committee. Director Uilkema would like this referred to both Committees. She suggested that the Board create a defined goal regarding the cost recovery rate and to use a careful approach in how this is done.

Director Avalos noted that the Air District has a mission to carry out its functions to protect public health. Director Avalos asked about the trend of property tax revenues, since 34% of Air District revenues are coming from this source, and asked about the Air District's reserve policy

Mr. McKay responded that property tax remains flat and Staff has not projected any change in that.

Mr. Broadbent stated that the increases would help stabilize the organization. The Air District is dependent on EPA and State money that can be pulled; we are never really certain about these funds. If those funds do get pulled Staff will go back to Committee. Without this plan of proposed increases, severe cuts would occur and impact our mission; as well as cutting into reserves.

Director Avalos supports the Staff recommendation and acknowledged the impacts that fee increases have on small business.

Director Yeager inquired about penalties if the Air District fails to meet federally mandated regulations because of cuts in personnel and budget; are they financial penalties and who pays those fines.

Mr. Broadbent responded that penalties that are imposed by the EPA are complex. There are many requirements as we are the implementing agency for the Clean Air Act.

District Counsel Brian Bunger answered that if the Air District fails to meet the federal requirements, federal funding is not available. Highway funds can be frozen and there are examples of where this has happened.

Director Yeager wants the Board to remember why we do this, that no one like to increase fees, but the Air District is charged with certain responsibilities and those requirements are greater.

Board Action: Director Wagenknecht moved to adopt the proposed Amendments to Air District Regulation 3: Fees, and to approve the Notice of Exemption from California Environmental Quality Act (CEQA); additionally he moved that cost recovery goals, a phasing plan for future fee increases, and cost containment implementation be discussed by both the Budget and Finance Committee and the Executive Committee. The motion was seconded by Director Uilkema.

Board comments continued with the motion on the floor. Director Gorin supported the wording added to the motion that addressed the comments made by the Board today.

Director Ross stated that he supported the staff recommendation, with the exception of a zero increase in Schedule M fees. We put in a production system this year to help the people we serve.

Mr. Broadbent stated that the refineries do not get off without fee increases. There is integrity involved in the cost recovery process. The Board can later direct Staff to pursue full cost recovery for refineries and that is a reasonable goal.

Director Gioia commented on the staff report, stating that fees are going up using methodology that is based on cost recovery. These fee increases are not across the board; there are greater fee increases for categories where cost recovery is lower. The total effect of all the fee increases is a 5% increase in revenue. There are a lot of repercussions if we cannot implement our programs. The fee comparison between BAAQMD and the South Coast Air District was good, we want to stay lower.

Chair Bates said there had been no opposition and there has been very little public response.

Chair Bates stated that there was a motion on the floor that had been moved and second, and called for a roll call vote.

Ayes: Gioia, Avalos, Garner, Gorin, Groom, Hosterman, Hudson, Klatt, Mar, Miley, Ross, Uilkema, Wagenknecht, Yeager, Bates

Noes: Spering

Absent: Kalra, Brown, Haggerty, Kniss, Partin, Zane

The motion passed with a majority vote.

11. Public Hearing to Consider Adoption of Proposed Amendments to Regulation 9, Rule 7: Nitrogen Oxides (NOx) and Carbon Monoxide from Industrial, Institutional and Commercial Boilers, Steam Generators; and to Regulation 1: General Provisions and Definitions; and to Consider Approval of an Addendum to the 2008 CEQA Negative Declaration for Regulation 9 – 7.

Julian Elliot, Senior Air Quality Engineer presented the staff report.

Mr. Elliot gave background information about Regulation 9-7, which generally applies to boilers, steam generators and process heaters. Slides showing different size boilers were shown to the Board.

Small heaters such as residential water heaters are not subject to this rule, and neither are refinery heaters or power plant boilers that have more specific regulations. Regulation 9-7 applies to both existing and new devices.

The 2008 Amendments to Regulation 9-7 updated NOx limits for new and existing heaters subject to the rule and added new NOx limits for new and existing, natural gas-fired heaters rated >2 to <10 MM BTU/hr. There were added energy efficiency measures to reduce GHG emissions (insulation, stack gas temperature limits). The result was significant. NOx emissions were reduced by 3.2 ton/day. Operator registration and manufacturer certification programs were created for natural gas-fired devices rated >2 to <10 MM BTU/hr. Equipment registration has provided a low-cost mechanism for managing data on heater operators. Certification partially shifts burden of complying with new NOx standards from operators to manufacturers beginning 1/1/2011.

All these are regulations are going now into effect. However, consumers are not able buy a compliant devise as manufacturers have not certified. Operators have been unable to find compliant equipment.

Compliance Dates for Small, Natural Gas-Fired Heaters (NOx limits for All Devices, Certification for New Devices)			
Heat Input (MM BTU/hr)	2008 Amendment Effective Dates	2011 Proposal	
		Certification (New Devices)	NOx Limits (All Devices)
>2 to 5	1/1/2011	1/1/2012	1/1/2013
>5 to <10	1/1/2012	1/1/2012	1/1/2013

Above are the dates initially scheduled for compliance and the proposed dates that allow more time to accomplish compliance with the Regulation. Staff proposes to simplify Regulation 9-7 certification process and allow more methods to establish compliance for certification; and to simplify the certification application. There are some minor corrections and clarifications needed on Regulation 9-7. Language regarding registration for non-permitted devices would be amended on Regulation 1 to be more precise.

Staff has participated in manufacturer training sessions, met with municipal engineering staff, and participated in other forums to explain the new requirements. Staff mailed compliance advisories and requested comments on draft rule from heater operators, manufacturers, industry groups and others. Staff has undertaken an extensive inspection and outreach program to evaluate compliance with rule and to ensure that rule is understood by operators and manufacturers.

Twelve comments were received regarding the draft rule, and are listed in the staff report. Comments were incorporated as appropriate. The final proposal was published on April 4, 2011, and included the proposed amendments to Regulation 9-7, Regulation 1, the 2011 Addendum to 2008 CEQA Negative Declaration and the 2011 Addendum to 2008 Socioeconomic Analysis. No comments have been received.

Public Comments: Chair Bates opened the public hearing.

Mr. Gordon Judd, from NRG Energy Center SF spoke to the Board about his operation. His company operates large boilers, and a steam plant at 5th & Market. He noted that the low fuel usage exemption has been removed from the Regulation, and would like the Regulation to allow the low fuel exemption boilers to qualify as a retrofit.

Mr. James Gotterba, of Alzeta Corporation, commented that a majority of boilers will be retrofit, and burner manufacturers will be gearing up to comply. He would like to see the Air District proceed with the original compliance schedule.

Mr. Elliott responded to Mr. Judd's comments stating that the altered final draft did show the low fuel exemption is allowed, and that those pieces of equipment will be counted as compliant devices.

Mr. Broadbent responded to Mr. Gotterba's comments stating that the Staff carefully considered the changes to the Regulation and that the extension was practical and fair. The schedule is as aggressive

as it can be. We recognize that Alzeta is a leader in this area and they have available equipment to comply now, however, we still need to allow more time.

Director Wagenknecht complimented Staff's work on this Regulation.

Board Action: Director Wagenknecht moved to adopt the Proposed Amendments to Regulation 9, Rule 7: Nitrogen Oxides (NOx) and Carbon Monoxide from Industrial, Institutional and Commercial Boilers, Steam Generators; and to Regulation 1: General Provisions and Definitions; and to Approve an Addendum to the 2008 CEQA Negative Declaration for Regulation 9 – 7. The motion was seconded by Director Uilkema and passed unanimously without objection.

CLOSED SESSION

13. Conference with Labor Negotiators

Chair Bates adjourned the meeting into a closed session at 11:45 a.m.

OPEN SESSION

The meeting was reconvened at 11:55 a.m. There was no reportable action from the Closed Session.

PUBLIC COMMENT ON NON-AGENDA MATTERS

There was no public comment.

BOARD MEMBERS' COMMENTS

Director Uilkema stated that tomorrow is the Stationary Source Committee meeting.

OTHER BUSINESS

14. Report of the Executive Officer/APCO

Mr. Broadbent reported that the Spare the Air season began on May 1, 2011. He also stated that he will have more information to share with the Board about the Air District's proposed relocation at the next meeting.

15. Chairperson's Report

The Legislative Committee Meeting scheduled for May 9, 2011 and the Mobile Source Committee Meeting scheduled for May 26, 2011 have been cancelled.

The Air District received the 2011 Clean Air Award for Public Health from Breathe California.

16. Time and Place of Next Meeting: Wednesday, May 18, 2011, 9:45 a.m. at 939 Ellis Street, San Francisco, CA 94109.

17. Adjournment: Chair Bates adjourned the meeting at 12:02 p.m.

Kris Perez Krow
Clerk of the Boards

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Memorandum

To: Chairperson Tom Bates and Members
of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: May 9, 2011

Re: Board Communications Received from May 4, 2011 through May 17, 2011

RECOMMENDED ACTION

None; receive and file.

DISCUSSION

A list of communications directed to the Board of Directors received by the Air District from May 4, 2011 through May 17, 2011 if any, will be at each Board Member's place at the May 18, 2011 Board meeting.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Maricela Martinez
Reviewed by: Rex Sanders

Memorandum

To: Chairperson Brad Wagenknecht and Members
of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: May 6, 2011

Re: Report of Division Activities for the Months of January 2011-March 2011

ADMINISTRATION – J. COLBOURN, DIRECTOR**Human Resources Office**

The Human Resources (HR) Office coordinated five recruitment exams including exams for Air Quality Chemist, Air Quality Instrument Specialist, Clerk of the Boards, Executive Secretary and Hearing Board Member (Public Member). In addition, the HR Office conducted training sessions, including: Leadership Development Program Focus Group Session; Production System Trainings in coordination with ISS; and LCW Labor Law Training. Furthermore, the HR Office is managing the design, development and delivery of training for the new Production System. The HR Office continues to administer payroll, benefits, safety, and labor/employee relations. The HR Office continues to monitor the security of the Air District and draft security protocols in handling and reporting threatening/harassing communications. There are currently 327 regular employees, 8 temporary employees and 36 vacant positions. There were 9 employee separations from January to March 2011.

The Business Office

The Business Office completed the acquisition of the 1st of 5 Nissan Leafs and has installed four 220V charging stations in two of the parking garages at the Air District.

The Finance Office

The Finance department worked on FYE 2012 budget in Q1. The budget has been submitted to the Board for consideration for adoption in Q2.

The Strategic Facility Planning Office

On February 7, 2011, a boiler leak on the roof occurred, subsequently water spread down the hallway walls, carpeting and ladies bathrooms on the 6th and 7th floors. The portions of the hallways affected by the leak were cordoned off for safety purposes. Reconstruction work on the 6th and 7th floors and the boiler repair work has been successfully completed.

Joint Regional Agency Co-location Project:

The MTC Commission approved the awarding of the Real Estate Broker contract for Transactional services to CB Richard Ellis at its January 26, 2011, meeting.

The Air District has continued to work with MTC, and ABAG on this project. The objective of the project as you know is to identify viable real estate options in Oakland and San Francisco within close proximity to major forms of public transportation for the co-location of the Agencies. BCDC has expressed interest in joining the project. On March 14, 2011, CB Richard Ellis (CBRE) distributed, via email and a dedicated webpage (www.cbre.com/regionalfacility) a Request for Proposal (RFP) to owners, developers, brokerage firm regional leadership and other interested parties throughout the Bay Area. The RFP details the required criteria for an acquisition to create a Joint Regional Agency Co-location Facility.

The closing date for submittal of proposals was April 1, 2011. CBRE will review and conducted initial assessments of all proposals. The analysis will compare from both a quantitative and qualitative viewpoint; utilizing established evaluation criteria methods.

Next Steps will include the review and initial assessment of all proposals submitted and conduct due diligent to confirm the merits of any proposal received. CBRE will provide a presentation to each of the three agencies governing board for consideration in May 2011.

COMPLIANCE AND ENFORCEMENT – K. WEE, DIRECTOR**Enforcement Program**

Staff reviewed and commented on the Lehigh Southwest Cement Company Fugitive Dust Control Plan, which was part of its proposed Title V Permit Renewal that went out for Public Comment on January 21, 2011. This Dust Control Plan will help prevent excessive particulate matter emissions and prevent future violations. On January 10, 2011 gasoline bulk terminal and bulk plant inspection and monitoring plans that detail how these facilities demonstrate compliance with federal, state, and Air District gasoline vapor recovery requirements where either approved or sent back the facilities to correct minor deficiencies. On February 15, 2011 Cargill, Inc. notified the Air District and the Federal EPA of its intent to file a law suit against Sims Metal, a metal recycler in Redwood City doing business next to Cargill property for violations of the Federal Clean Air Act. The Air District is investigating the allegations of excessive particulate matter emissions and particulate fallout on Cargill's salt ponds. The Air District received 118,005 calls to the 1-877-4NO-BURN line and 890 alleged complaints regarding wood burning. Staff mailed out 205 informational packets to residences who received complaints regarding wood burning. The Air District issued 2 *Winter Spare the Air Alerts (WSTA)* on January 6, 2011 and January 17, 2011 resulting in 19 Warning Letters and 1 Notice of Violation. On February 16, 2011 staff attended the inaugural EPA California Environmental Enforcement Roundtable Forum (CEERF) to discuss coordinating activities and investigations with participating agencies. On March 23, 2011 staff met with the Environmental Justice Air Quality Coalition (EJAQC) in San Francisco to discuss improvements to the air pollution complaint process.

Compliance Assurance Program

Over 700 mobile source inspections were conducted for the Drayage Truck Regulation, the Commercial Idling ATCM and the Portable Engine Registration Program (PERP). On January 19-20, 2011, staff attended the CAPCOA Vapor Recovery Meeting in Sacramento and received an update from ARB on the implementation of the state-wide enforcement relating to gasoline vapor recovery. Staff surveyed 30 dry cleaning facilities operating perchloroethylene dry cleaning machines under compliance agreements to ensure the facilities have phased out, or are working towards phasing out, this toxic air contaminant.

Compliance Assistance Program

Staff surveyed over 380 facilities which may be subject to the boiler rule (Regulation 9-7). Regulated small boilers were found at various facilities including local municipality buildings, school districts, hotels, commercial and larger residential buildings, wineries, food preparation/processing facilities, airports, biotech R & D facilities and amusement parks/sports stadiums. Written compliance assistance materials, including information about the registration deadline and proposed rule amendment were provided to the regulated sources. Staff continued compliance assistance to retailers regarding the solid fuel labeling requirements in the Wood Smoke Regulation. On March 30, 2011, staff attended the Napa County Farmer's Bureau farm safety seminar in Saint Helena to present outreach on Regulation 5: Open Burning requirements for vineyards and orchards. The presentations were conducted in Spanish and English. Compliance Advisories were sent to manufacturers, distributors, sellers and users of architectural coatings regarding new VOC limits and container labeling requirements (Regulation 8-3); to owners and operators of boilers, steam generators and process heaters regarding new emission limits, operational requirements and registration requirements (Regulation 9-7); to manufacturers of boilers, steam generators and process heaters regarding new emission limits and certification requirements (Regulation 9-7); to solid fuel manufacturers and providers regarding an interim alternative compliance option for the solid fuel labeling requirements (Regulation 6-3); and to owners or operators of semiconductor operations that use fluorinated gases or heat transfer fluids regarding emission standards, administrative requirements, and compliance dates (AB32).

Operations

Staff approved 12 Marsh Management Smoke Management Plans (SMP) for burn projects in Solano County and 1 Naturally Occurring Asbestos Dust Mitigation Plan. Staff completed the data verification and posting of flare monitoring data through January 2011. Non-English languages translated for District staff were Spanish, Mandarin, Cantonese, Gujarati, Russian, Tagalog and Vietnamese.

(See Attachment for Activities by County)

ENGINEERING DIVISION – B. BATEMAN, DIRECTOR
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Permit Systems Program

In the first quarter of 2011, 278 new permit applications were received: 224 standard New Source Review applications, 40 Gasoline Dispensing Facility applications, 9 Title V applications, and 5 Banking applications. During this period, the Engineering Division issued 130 Authorities to Construct and 347 Permits to Operate. Additional permit activity follows.

Permit Activity – 1st Quarter 2011			
Annual update packages started	1,005	Permits to Operate issued (new and modified)	347
Annual update packages completed	1,233	Exemptions	12
Total update pages entered	1,523	Authorities to Construct denied	0
New applications received	278	New Companies added to DataBank during the 1 st quarter 2011	88
Authorities to Construct issued	130		

Toxics Program

A total of 78 Health Risk Screening Analyses (HRSAs) were completed during the 4th quarter of 2010. The majority of these HRSAs were for diesel engine emergency generators, gasoline stations, and soil vapor extraction projects.

Staff continued work assessing health risks from the Lehigh Southwest Cement Company (unincorporated Cupertino) under the Air Toxics Hot Spots Program. Lehigh has submitted a revised Health Risk Assessment (HRA) and, the HRA is being reviewed by District staff and Cal/EPA's Office of Environmental Health Hazard Assessment (OEHHA). Lehigh has committed to implementing air pollution controls and process modifications that will reduce mercury emissions by approximately 65% by May 2011. In addition, the facility has indicated that they intend to achieve early compliance with the amended Portland Cement NESHAP (National Emission Standard for Hazard Air Pollutants) that will require additional equipment and/or process modifications to reduce mercury emissions by approximately 90% overall by 2013.

Engineering Division staff continued to provide assistance for implementation of the District's updated CEQA guidelines and thresholds of significance. Staff conducted a CEQA Cumulative Risk Analysis for the Oakley Generating Station (Oakley).

Title V Program

The Title V permit renewal for the Tesoro refinery was recently provided to EPA for review. The public comment periods for the Title V permit renewals for the Shell, Chevron, and ConocoPhillips refineries have been completed, and these permits are being prepared for EPA review. The second public comment period for the Lehigh Southwest Cement Company's Title V permit renewal was completed in the first quarter of 2011.

Twenty sets of public comments were received, and staff is currently preparing responses to these comments.

Tesla Motors Inc. submitted an application for an amendment to their Title V permit. The application is related to removal of twenty-eight (28) sources and subsequent modification of applicable permit conditions. This is first of a series of applications that Tesla plans to submit before starting production of vehicles at the former New United Motor Manufacturing Inc. (NUMMI) facility.

Staff contacted 43 Bay Area permitted facilities regarding potential Title V permitting requirements due to EPA's Greenhouse Gas (GHG) Tailoring Rule. Applications for Title V permits are expected from at least five of these facilities before the July 1, 2011 deadline. The majority of the other facilities will likely be submitting applications for Synthetic Minor Operating Permits that would establish enforceable conditions to limit GHG emissions below the 100,000 ton per year CO₂ major source threshold.

Permit Evaluation Program

Staff issued the Final Determination of Compliance (FDOC) for the Oakley Generating Station (Oakley) in January 2011. This proposed 624-megawatt natural-gas fired power plant consists of two gas turbines and one steam turbine in a combined-cycle configuration. Staff testified at the California Energy Commission (CEC) Evidentiary Hearing on March 15, 2011. The District is awaiting CEC approval of the project before issuing the Authority to Construct (ATC).

Staff also participated in CEC Evidentiary Hearings in February and March 2011 for the proposed 200-MW Mariposa Energy Project (Eastern Alameda County), a "peaking" power plant consisting of four simple-cycle gas turbines. The CEC will consider approval of the project at a meeting on May 18, 2011.

On November 18, 2010, the Air District renewed the ATC for the Russell City Energy Center (Hayward). On February 3, 2011, the District's Hearing Board dismissed an appeal of the renewed ATC.

The CEC amended the Conditions of Certification for the Los Esteros Critical Energy Facility (San Jose) Phase II project (to convert the existing simple cycle plant to a more efficient combined cycle plant) on February 2, 2011, incorporating updated Best Available Control Technology requirements recommended by the District. The District issued the renewal of the ATC for this project on February 16, 2011. The District's Hearing Board has scheduled a public hearing to consider an appeal filed on the renewal of this ATC.

The Valero Benicia Refinery's two new abated CO Boilers at the Fluidized Catalytic Cracking and Coker units were started up in February 2011. This project provided significant emission reductions of NO_x and SO₂.

Lehigh Southwest Cement Company submitted an application in January for the use of an activated carbon injection system to abate mercury emissions at their cement kiln. The permit is expected to be issued and the controls put in place in May 2011.

Following receipt of an Air District-issued compliance advisory in November 2010, most gasoline bulk terminals have submitted permit applications for installing back pressure monitors at their gasoline truck loading racks to comply with requirements in District Regulation 8-33. Chevron's three bulk terminals and Shell's two bulk terminals have completed the backpressure monitoring installation projects. Five other terminals also submitted the applications for their backpressure monitoring installation projects, and the application evaluations are being finalized.

Engineering Projects Program

Staff continues to participate in the Production System database conversion project. Staff completed the third round of Beta testing, and finalized designs for eight source-specific forms including landfill, semiconductor, and polyester resin.

Staff completed the 2011 Federal Emission Offset Equivalence Demonstration Report, and the 2010 Report to the California Air Resources Board on Interchangeable Emission Reduction Credits.

Staff completed draft language for amendments to the Air District's permit rules including Regulation 2, Rule 2. A public workshop for the draft amendments is expected to be held in the 3rd quarter of 2011.

The 3rd annual Flare Minimization Plan Updates for the five refineries were formally approved by the District on January 17, 2011. Engineering Division staff provided support to the Compliance and Enforcement Division throughout the review and approval process.

LEGAL DIVISION – B. BUNGER, DISTRICT COUNSEL

The Air District Counsel's Office received 109 violations reflected in Notices of Violation (NOVs) for processing.

Mutual Settlement Program staff initiated settlement discussions regarding civil penalties for 90 violations reflected in NOVs. Settlement negotiations resulted in collection of \$42,375 in civil penalties for 42 violations reflected in NOVs.

Counsel in the Air District Counsel's Office initiated settlement discussions regarding civil penalties for 37 violations reflected in NOVs. Settlement negotiations by counsel resulted in collection of \$438,550 in civil penalties for 93 violations reflected in NOVs.

(See Attachment for Penalties by County)

COMMUNICATIONS AND OUTREACH – L. FASANO**News Releases**

The Air District issued 12 press releases and/or media advisories during the last quarter:
(to view press control key and click link)

- 1/4/2011 [Air District asks public to voluntarily not burn wood](#)
- 1/5/2011 [Winter Spare the Air Alert in Effect for Thursday, January 6](#)
- 1/16/2011 [Winter Spare the Air Alert in effect for Monday, January 17](#)
- 1/20/2011 [Air District seeks public input on Lehigh permit renewal](#)
- 2/2/2011 [Air District gives electric vehicle infrastructure \\$3.9 million boost](#)
- 2/2/2011 [Air District Awards \\$5 Million for Shore Power Projects at the Port of Oakland](#)
- 2/8/2011 [Air District and Air Resources Board host “one-stop” diesel truck workshops](#)
- 2/15/2011 [Bay Area Air District, UC Berkeley and Toyota partner to test Prius Plug-In Hybrid](#)
- 3/1/2011 [Permissive burn period opens for marsh management fires](#)
- 3/2/2011 [Winter Spare the Air season comes to a close](#)
- 3/2/2011 [Air District offering \\$8 million to reduce pollution from diesel trucks](#)
- 3/17/11 [Air District continues to monitor radiation levels](#)

Media Inquiries

Staff responded to a number of media inquiries during this quarter, topics included:

- Winter Spare the Air (*San Francisco Chronicle, KNTV, TVHS, Environmental Health News, Contra Costa Times*)
- Lehigh Cement (*San Francisco Chronicle, NBC 11, Los Altos Town Crier*)
- Gas Pump Regulations (*Santa Rosa Press Democrat*)
- Bike Sharing (*Potrero View California Home and Design*)
- Vehicle idling (*KTSF, KRON*)
- Agricultural burning (*Napa Valley Register*)
- Richmond air quality (*Richmondconfidential.org*)
- Building Industry Association lawsuit over CEQA (*Contra Costa Times*)
- CEQA Workshops (*Oakland North, Daily Californian*)
- Valero Emissions (*Benicia Herald, KTVU*)
- Shoreside power grants (*Bay City News*)
- Electric Vehicle Charging Stations (*Bay City News, Associated Press, Santa Rosa Press Democrat, San Francisco Chronicle, KGO Radio, California Energy Markets, Solve Climate News, KTSF, Smallbizchicago.com*)
- Toyota Prius Plug-In demonstration program (*KTSF, Channel 26, KCBS, KLIV, KPIX, KNBC, New Tang Dynasty TV, Bay City News, Fuel & Fleet Magazine, Sing Tao Daily, World Journal, Mercury News, Contra Costa Times*)
- Truck Workshops (*KPIX, KCBS, Bay City News, KTSF*)
- Conoco Phillips (*KQED*)
- Asbestos (*Action Alameda News*)

- Radiation from Japanese Power Plants (*CNN, KRON 4, KTVU, NBC and several others*)

Media Highlights

Below are highlights of media coverage of the Air District over the last quarter: (to view press control key and click link)

1/3/2011	Bay Area Air Quality Management District on patrol	San Francisco Chronicle
1/4/2011	California Supreme Court refuses to review no-burn rule for Bay Area	Contra Costa Times
1/6/2011	Spare the air on KGO-SF (ABC) - San Francisco, CA	ABC 7 News at 11PM (News)
1/12/2011	Spare the Air raises quality of life for all	Napa Valley Register
1/12/2011	It's a Gas, Gas, Gas	Patch
1/26/2011	Council grills area's largest smell generators	Milpitas Post (appeared in multiple publications)
1/28/2011	Contra Costa refinery accidents decline in past decade	Contra Costa Times
2/2/2011	Funding approved for bicycle parking	Golden Gate Xpress
2/02/2011	Electric Vehicles on KTVU-SF (FOX) - San Francisco, CA	KTVU 5 PM News
2/3/2011	Electric vehicle recharging stations get funding	SF Chronicle
2/4/2011	Air District grants \$9 million to reduce emissions	San Jose Mercury News
2/9/2011	Workshop set on truck clean engine rules and funding	San Jose Mercury News
2/15/2011	Bay Area Air Quality on KPIX-SF (CBS) - San Francisco, CA	CBS 5 Eyewitness News
2/16/2011	San Jose test driving new Prius	KLIV.com
2/19/2011	Valero refinery in Benicia prepares for restart	Vallejo Times-Herald
2/26/2011	New air quality guidelines get mixed response	San Francisco Chronicle (Also appeared in Oakland North Blog)
3/7/2011	Winter 'Spare the Air' ends	Sonoma Index-Tribune
3/10/2011	Editor's Inbox: Spare the Air Ruins San Carlos Man's Christmas	SFist
3/15/2011	Bay Area Air Quality on KTVU-SF (FOX) - San Francisco, CA	KTVU Morning News Early Edition
3/16/2011	EPA deploys more radiation monitors to the West Coast	Mercury News (<i>appeared in multiple publications</i>)
3/23/2011	Queen of the Road: 1-800-EXHAUST	Contra Costa Times
3/22/2011	East Contra Costa welcomes power plants in their backyard	Inside Bay Area

3/18/2011

[Bay Area Air Quality on WABC-AM \(ABC\) - New York, NY](#) (Radiation monitoring)

WABC AM

Media Events

Toyota Prius Plug-In Media Event

The Air District held a press conference at San Jose City Hall along with partners Toyota Motors, UC Berkeley and the City of San Jose to announce the kick-off of a Bay Area-wide Toyota Prius Plug-In demonstration program on Tuesday, February 15.

Two plug-in hybrid vehicles are currently available through the Air District for selected users to drive for two-month periods to capture real-world driving data, demonstrate the viability of plug-in hybrid technology and educate the public about the technology prior to the car being made publicly available in 2012.

The event was well covered by the members of the media, including: KTSF, Channel 26, KCBS, KLIV, KPIX, KNTV, New Tang Dynasty Television, Bay City News, Fuel & Fleet Magazine, Sing Tao Daily, and World Journal.

Publications

Regulation 9, Rule 7 Boiler Rule Factsheet

Staff assisted Enforcement Division writing and designing a factsheet for Air District Regulation 9, Rule 7 *Boiler Rule*. The factsheet focuses on how the regulation affects boilers throughout the Bay Area.

Bay Area Monitor

The January 2011 issue of the League of Women Voters Bay Area Monitor Newsletter featured an article, written in consultation with District staff entitled “Pedaling into the Future” and featured the Air District’s bikesharing grant program.

The Bay Area monitor has a circulation of about 4,000 subscribers. The articles can be viewed online at <http://www.bayareamonitor.org/>.

Radiation Monitoring Web Page

Staff developed a web page with information about radiation monitoring in response to public concern about the nuclear reactor incidents in Japan. Advisories with links to this page were posted on all pages of the Air District’s website and on the Spare the Air home page.

Public Information Campaigns

Winter Spare the Air

The Winter Spare the Air season concluded on Monday, February 28. The Air District issued a total of four Winter Spare the Air Alerts this season.

Nearly 103,000 Bay Area residents are signed up for email AirAlerts, 17,636 receive phone alerts and 213,368 calls were placed to the 877-4-NO BURN line to check the daily burn status. Air District survey data preliminary results indicate that 20 percent of Bay

Area households reduced their wood burning because of the Winter Spare the Air program and 76 percent of respondents indicated that they supported the Wood Burning Rule.

Spare the Air

Planning for the 2011 Summer Spare the Air campaign began during this quarter. This summer marks the 20th anniversary of the Spare the Air Program. Staff is working with contractors to develop strategies and coordinate with other related campaigns such as the Employer Program and 800-EXHAUST. A new Spare the Air logo will be unveiled this season and included on all advertising and collateral materials.

Employer Program Leadership Committee

Staff hosted a meeting of the Employer Program Leadership Committee on March 15. The committee discussed the results from an employer survey conducted by the District and began planning for the program.

Smoking Vehicle Assistance Program

Focus groups were conducted with members of the public to evaluate proposed advertising for the new 800-EXHAUST advertising campaign. The new campaign will launch this spring and continue throughout the summer.

Capitol Public Radio

The Director of Communications and Outreach met with CAPCOA representatives to discuss a potential partnership with Capitol Public Radio on March 30.

Community Outreach

Regulation 11, Rule 17: Limited Use Stationary Compression Ignition (Diesel) Engines in Agricultural Use Public Workshop – Staff assisted with the Regulation 11, Rule 17: Limited Use Stationary Compression Ignition (Diesel) Engines in Agricultural Use public workshop in Napa on January 10, 2011. Staff provided information on the Air District's various grant programs, distributed informational material, and was on-hand to answer general questions about the Air District.

West Oakland Particulate Matter/Metals Study Meeting – Staff participated in a meeting with Custom Alloy Scrap Sales (CASS), the Port of Oakland and local community residents on January 13, 2011 in West Oakland. Staff presented an analysis of a year's worth of ambient air monitoring PM and metals data around CASS facility. Community members complimented the Air District and CASS for efforts to improve air quality.

Climate Initiatives School and Youth Outreach Program – Staff participated in interviews with potential bidders for the Climate Initiatives School and Youth Outreach Program administered by the Metropolitan Transportation Commission and the Air District. Staff also participated in the final review of the proposals submitted in response to the Request for Proposal (RFP) for the MTC/Air District Climate Initiatives School and Youth Outreach Program.

Shell Refinery Tour – On January 20, 2011, Communication and Outreach staff participated in a tour of the Shell Refinery in Martinez. Staff observed Shell's control

room operations, learned about Shell's community response actions, and met Shell's public affairs staff. Staff also learned about Shell's new external website and received information on their Community Advisory Panel.

State of the Valley Conference – Staff attended and sponsored the State of the Valley Conference at the San Jose Convention Center in San Jose on February 18, 2011.

ABAG Public Engagement Seminar – Staff attended a Public Engagement Seminar on February 28, 2011 posted by the Davenport Institute at the public policy school at Pepperdine University. The seminar focused on public engagement strategies, techniques and best practices.

Language Services Hotline – Staff launched a language services phone line to receive requests for language assistance at upcoming public meetings hosted by the Air District. The phone line operates in Spanish, Cantonese, Mandarin, Vietnamese and Tagalog. This project is a follow-up to recommendations made in the *Limited English Proficiency Assessment* published by the Air District in November 2010.

CEQA Workshops – Staff provided support to the Planning Division at the February 22, 2011 and March 3, 2011 CEQA workshops in Santa Rosa and Mountain View.

San Jose Community Risk Reduction Plan (CRRP) – Staff attended the CRRP community meeting at San Jose City Hall on February 24, 2011, and March 24, 2011 in San Jose. The meeting included an introduction and overview to the San Jose CRRP.

Cadette Girl Scout Troop 61148 – Staff provided an overview of the Air District and the Spare the Air program to Cadette Girl Scout Troop 61148 on March 2, 2011 in Santa Clara.

Simultaneous Interpretation Services – Staff conduct a test of simultaneous interpretation services in Spanish at the March 3, 2011 Public Outreach Committee meeting. This project is a follow-up to recommendations made in the *Limited English Proficiency Assessment* published by the District in November 2010.

Community Grant Program – Staff received final reports from the five grantees who received a community grant award from the Air District in 2010. All projects concluded successfully. Projects included asthma, diesel and climate education efforts.

San Francisco State University – Staff gave a presentation on outdoor air quality to San Francisco State University undergraduate students. Staff discussed the wood burning regulation, CARE program, CEQA Guidelines, Grants programs and the Spare the Air program.

Language Access Meeting – Staff met with the Title VI implementation team at the Valley Transit Authority regarding the VTA's Limited English Proficiency regional workgroup.

Spanish Language Web Portal – COO staff is working with ISS to develop a Spanish language component to the District's website. The portal will contain select translated materials and is expected to be online by late spring 2011.

Email List System Management – COO staff continued to work with ISS on the design and implementation of a new email list management system, connect.baaqmd.gov, for members of the public. Implementation is expected to be complete in 3rd quarter 2011.

MTC Climate Program – The COO Director participated in focus groups for the development of MTC's One Bay Area climate program.

San Francisco Citywide Revival - Staff announced the Air District's support of the expansion of a mobile asthma clinic, the Breathmobile, to elementary schools in Bayview Hunters Point and introduced Dr. Washington Burns with the Prescott Joseph Center for Community Enhancement to speak about the Breathmobile. The San Francisco Citywide Revival is an annual convening of Baptist churches in Bayview Hunters Point that features a health fair for community members. The Air District has been a major sponsor of the health fair for the past three years. Approximately 800 congregants participated.

Public Engagement Policy and Plan - Communications and Outreach staff kicked off the development of the Public Engagement Policy and Plan with Kearns and West, the Public Engagement Policy and Plan contractor on March 29, 2011. In the weeks to come Kearns and West will create a work plan to execute the Public Engagement Policy and Plan to be completed in October.

Event Training – Staff conducted two training sessions for internal staff on working outreach events, such as festivals and fairs. A total of 30 internal staff attended. Staff reviewed educational materials and key program messages. Staff also conducted two training sessions for inspection field staff at the Richmond and Hayward offices.

Meetings

Staff met with Bay Area organizations to discuss air quality, community concerns and partnerships. These organizations include:

- Bay Area Environmental Health Collaborative
- Delta Diablo Sanitation District
- Napa County Clean Air Coalition
- Bayview Hunters Point NGO
- Bayview Hunters Point Health and Environmental Resources Center
- Environmental Justice Air Quality Coalition
- Hunters View Neighborhood
- Contra Costa County Zoning Administration
- Dublin City Council
- Greenaction
- American Lung Association

Resource Teams

The Air District and contractors facilitated meetings of the following Air District teams during the reporting period.

- Sonoma County Air Quality Resource Team Meeting
- Santa Clara County Resource Team Meeting
- San Mateo County Resource Team Meeting
- San Jose Green Vision Resource Team
- Spare the Air Employer Program Leadership Committee

Community Events

Staff represented the Air District and hosted informational booths at the following community events:

Contra Costa County: St. Patrick's Day Festival, Saturday/Sunday, March 12 – 13, 2011
Civic Center, Dublin

San Francisco County: Sunday Streets Kick-Off, Sunday, March 13, 2011
The Embarcadero, San Francisco

PLANNING DIVISION – H. HILKEN, DIRECTOR

CARE Program

Staff continued meetings and conference calls with San Jose and San Francisco staff to develop the pilot Community Risk Reduction Plans (CRRPs). Staff continued working with consultants to develop the detailed local emissions inventories to support the CEQA Guidelines and CRRPs. Staff continued assisting with implementing the CEQA Guidelines by reviewing CEQA documents, responding to information requests, and refining screening tables. Staff participated in two community workshops hosted by the City of San Jose to discuss the CEQA Guidelines and the CRRP. Staff reported final results of the year-long air monitoring study near Custom Alloy Scrap Sales at a community meeting in West Oakland. Staff worked with UC Berkeley and Desert Research Institute to develop collaborative projects to conduct local air quality studies with the District's mobile sampling van and to conduct modeling of air quality near freeways. Staff presented at and participated in a seminar sponsored by the Regional Asthma Management Program (RAMP) which focused on incorporating public health considerations and indicators in the SB 375 process.

Air Quality Planning Program

Staff continued implementation of the CEQA Guidelines through meetings with staff from local jurisdictions, presentations to various organizations, and responding to questions and data requests. Staff also hosted a series of workshops on implementation of the CEQA Guidelines targeted to local lead agencies and stakeholders. In addition, staff is tracking the use of the CEQA Guidelines by lead agencies, responding to numerous inquiries from local government staff and drafting comment letters for projects subject to the CEQA thresholds. Staff provided CEQA comment letters to the following lead agencies: the City

of Fairfield on the Fairfield Train Station Specific Plan DEIR and Solano County on the Climate Action Plan. Staff made presentations on the CEQA Guidelines at two workshops hosted by Alameda County supervisors Haggerty and Lockyer, at a Federal Housing and Urban Development conference, and to the Alameda County Transportation Commission.

Staff continued hosting monthly meetings of the regional agency Air Quality/Priority Development Area (PDA) Working Group in order to anticipate and resolve air quality issues related to PDAs and the upcoming Sustainable Communities Strategy (SCS). Staff continued to participate in monthly meetings of the Regional Advisory Working Group, convened to provide input and guidance to regional agency staff in developing the SCS under SB 375. Staff participated in regular meetings of regional agency committees working on issues related to the development of the SCS, including the Housing Methodology Committee and the Inter-Agency Modeling Committee. Staff worked with MTC staff to develop PM_{2.5} performance targets for MTC to use in evaluating the alternatives scenarios for the RTP/SCS. Staff continued to collaborate with City of San Jose and City/County of San Francisco staff on the development of Community Risk Reduction Plans (CRRPs), and on efforts to quantify the effectiveness of potential mitigation measures to reduce toxic emissions and public exposure. Staff presented at a Station Area Plan (SAP) Workshop on the process of incorporating risk and hazard analysis into the planning documents for SAP's. Staff continued to participate in MTC's PM 2.5 Air Quality Conformity Task Force meetings. Staff presented the 2010 Clean Air Plan and the Multi-Pollutant Evaluation Method to the Advisory Council. Staff assisted numerous municipalities with the development of local climate action plans, including the cities of Oakland, San Ramon, East Palo Alto, Pleasanton and Mountain View, and Solano County.

Research and Modeling Program

Staff hosted a Modeling Advisory Committee meeting and presented results from the ongoing particulate matter (PM) modeling and data analysis effort. Staff participated in several statewide PM SIP Coordination Group conference calls organized by ARB. Staff conducted a preliminary PM simulation using 2015 projected emissions inventory. Staff completed the preparation of the 2015 toxics modeling report. Staff prepared PM filter samples and sent them to the University of Arizona for carbon-14 analysis to assess the contribution of wood burning PM on Bay Area total PM. Staff continued to work with Pennsylvania State University to evaluate the Weather Research and Forecasting (WRF) model performance for the Bay Area. Staff continued evaluating the CMAQ model's performance with meteorological fields prepared using the WRF model. Staff continued to work with a District contractor to establish a meteorological measurement tower at Patterson Pass. Staff participated in conference calls with staff from Yolo-Solano APCD and San Luis Obispo APCD to discuss the District's modeling and data analysis program for winter PM. Staff assisted Coordinating Research Council staff in reviewing proposals to assess impacts of light-duty on-road emission reductions on ozone and PM in four US cities. Staff assisted in the design and preparation of Requests for Proposals for two CCOS/CRPAQS projects to estimate NO_x emissions from soil and improve meteorological model performance for poor air quality conditions. Staff provided

AERMOD modeling guidance to several consultants and responded to several public requests for aerometric data.

Rule Development Program

A Request for Comment on proposed amendments to Regulation 9, Rule 7: Nitrogen Oxides and Carbon Monoxide from Industrial, Institutional and Commercial Boilers, Steam Generators and Process Heaters was published on March 17, 2011. A public hearing on these amendments before the Board of Directors is scheduled for May 4, 2011. A series of nine workshops were conducted throughout the District in January, 2011 to discuss proposed new rule Regulation 11, Rule 17: Limited Use Stationary Compression Ignition (Diesel) Engines in Agricultural Use, which will provide alternative compliance dates to the CARB Air Toxics Control Measure for these engines. A CEQA draft Environmental Impact Report was posted on March 18, 2011 for a 45 day comment period. A public hearing on the new rule is scheduled for May 18, 2011. In addition to the workshops, staff has contacted, and made presentations on the proposed rule to, various agricultural associations, including the Agricultural Commissioner's office of each county, each county's Farm Bureau, the California Poultry Association, Livermore Valley Wine Growers Association, Napa Grape Growers Association, Sonoma County Grape Growers Association, Suisun Valley Grape Growers Association, and the Western United Dairyman's Association.

STRATEGIC INCENTIVES – D. BREEN, DIRECTOR

Goods Movement Program (GMP)

As of March 31, 2011, the following activities had been completed in the GMP:

- GMP staff opened the California Goods Movement Bond (I-Bond) Year 2 truck solicitation, via its new online application system.
- GMP Staff also opened a project solicitation for \$20 million in funding for shore-power and cargo-handling equipment projects.

Carl Moyer Program (CMP)

Staff completed the CMP funding cycle for Year 12, and stopped accepting applications for this cycle on March 15, 2011.

Mobile Source Incentive Fund (MSIF)

Staff issued contracts for a Board of Directors (Board) approved shore power allocation of \$5 million in MSIF, for electrification of three ship berths at the Port of Oakland.

Transportation Fund for Clean Air (TFCA) Program

Staff undertook the following activities under the TFCA program:

- **Regional Bike Share Pilot:** Staff continued to work with partners, including San Francisco MTA, Santa Clara VTA, Redwood City, and the County of San Mateo, to develop the pilot program. This entailed developing an Interagency Agreement that provides the basis for regional partnerships; securing needed approvals from Caltrans and MTC to proceed with project work; and developing a Request for Proposals for program implementation.
- **EV Charging Equipment Deployment Program:** The Air District accepted an invitation to join the California Plug-in Electric Vehicle Collaborative, and to chair its Government Coordination and Incentives committee.
- **County Program Manager:**
 - Director and staff met with representatives of all five TFCA Program Manager agencies that will receive DMV revenues pursuant to successful SB 83 ballot measures, to discuss to discuss coordination among funding sources. These counties are Alameda, Marin, San Francisco, San Mateo, and Santa Clara.
 - Staff completed a review of all FY10/11 Program Manager projects. The 57 projects analyzed have an aggregate estimated cost-effectiveness of \$18,600 per weighted ton well within the \$90,000 per ton of emissions reduced cap for the program.

Lower Emission School Bus Program (LESBP)

The Division released a call for projects for approximately \$8 million, for the replacement of 1993 and older public school buses, and the retrofit of 1987 and newer in-use diesel school buses. Grant applications will be accepted through 4 pm, Friday, April 29, 2011.

Grant Development

The Division continued to seek new funding, including submitting the following:

- Two proposals to the U.S. EPA's National Clean Diesel Funding Assistance Program. One proposal was for \$3 million to replace 108 model-year 2003 and older on-road, heavy-duty trucks with model-year 2007 and newer trucks. A second proposal was for \$3 million to replace 43 school buses and retrofit another 83 school buses.
- A proposal to the U.S. EPA's National Clean Diesel Emerging Technologies Funding Assistance Program for \$1.5 million to replace conventional diesel engines on two rubber-tired gantry cranes with diesel electric hybrid technology.
- A proposal to Caltrans under their Transportation Planning Grant – Environmental Justice Program to continue work on the CRRPs in San Francisco and San Jose

Outreach

Staff engaged in outreach and stakeholder engagement throughout the quarter. Highlights include the following:

- Staff hosted the first CALSTART Hybrid Vehicle Incentive Program (HVIP) workshop at its Headquarters.
- Staff hosted a meeting of the TFCA Program Manager / Air District Work Group, and presented and discussed program priorities.
- Staff attended the East Bay Clean Cities Coalition Annual Clean Champion Awards/Stakeholder's Meeting in Pleasanton. At this meeting, Air District staff was recognized for its contributions to clean air advocacy.
- Staff participated in the Clean Tech Legislative Summit Program in San Jose, hosted by Mayor Chuck Reed, City of San Jose, Silicon Valley Leadership Group and Joint Venture Silicon Valley.
- The Air District's Executive Officer participated in a press conference to announce the Air District's participation in a Bay Area-wide Toyota Prius Plug-In Hybrid demonstration and research program in partnership with Toyota, the University of California, Berkeley, and the City of San Jose.
- Staff held a public workshop for potential shore power applicants.
- Staff hosted ARB One-Stop Truck Events at College of Alameda and at the San Mateo County Event Center that provided local truckers an opportunity to learn about ARB regulations and incentive funding opportunities, and to talk to vendors and finance companies.
- Director presented on the Air District's Electrical Vehicle Infrastructure Incentive Program at, and staff attended, the 2011 Plug-in and Electric Vehicle Showcase in Napa, sponsored by the East Bay Clean Cities Coalition and NorCal Northern Nevada Chapter of the National Association of Fleet Administrators.
- Staff held a Project Evaluation Workshop for County Program Managers and their project sponsors, with 21 attendees.
- Staff held eight application help sessions at the Hayward outreach center for applicants that have questions on the GMP or the online application process for truck projects.
- Staff presented an update on truck funding opportunities to the Port of Oakland Truckers Working Group.
- Staff conducted the mandatory annual vendor and dealer training session for certified (contracted) GMP new truck and retrofit companies participating in the program.
- GMP staff participated in Spare the Air outreach training with the Communications & Outreach Office.
- Director presented on the Air District's Electrical Vehicle Infrastructure Incentive Program at the Golden Gate Electrical Vehicle Association's members meeting.

- Staff participated in an informational exchange about incentives for electric vehicles with a delegation from the South Korean Environment Corporation.

TECHNICAL DIVISION – E. STEVENSON, DIRECTOR**Air Quality**

During the first quarter of 2011, there were no exceedances of the 35 $\mu\text{g}/\text{m}^3$ national 24-hr $\text{PM}_{2.5}$ standard. This compares with five days over the standard in the first quarter of 2010. The decrease was due to the lack of a prolonged storm-free period in early 2011. In 2010, there was a dry, stagnant 10-day period just after January 1, 2011 which resulted in four days exceeding the standard.

The Wintertime Spare the Air program began on November 1, 2010 and ended on February 28, 2011. For the 2010-11 winter season, the $\text{PM}_{2.5}$ standard was exceeded on one day compared to nine days in the winter of 2009-10 and there were four Spare the Air Alerts issued compared to seven last winter. The decrease in the number of days exceeding the national $\text{PM}_{2.5}$ standard and the number of Spare the Air Alerts is likely due to more wet and windy weather this winter. Additionally, the lack of prolonged stagnant periods during the peak of the season (Dec-Jan) also prevented $\text{PM}_{2.5}$ from building-up over multiple days.

Air Monitoring

23 air monitoring stations were operational from January through March 2011, with all equipment operating on routine, EPA-mandated schedules. The increased wintertime sampling schedule for $\text{PM}_{2.5}$ began at designated stations on October 1, 2010 and ended on March 31, 2011. Ozone monitors at four satellite stations were shut down during the low ozone season on December 1, 2010, as allowed under a waiver granted by the EPA, and began operation starting April 1, 2011.

New instrumentation began operating in March at the Redwood City and Livermore monitoring sites with the potential to provide information on wood smoke contributions to $\text{PM}_{2.5}$.

A three-month study began on November 3, 2010 in cooperation with the Planning Division to evaluate $\text{PM}_{2.5}$ composition at five monitoring locations in Napa, Vallejo, Concord, San Francisco & Livermore and was completed on January 31, 2011.

Meteorology and Forecasting

The fourth quarter 2010-air quality data were quality assured and entered into the U.S. EPA Air Quality System (AQS) database and certification of 2010 data is nearing completion. Staff continued to make daily air quality, Spare the Air, open burn, and marsh burn forecasts and worked with Communications and Outreach to call voluntary Winter Spare the Air Alerts to limit $\text{PM}_{2.5}$ build up during applicable meteorological conditions. Staff gave a presentation on Spare the Air forecasting to UC Berkeley engineering students and did another presentation on Burn Day Forecasting at the annual Bay Area Fire Weather Cooperatives meeting at San Jose State University.

Performance Evaluation

The Performance Evaluation Group (PEG) conducted regular, mandated performance audits on 66 analyzers at 13 District Air Monitoring Stations during January, February and March of 2011. Ground Level Monitoring (GLM) audits of Hydrogen Sulfide (H₂S) and Sulfur Dioxide (SO₂) monitors were conducted on the GLM monitors in the vicinities of the Valero, Tesoro, and Chevron refineries. All 10 of the GLM locations tested met the District's performance criteria.

PEG was assigned the responsibility of maintaining the District's meteorology network. The network currently consists of 22 sites throughout the District. The PE Group will be calibrating, auditing, trouble-shooting and maintaining the sensors, data loggers, and modems at all District meteorology sites.

The PE Group calibrated an ozone analyzer/generator for Dr. John Balmes of the Human Exposure Lab, University of California, San Francisco; a division of Occupational and Environmental Medicine. The Human Exposure Lab is located at S.F. General Hospital.

Laboratory

In addition to routine ongoing analyses, one cleaning solvent from Safety Kleen Systems, Inc. Rohnert Park was analyzed for volatile methyl siloxanes in support of the Permit Evaluation Program.

Two particulate filter samples taken from the FCCU main stack regenerator of Valero Refining Company, Benicia during the upset of December 2010 were analyzed for metals.

As of March 1, 2011 the laboratory has begun sole analysis of filter samples from the new Cupertino Air Monitoring site for metals using the new X-ray Fluorescence Spectrometer.

Source Test

Ongoing Source Test activities during January, February, and March of 2011 included Continuous Emissions Monitoring (CEM) Field Accuracy Tests, source tests, gasoline cargo tank testing, and evaluations of tests conducted by outside contractors. The ConocoPhillips Rodeo Refinery's open path monitor monthly reports for December, January, and February were reviewed. The Source Test Section continued its participation in the Air District's Rule Development efforts and the new Production System.

STATISTICS

Administrative Services:**Accounting/Purchasing/Comm.**

General Checks Issued	1,342
Purchase Orders Issued	425
Checks/Credit Cards Processed	2,451
Contracts Completed	40
RFP's	7

Executive Office:

Meetings Attended	140
Board Meetings Held	4
Committee Meetings Held	13
Advisory Council Meetings Held	3
Hearing Board Meetings Held	3
Variances Received	5

Information Systems

New Installation Completed	4
PC Upgrades Completed	19
Service Calls Completed	809

Human Resources

Manager/Employee Consultation (Hrs.)	300
Management Projects (Hrs.)	400
Employee/Benefit Transaction	500
Training Sessions Conducted	5
Applications Processed	248
Exams Conducted	5
New Hires	4
Payroll Administration (Hrs.)	580
Safety Administration	150
Inquiries (voice/telephone/in-person)	5,000

Strategic Facility /Vehicle

Requests for Facility Services	141
Vehicle Request(s)/Maintenance	60

Compliance Assistance and Operations Program

Asbestos Plans Received	1,089
Coating and other Petitions Evaluated	7
Open Burn notifications Received	707
Prescribed Burn Plans Evaluated	12
Tank/Soil Removal Notifications Received	31
Compliance Assistance Inquiries Received	205
Green Business Reviews	19
Refinery Flare Notifications	116

Compliance Assurance Program

Industrial Inspections Conducted	2,049
Gas Station Inspections Conducted	435
Asbestos Inspections Conducted	560
Open Burning Inspections Conducted	42
PERP Inspections Conducted	40
Mobile Source Inspections	683
Grants Inspections Conducted	124

Engineering Division:

Annual Update Packages Started	1,005
Annual Update Packages Completed	1,233
Total Update Pages Entered	1,523
New Applications Received	278
Authorities to Construct Issued	130
Permits to Operate Issued	347
Exemptions	12
Authorities to Construct Denied	0
New Companies added to Databank during the 1st Quarter 2010	88

Communications and Outreach:

Presentations Made	5
Responses to Media Inquiries	80
Press Releases & Advisories	12
General Requests for Information	500
Events staffed with Air District booth	2
Visitors	0

STATISTICS (continued)

Compliance and Enforcement Division:

Enforcement Program

Violations Resulting in Notices of Violation	128
Violations Resulting in Notice to Comply	28
New Hearing Board Cases Reviewed	6
Reportable Compliance Activity Investigated	131
General Complaints Investigated	638
Smoking vehicle complaints received	1,255
Woodsmoke complaints received	890
Mobile Source Violation	9

Technical Services:

1st Quarter 2011 Ambient Air Monitoring

Days Exceeding Nat'l 24-hour PM _{2.5} Std.....	0
Days Exceeding Nat'l 24-hour PM ₁₀ Std.....	0
Days Exceeding Nat'l 24-hour PM ₁₀ Std.....	0
Days Exceeding the Nat'l 8-hour Ozone Std.....	0
Days Exceeding the State 1-hour Ozone Std.....	0
Days Exceeding the State 8-hour Ozone Std....	0

Ozone Totals, Jan.-Dec. 2011

Days Exceeding Nat'l 8-hour Ozone Std.....	9
Days Exceeding State 1-hour Ozone Std.....	8
Days Exceeding State 8-hour Ozone Std.....	11

Particulate Totals, Jan.-Dec. 2011

Days Exceeding Nat'l 24-hour PM _{2.5} Std.....	6
Days Exceeding the Nat'l 24-hour PM ₁₀ Std....	0
Days Exceeding State 24-hour PM ₁₀ Std.....	2

PM_{2.5} Winter Season Totals for 2010-2011

Days Exceeding Nat'l 24-hour PM _{2.5} Std.....	1
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1st Quarter 2011 Agricultural Burn Days

Jan.-Mar. Permissive Burn Days – North.....	68
Jan.-Mar. No-Burn Days – North.....	22
Jan.-Mar. Permissive Burn Days – South.....	70
Jan.-Mar. No-Burn Days – South.....	20
Jan.-Mar. Permissive Burn Days – Coastal.....	71
Jan.-Mar. No Burn Days – Coastal.....	19

Laboratory

Sample Analyzed.....	1,078
Laboratory Analyses.....	1

Technical Library

Titles Indexed/Cataloged	
Periodicals Received/Routed	

Source Test

Total Source Tests.....	213
Pending Source Tests.....	5
Violation Notices Recommended.....	9
Contractor Source Tests Reviewed.....	3,281

Continuous Emissions Monitoring (CEM)

Indicated Excess Emission Report Eval.....	91
Monthly CEM Reports Reviewed.....	133
Indicated Excesses from CEM.....	39

Ground Level Monitoring (GLM)

Jan.-Mar. Ground Level Monitoring SO ₂ Excess Reports.....	0
Jan.-Mar. Ground Level Monitoring H ₂ S Excess Reports.....	1

These facilities have received one or more Notices of Violations
Report period: January 1, 2011 – March 31, 2011

Alameda County

Status Date	Site #	Site Name	City	Regulation Title
3/22/2011	C5960	Unocal #7176	Dublin	Gasoline Dispensing Facilities
3/30/2011	C0189	Brentwood Station Management	Fremont	Gasoline Dispensing Facilities
3/30/2011	C9247	ConocoPhillips #2705760	Fremont	No Permit to Operate
3/8/2011	C9926	Warm Springs Auto Services Inc	Fremont	Gasoline Dispensing Facilities
3/30/2011	C9849	Foothill Chevron - Bedrock Oil, Inc	Hayward	Gasoline Dispensing Facilities
3/01/2011	C9598	Harder Road Beacon	Hayward	Gasoline Dispensing Facilities
3/01/2011	C8798	Hayward Unified School District	Hayward	Gasoline Dispensing Facilities
3/08/2011	C8815	Mission Chevron	Hayward	Gasoline Dispensing Facilities
3/30/2011	U6190	Molly K. Moreno	Livermore	Open Burning
3/22/2011	C0733	Chevron Stevenson	Newark	Gasoline Dispensing Facilities
3/22/2011	C8866	Alaska Gasoline	Oakland	Gasoline Dispensing Facilities
3/30/2011	C9985	Cresco Equipment Rentals	Pleasanton	Gasoline Dispensing Facilities
3/30/2011	C9255	Ruby Hill Development, Joint Venture	Pleasanton	Gasoline Dispensing Facilities
3/30/2011	C8867	Bayview Shell #136019	San Leandro	Gasoline Dispensing Facilities
3/1/2011	C0693	Foothill Chevron	San Leandro	Gasoline Dispensing Facilities
3/30/2011	C8384	Bedrock Oil	San Lorenzo	Gasoline Dispensing Facilities

Contra Costa County

Status Date	Site #	Site Name	City	Regulation Title
3/22/2011	D0500	Antioch Valero	Antioch	Gasoline Dispensing Facilities
1/11/2011	D0404	Hillcrest 76	Antioch	Gasoline Dispensing Facilities
3/22/2011	C9533	Concord Smog & Gas	Concord	Gasoline Dispensing Facilities
3/22/2011	A0581	ST Shore Terminals LLC	Crockett	Non-compliance, Major Facility Review (Title V)
3/22/2011	C9427	Flex Oil	Martinez	Gasoline Dispensing Facilities
2/17/2011	A0011	Shell Martinez Refinery	Martinez	Standards of Performance for New Stationary Sources; Non-compliance, Major Facility Review (Title V); NOx & CO from Boilers, Steam Generators & Process Heaters in Petroleum Refineries; Sulfur Dioxide; Limitations on Hydrogen Sulfide
3/01/2011	B2758	Tesoro Refining and Marketing Company	Martinez	Standards of Performance for New Stationary Sources; Sulfur Dioxide; Flare Controls at Petroleum Refineries; Storage of Organic Liquids
2/28/2011	U4870	Edward Kluj	Oakley	Open Burning

These facilities have received one or more Notices of Violations
Report period: January 1, 2011 – March 31, 2011
continued

Contra Costa County

Status Date	Site #	Site Name	City	Regulation Title
2/25/2011	A0227	Criterion Catalysts Company LP	Pittsburg	Non-compliance, Major Facility Review (Title V)
3/01/2011	A2482	City of Richmond Water Pollution Control District	Richmond	Public Nuisance
3/01/2011	A0016	ConocoPhillips - San Francisco Refinery	Rodeo	Continuous Emission Monitoring & Recordkeeping Procedures; Non-compliance, Major Facility Review (Title V)

Napa County

Status Date	Site #	Site Name	City	Regulation Title
2/25/2011	U5686	Meadowbrook Farm	Napa	Open Burning
3/01/2011	U5738	Wood Ranch Vineyard	Saint Helena	Open Burning

San Francisco County

Status Date	Site #	Site Name	City	Regulation Title
3/30/2011	C9485	Junipero Serra 76 - Double AA Corp	San Francisco	Gasoline Dispensing Facilities
3/08/2011	C8313	Mission 76	San Francisco	Gasoline Dispensing Facilities
2/17/2011	C9529	Tosco Northwest Company	San Francisco	Gasoline Dispensing Facilities
3/30/2011	C0805	Valero SS#7959	San Francisco	Gasoline Dispensing Facilities; Failure to Meet Permit Conditions

San Mateo County

Status Date	Site #	Site Name	City	Regulation Title
3/07/2011	A9155	Holiday Cleaners Belmont	Belmont	No Permit to Operate
3/22/2011	T2703	Beth / Ramon Sanchez	San Carlos	Excessive Visible Wood Smoke Emissions

These facilities have received one or more Notices of Violations
Report period: January 1, 2011 – March 31, 2011
continued

Santa Clara County

Status Date	Site #	Site Name	City	Regulation Title
3/08/2011	C3406	Sunny Oak's Valero	Campbell	Gasoline Dispensing Facilities, Failure to Meet Permit Conditions
3/07/2011	B2012	Brenda's Classic Cleaners	Gilroy	No Permit to Operate
2/24/2011	D0463	The Garlic Farm Center	Gilroy	Gasoline Dispensing Facilities, Failure to Meet Permit Conditions
3/08/2011	D0619	ARCO AM/PM	Morgan Hill	Gasoline Dispensing Facilities
3/30/2011	D0420	Valero Refining Co SS#7528	Mountain View	Gasoline Dispensing Facilities
3/30/2011	C4010	Arco	San Jose	Gasoline Dispensing Facilities
3/30/2011	A4521	Bret Harte Cleaners	San Jose	Perc & Synthetic Solvent Dry Cleaning Operations
3/30/2011	C7942	Chevron #96215	San Jose	Gasoline Dispensing Facilities
3/22/2011	C0402	City Gas	San Jose	Gasoline Dispensing Facilities
3/30/2011	C4171	ConocoPhillips #256429	San Jose	Gasoline Dispensing Facilities
1/11/2011	C6637	East Side Union High School District	San Jose	Gasoline Dispensing Facilities
3/30/2011	C0060	Gas Depot at Winchester	San Jose	Gasoline Dispensing Facilities
3/30/2011	C9810	Montague Valero	San Jose	Gasoline Dispensing Facilities
3/08/2011	C6186	Reco Gas and Minimart	San Jose	Gasoline Dispensing Facilities
2/23/2011	C8552	Satnam Petroleum dba Blossom Val	San Jose	No Permit to Operate; No Authority to Construct

Solano County

Status Date	Site #	Site Name	City	Regulation Title
2/25/2011	B2626	Valero Refining Company - California	Benicia	Public Nuisance; Particulate Matter & Visible Emissions; Equipment Leaks; Wastewater (Oil - Water) Separators

Sonoma County

Status Date	Site #	Site Name	City	Regulation Title
2/25/2011	N0388	Dutton Ranch	Graton	Open Burning
3/22/2011	D0198	Metron Super Gas	Petaluma	Gasoline Dispensing Facilities
2/25/2011	A2254	Sonoma County Department of Public Works	Petaluma	Solid Waste Disposal Sites
1/27/2011	A0869	Redwood Coast Petroleum	Santa Rosa	Gasoline Bulk Terminals and Gasoline Delivery Vehicles
2/25/2011	U5700	Quality Shoots Vineyard Management	Sebastopol	Open Burning
3/07/2011	U5506	SFD	Windsor	Open Burning

These facilities have received one or more Notices of Violations
Report period: January 1, 2011 – March 31, 2011
continued

Out of Area Counties

Status Date	Site #	Site Name	City	Regulation Title
3/30/2011	U6207	Central Marketing Transport LLC	Edinburgh	Commercial Vehicle Idling Citation

**Closed Notice of Violations with Penalties by County
January 2011 – March 2011**

Alameda

Site Name	Site Occurrence	City	Penalty Amount	# of Violations Closed
C & C Drycleaner	B0887	Berkeley	\$250	1
Electro-Coatings of California Inc	A4449	Berkeley	\$1,500	1
El Monte RV Center (Attn: Don Price)	C9608	Dublin	\$1,500	1
Wassim Azizi	N9255	Hayward	\$10,000	4
Printegra	A8885	Livermore	\$1,000	2
Ruby Hill Commercial	D1641	Livermore	\$1,500	2
C Trans Inc.	U2194	Oakland	\$300	1
Due Torri Coffee	B8612	Oakland	\$350	1
Mary's Cleaners	A5957	Oakland	\$250	1
The ReUse People of America (TRP)	U0954	Oakland	\$1,500	1
Bay Fair Unocal 76	C8617	San Leandro	\$500	1

Total Violations Closed: 16

Closed Notice of Violations with Penalties by County
January 2011 – March 2011
continued

Contra Costa

Site Name	Site Occurrence	City	Penalty Amount	# of Violations Closed
Hillcrest 76	D0404	Antioch	\$1,500	1
Denise Lindsay	U2355	Brentwood	\$500	1
ST Shore Terminals LLC	A0581	Crockett	\$108,500	19
GWF Power Systems,LP (Site 2)	A3244	Pittsburg	\$10,000	1
Keller Canyon Landfill Company	A4618	Pittsburg	\$6,500	3
Los Medanos Energy Center	B1866	Pittsburg	\$3,000	1
West Contra Costa County Landfill	A1840	Richmond	\$6,250	3
ConocoPhillips - San Francisco Refinery	A0016	Rodeo	\$125,050	18

Total Violations Closed: 47

Marin County

Site Name	Site Occurrence	City	Penalty Amount	# of Violations Closed
Unocal SS #7380	C7948	Mill Valley	\$1,500	1

Total Violations Closed: 1

Closed Notice of Violations with Penalties by County
January 2011 – March 2011
continued

San Francisco

Site Name	Site Occurrence	City	Penalty Amount	# of Violations Closed
BAE Systems San Francisco Ship Repair Inc	A3288	San Francisco	\$27,000	5
Intercity Metro Cleaners	A5847	San Francisco	\$250	1
National Center for International Schools	B7774	San Francisco	\$250	1
Tosco Northwest Company	C9529	San Francisco	\$1,000	1

Total Violations Closed: 8

San Mateo

Site Name	Site Occurrence	City	Penalty Amount	# of Violations Closed
Gas Recovery Systems, Inc	B1668	Menlo Park	\$2,500	1
Membrane Technology & Research Inc	B1092	Menlo Park	\$1,500	2
Beth / Ramon Sanchez	T2703	San Carlos	\$400	1
United Parcel Service	C6044	South San Francisco	\$1,000	1

Total Violations Closed: 5

**Closed Notice of Violations with Penalties by County
January 2011 – March 2011
continued**

Santa Clara

Site Name	Site Occurrence	City	Penalty Amount	# of Violations Closed
Metcalfe Energy Center	B2183	Coyote	\$4,000	2
Coast Oil Company, LLC	A2981	Gilroy	\$1,000	3
Diamond Tank Lines	G6387	Milpitas	\$1,000	1
Flextronics International, USA Inc	A7441	Milpitas	\$1,000	1
CA Air National Guard	A9477	Moffett Field	\$1,000	1
R&M Properties	U0954	Palo Alto	\$2,500	2
Bret Harte Cleaners	A4521	San Jose	\$250	1
West San Carlos Gas	D0021	San Jose	\$450	2
S J Valley Plating Inc	A5079	Santa Clara	\$1,500	1

Total Violations Closed: 14

**Closed Notice of Violations with Penalties by County
January 2011 – March 2011
continued**

Solano

Site Name	Site Occurrence	City	Penalty Amount	# of Violations Closed
Fast & Easy Mart	C9662	Benicia	\$325	1
Valero Benicia Asphalt Plant	A0901	Benicia	\$16,000	5
Valero Refining Company - California	B2626	Benicia	\$100,500	23
Nexeo Solutions, LLC	A7618	Fairfield	\$16,000	1
Sunpol Resins & Polymers, Inc	A5167	Fairfield	\$5,000	2
B B C	C5247	Vallejo	\$1,000	1

Total Violations Closed: 33

Closed Notice of Violations with Penalties by County
January 2011 – March 2011
continued

Sonoma

Site Name	Site Occurrence	City	Penalty Amount	# of Violations Closed
Mr. Paul Lewis	T9786	Petaluma	\$500	1
Goode Printing & Mailing	B6205	Rohnert Park	\$2,500	1
Bennett Valley 76 - Attn: Tony	C9076	Santa Rosa	\$500	1
Donaldson Property	B8072	Santa Rosa	\$3,000	1
John Hurley	U1627	Santa Rosa	\$600	1
Santa Rosa Memorial Park	A8598	Santa Rosa	\$500	1

Total Violations Closed: 6

District Wide

Site Name	Site Occurrence	City	Penalty Amount	# of Violations Closed
Greatwide Dedicated Transport LLC	U2191	Dallas	\$300	1
California Multimodal LLC	U2193	Long Beach	\$300	1
MCM Construction Inc	U2192	North Highlands	\$300	1
United Van Lines	U2839	Fenton	\$300	1
KAG West, LLC	N1032	West Sacramento	\$5,250	1

Total Violations Closed: 5

ACRONYMS AND TERMINOLOGY

ABAG	Association of Bay Area Governments
AC	Authority to Construct issued to build a facility (permit)
AMBIENT	The surrounding local air
AQI	Air Quality Index
ARB	[California] Air Resources Board
ATCM	Airborne Toxic Control Measure
BAAQMD	Bay Area Air Quality Management District
BACT	Best Available Control Technology
BANKING	Applications to deposit or withdraw emission reduction credits
BAR	[California] Bureau of Automotive Repair
BARCT	Best Available Retrofit Control Technology
BIODIESEL	A fuel or additive for diesel engines that is made from soybean oil or recycled vegetable oils and tallow. B100=100% biodiesel; B20=20% biodiesel blended with 80% conventional diesel
BTU	British Thermal Units (measure of heat output)
CAA	[Federal] Clean Air Act
CAL EPA	California Air Resources Board
CCAA	California Clean Air Act [of 1988]
CCCTA	Contra Costa County Transportation Authority
CEQA	California Environmental Quality Act
CFCs	Chlorofluorocarbons
CMA	Congestion Management Agency
CMAQ	Congestion Management Air Quality [Improvement Program]
CMP	Congestion Management Program
CNG	Compressed Natural Gas
CO	Carbon monoxide
EBTR	Employer-based trip reduction
EJ	Environmental Justice
EIR	Environmental Impact Report
EPA	[United States] Environmental Protection Agency
EV	Electric Vehicle
HC	Hydrocarbons
HOV	High-occupancy vehicle lanes (carpool lanes)
hp	Horsepower
I&M	[Motor Vehicle] Inspection & Maintenance ("Smog Check" program)
ILEV	Inherently Low Emission Vehicle
JPB	[Peninsula Corridor] Joint Powers Board
LAVTA	Livermore-Amador Valley Transit Authority ("Wheels")
LEV	Low Emission Vehicle
LNG	Liquefied Natural Gas
MPG	Miles Per Gallon
MTC	Metropolitan Transportation Commission

NAAQS	National Ambient Air Quality Standards (federal standards)
NO _x	Nitrogen oxides, or oxides of nitrogen
NPOC	Non-Precursor Organic Compounds
NSR	New Source Review
O ₃	Ozone
PM _{2.5}	Particulate matter less than 2.5 microns
PM ₁₀	Particulate matter (dust) less than 10 microns
PM _{>10}	Particulate matter (dust) over 10 microns
POC	Precursor Organic Compounds
pphm	Parts per hundred million
ppm	Parts per million
PUC	Public Utilities Commission
RFG	Reformulated gasoline
ROG	Reactive organic gases (photochemically reactive organic compounds)
RIDES	RIDES for Bay Area Commuters
RTP	Regional Transportation Plan
RVP	Reid vapor pressure (measure of gasoline volatility)
SCAQMD	South Coast [Los Angeles area] Air Quality Management District
SIP	State Implementation Plan (prepared for <i>national</i> air quality standards)
SO ₂	Sulfur Dioxide
TAC	Toxic Air Contaminant
TCM	Transportation Control Measure
TFCA	Transportation Fund for Clean Air [BAAQMD]
TIP	Transportation Improvement Program
TMA	Transportation Management Association
TOS	Traffic Operations System
tpd	tons per day
Ug/m ³	micrograms per cubic meter
ULEV	Ultra low emission vehicle
ULSD	Ultra low sulfur diesel
USC	United States Code
UV	Ultraviolet
VMT	Vehicle miles traveled (usually per <i>day</i> , in a defined area)
VTA	Santa Clara Valley Transportation Authority
ZEV	Zero Emission Vehicle

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Memorandum

To: Chairperson, Tom Bates and
Members of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: April 29, 2011

Re: Consider Approval of Hiring Recommendation at Step E of Salary Range 124 for
the Air Quality Instrument Specialist I Position

RECOMMENDED ACTION

Approve hiring recommendation at Step E of Salary Range 124 for the Air Quality Instrument Specialist I position.

BACKGROUND

The recruitment and selection process for the Air Quality Instrument Specialist I position has been completed. Division III, Section 6.4 of the Air District's Administrative Code and Section 7.04 of the Memorandum of Understanding between the Air District and the Employees' Association states that a recommendation by the APCO and approval of the Board of Directors is required for the hiring of employees at Step E.

DISCUSSION

The District has the opportunity to hire an excellent internal candidate for this position. In order to offer a salary more commensurate with the internal candidate's current salary, staff is recommending approval to offer the position of Air Quality Instrument Specialist I at Step E of Salary Range 124.

BUDGET CONSIDERATION/FINANCIAL IMPACT

The salary for the Air Quality Instrument Specialist I position at Step E is \$71,857.98 per year. There is no additional financial impact beyond that contemplated in the current budget.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Jason Jimenez
Reviewed by: Jack M. Colbourn

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Memorandum

To: Chairperson Tom Bates and Members
of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: May 2, 2011

Re: Consider Establishing New Job Classification of Air Quality Intern

RECOMMENDED ACTION

Approve establishing the new job classification of Air Quality Intern.

BACKGROUND

Since 2003, the Air District has had an internship program and has been hiring high school and college interns. Currently, the internship program limits the Air District to recruit only students who have a declared major in chemical, environmental, mechanical, or petroleum engineering. By adding the new job classification, it will enable the Air District to hire interns with other educational majors of study.

Board of Directors approval of the new job classification and the attached draft job description is needed in order for the classification to be added to the job classification system.

DISCUSSION

The Air Quality Intern will perform various air quality work and gain practical work experience while following guidelines and procedures defined by the Division in which they work. The hourly rate of pay for an Air Quality Intern would be equivalent to that of step A of the entry level job classification of the specified series' most closely related to the specific assignment.

BUDGET CONSIDERATION/FINANCIAL IMPACT

There is no financial impact beyond that already contemplated in the FYE 2011 and FYE 2012 budgets.

Respectfully Submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Judy Yu
Reviewed by: Jack M. Colbourn

AIR QUALITY INTERN

DEFINITION

Under close supervision, performs various air quality work. The Intern may be placed in a specific functional area or work in a broad range of areas. The student gains practical work experience while following guidelines and procedures defined by the Division in which they work.

DISTINGUISHING CHARACTERISTICS

This is a temporary training position. The purpose of this job classification is to provide students with an opportunity to apply their education to work and gain practical experience while exposing them to the operations and mission of the District.

EXAMPLES OF DUTIES (Illustrative Only)

Provides support for special studies related to air quality by conducting research, reviewing policies or regulations, collecting and analyzing data and preparing documentation.

Writes reports, summaries, and correspondence subject to review and editing by District staff.

Contacts public agencies, professional organizations, industry representatives, community groups and District staff to obtain or impart information and data.

Summarizes data or information, in written, tabular, and/or graphic form.

Uses a personal computer and a variety of software programs to make calculations, enter and retrieve data, and investigate and update data.

Participates in various public events or meetings.

Conducts research and analysis on proposed policies related to air quality.

Reviews and comments on policies related to air quality.

Assists with the preparation and distribution of printed information, such as advisories, publications, fact sheets, newsletters, or other informational documents.

Reviews, evaluates and processes routine permit applications, recommends issuance or denial.

Responds by telephone and in writing to assignment-related inquiries from the public, industry representatives and District staff.

May make oral presentations.

May make recommendations.

Assists with routine tasks related to the work.

QUALIFICATIONS

Knowledge of:

Fundamental research principles and practices.

Proper business English, punctuation, spelling, and grammatical usage.

Air Quality Intern
DRAFT April 2011
PAGE 2 OF 2

Record-keeping and organizational principles and practices.

Business operations of computer equipment.

Ability to:

Apply principles and practices related to air quality.

Prepare data in written, tabular, and graphic form.

Research applicable District, state and federal laws, rules and regulations.

Read and interpret plans, policies, regulations, and other data.

Write and communicate verbally in a clear and concise manner.

Use a personal computer, particularly word-processing, spreadsheet, and database software, and use the Internet to perform research and prepare documentation.

Maintain accurate records and files.

Follow instructions and guidelines and complete assignments in a timely and efficient manner.

Establish and maintain effective working relationships.

Use tact, discretion, initiative and sound judgment within established guidelines.

Other Requirements:

Specified positions may require that college transcripts be provided. In addition, specific positions may require the possession of a valid California driver's license and meeting the automobile insurability requirements of the District.

Student Qualification Requirements:

Must be continually enrolled in and attending an accredited college or university (summer enrollment is not required).

Must be at or entering the junior, senior, or graduate level of college study with a declared major in engineering, chemistry, environmental science, policy, political science, communications, public relations, public administration or a closely related field.

Must have a grade point average of 2.5 or higher (where 4.0 is the highest GPA).

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Memorandum

To: Chairperson Tom Bates and Members
of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: May 11, 2011

Re: Report of the Stationary Source Committee Meeting of May 5, 2011

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

The Stationary Source Committee met on Thursday, May 5, 2011. The Committee received the following reports and recommendations:

- A) Status Report on Greenhouse Gas Tailoring Rule
- B) Status Report on Proposed Bay Area Power Plants
- C) Advanced Thermal Imaging Camera Technology Utilized in the Compliance Assurance Program

Attached are the staff reports presented in the Stationary Source Committee packet. Chairperson Gayle B. Uilkema 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: Kris Perez Krow
Reviewed by: Rex Sanders

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Memorandum

To: Chairperson Uilkema and Members
of the Stationary Source Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: April 25, 2011

Re: Status Report on Greenhouse Gas Tailoring Rule

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

Section 202(a)(1) of the Federal Clean Air Act (CAA) requires the U.S. Environmental Protection Agency (EPA) to set emissions standards for any air pollutants from motor vehicles which, in EPA's judgment, causes or contributes to air pollution which may reasonably be anticipated to endanger public health or welfare. In 2003, EPA made the determination that it lacked the authority under the CAA to regulate Greenhouse Gases (GHGs) for climate change purposes. This determination was litigated, and in 2005 the U.S. Court of Appeals upheld EPA's decision. The case was later heard by the U.S. Supreme Court (*Massachusetts v. EPA* 549 U.S. 497 (2007)), and in April 2007 the Supreme Court found that GHGs meet the CAA definition of "air pollutant" subject to an EPA determination that GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare.

On December 15, 2009, EPA published their "cause or contribute" and "endangerment" findings for GHGs. This action did not immediately result in GHGs becoming "regulated air pollutants" under the CAA because EPA had previously taken the position that an air pollutant becomes a "regulated air pollutant" on the date that the first adopted EPA rule requires actual control of the pollutant. On April 1, 2010, EPA and the Department of Transportation's National Highway Safety Administration issued the first national rule setting GHG emission standards for 2012 to 2016 model year cars and light duty trucks. The requirements of this rule took effect on January 2, 2011, which is the earliest date that 2012 model year vehicles meeting the standards can be sold in the United States. GHGs therefore officially became "regulated air pollutants" under the CAA on January 2, 2011.

The CAA contains permit requirements for facilities that are "major sources" of regulated air pollutants. There are two permit programs that apply: (1) the Prevention of Significant Deterioration (PSD) program, which requires preconstruction permit review for new major sources and major modifications to existing major sources, including the requirement for use of the Best Available Control Technology (BACT), and (2) the Title V program, which requires detailed operating permits for new and existing "major sources" which specify all applicable air emissions standards and compliance requirements. The CAA defines a "major source" as a facility that has the potential to emit any regulated air pollutant of more than 100 tons per year

(although, for certain types of facilities subject to PSD permit requirements, this applicability threshold is 250 tons per year, rather than 100 tons per year).

Based on the CAA's statutory 100/250 ton per year emissions thresholds for major sources, a very large number of facilities would become subject to CAA permit requirements based on emissions of GHGs. This is because carbon dioxide, the most prevalent GHG, is emitted in much larger quantities than other "conventional" air pollutants. For example, EPA estimated that nationally: (1) more than 40,000 new and modified facilities would be subject to PSD permitting per year based on emissions of GHGs, as compared with 280 PSD permits per year currently based on emissions of other regulated air pollutants, and (2) more than 6 million additional facilities would be subject to Title V permitting based on emissions of GHGs, compared to 11,000 currently based on emissions of other regulated air pollutants. Facilities like schools, hospitals, small farms, and restaurants often have GHG emissions above the CAA 100/250 ton per year thresholds and would become subject to PSD and Title V permit requirements. EPA concluded that these increases in PSD and Title V permits would result in significant administrative burdens that exceed the current capacities of these permit programs, and create significant economic burdens on affected facilities, to an extent that Congress could never have intended. Relying on the legal doctrines of "absurd results" and "administrative necessity", EPA therefore developed an approach to "tailor" the major source thresholds for GHGs to more appropriate levels. The GHG "tailoring rule" was proposed by EPA on September 30, 2009, and was adopted on May 13, 2010.

The EPA tailoring rule indicates that a facility that has a potential to emit GHGs of more than 100,000 tons per year, based on carbon dioxide equivalent emissions (CO₂e), is a major source of GHGs. The rule also indicates that an existing major source that would modify and increase emissions of GHGs by more than 75,000 tons per year CO₂e would be a "major modification" subject to PSD permit requirements. Based on the tailoring rule, EPA estimates that nationally: (1) about 550 facilities will need to obtain Title V permits for the first time due to their GHG emissions, and (2) approximately 900 additional PSD permits per year will be required. The primary industries affected would be power plants, refineries, cement manufacturing facilities, and solid waste landfills, which together account for 70 percent of GHG emissions from stationary source facilities nationally.

In response to a petition for reconsideration filed by the National Alliance of Forest Owners, EPA issued a proposal on March 20, 2011 to defer for a period of three years the PSD and Title V permitting requirements of the tailoring rule for emissions of biogenic carbon dioxide. Biogenic carbon dioxide is emitted from biomass combustion or oxidation from solid waste landfills, waste-to-energy projects, fermentation processes, combustion of renewable fuels, ethanol manufacturing, biodiesel production, and other alternative energy production that uses biomass such as crops or trees. Biogenic carbon dioxide is often considered to be "carbon neutral" because those emissions are naturally offset when the biomass removes an equivalent amount of carbon dioxide from the atmosphere via photosynthesis. EPA has not yet taken final action on this proposal.

EPA established a three step phase-in for the tailoring rule requirements as follows:

- Step 1: which is effective January 2, 2011 for facilities currently subject to PSD or Title V permit programs based on emissions other than GHGs.

- Step 2: which is effective July 1, 2011 for facilities not currently subject to PSD or Title V permit programs, but which exceed tailoring rule GHG emission thresholds.
- Step 3: which is effective no sooner than April 30, 2016, based on an EPA rule to be adopted by the end of 2015, for certain smaller facilities if EPA determines that successful streamlining will adequately reduce burdens associated with permitting these facilities. EPA has indicated that Step 3, if established, will not require permitting for sources with GHG emissions below 50,000 tons per year CO₂e.

Since the adoption of the tailoring rule, EPA has taken actions to: (1) require all state/local air permitting agencies that do not have the legal authority to permit GHGs to receive such authority, or be on a path to have such authority, with EPA serving as the permitting authority in the interim, (2) ensure that existing state/local programs will not inappropriately draw smaller sources not covered by the tailoring rule into PSD and Title V permit programs based on the statutory CAA definition of major source. EPA has also issued guidance to assist permit writers and permit applicants on permit requirements for GHG emissions including how to determine the BACT.

EPA has also recently taken actions that would establish GHG emissions standards under the CAA's New Source Performance Standards (NSPS) program. On December 23, 2010, EPA announced that it had settled litigation with states and environmental groups that sought to compel EPA to establish NSPS for GHG emissions from fossil fuel power plants and petroleum refineries. Under the terms of these settlements, EPA will promulgate proposed NSPS for fossil fuel power plants by July 26, 2011, and final standards by May 26, 2012. Proposed standards for petroleum refineries will be promulgated by December 10, 2011, and final standards by November 10, 2012.

Both settlement agreements commit EPA to issue standards for new and modified facilities. The power plant settlement also commits EPA to issue standards for existing facilities (whether or not the facilities are modified), although these standards will be implemented under a somewhat different procedure and schedule. Under Section 111(d) of the CAA, EPA may issue "guidelines" to the states requiring them to adopt and submit to EPA for approval standards for existing facilities that conform to the EPA guidelines. EPA regulations provide that states must submit such standards to EPA for approval nine months after EPA promulgates standards for new and modified facilities (or nine months after May 26, 2012, per the settlement agreement). Once the state standards are then approved by EPA and become effective, existing facilities must be given a reasonable amount of time to comply with the standards.

DISCUSSION

The Air District is the designated air permitting agency in the Bay Area, and the EPA has delegated the responsibilities for issuing both PSD and Title V permit programs to the Air District. Following adoption of the GHG tailoring rule, staff determined that existing Air District permit rules provide sufficient authority to implement the tailoring rule requirements without inappropriately drawing in smaller sources of GHGs not covered by the tailoring rule. Staff believes that some rule amendments are needed, however, to increase the clarity of these requirements, and the process of drafting these amendments has begun. In the meantime, guidance materials are being used to inform facilities and permit applicants about these new requirements.

In accordance with tailoring rule Step 1 phase-in, Air District staff has begun incorporating applicable GHG requirements into Title V permits for facilities currently subject to this program. The primary requirement involves GHG emissions reporting. The only PSD permit application that the Air District has evaluated subsequent to adoption of the tailoring rule (for the proposed Russell City Energy Center in Hayward) was completed with the PSD permit issued prior to the January 2, 2011 effective date of Step 1 (the District nonetheless completed a GHG BACT determination for this project, and the applicant accepted enforceable conditions on GHG emissions on a voluntary basis).

With regard to tailoring rule Step 2 phase-in, Air District staff completed an evaluation of Bay Area facilities that might be subject to Title V permit requirements for the first time due to their GHG emissions. Five facilities were identified in this category, and all five are petroleum coke-fired power plants located in Contra Costa County that are owned/operated by GWF Power Systems, L.C. An additional 38 facilities that don't have existing Title V permits were identified that may have the potential to emit GHGs above the 100,000 ton per year GHG threshold, although current actual emissions are below this level. These 38 facilities need to do one of the following: (1) obtain a Title V permit, (2) obtain a Synthetic Minor Operating Permit (SMOP), which would establish enforceable conditions that limit the facility's potential to emit GHGs to below the 100,000 ton per year threshold, or (3) make a potential to emit demonstration that the facility's GHG emissions could not exceed the 100,000 ton per year threshold. On December 2, 2010, the Air District notified the affected Bay Area facilities of the tailoring rule requirements, and indicated that required permit applications are due by July 1, 2011. Eight of the 38 facilities have since provided information to the Air District to substantiate that their potential to emit GHGs is below the applicability thresholds (i.e., Option 3 above). Most of the 30 remaining facilities are expected to apply for SMOPs, which are due by July 1, 2011.

With regard to tailoring rule Step 2 phase-in for PSD permits, staff expects an additional 3 or 4 projects per year, on average, to trigger these requirements due to GHG emissions. The Air District has recently received a PSD permit application for a waste-to-energy facility that appears to be the first project that will require a GHG BACT determination under the tailoring rule (it is possible that this requirement could be deferred, however, under the upcoming EPA rule regarding biogenic carbon dioxide). A second permit application for a large power plant (Willow Pass Generating Station in Pittsburg) that would be subject to these requirements has been received, but the application has been put "on-hold" by the applicant. Several other proposed Bay Area power plants previously reviewed by the Air District will need to obtain all necessary regulatory approvals and begin construction by July 1, 2011, to avoid PSD permit requirements under the tailoring rule. All of these projects have indicated that they are on schedule to meet this goal.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Brian Bateman
Reviewed by: Jeffrey McKay

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Uilkema and Members
of the Stationary Source Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: April 25, 2011

Re: Status Report on Proposed Bay Area Power Plants

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

Air District staff completes preconstruction permit reviews for a variety of proposed Bay Area power plant projects. These projects range in size from small distributed generation facilities to large central power plants. Proposed thermal power plants with an output of 50 megawatts (MW) or greater must be licensed by the California Energy Commission (CEC), and the Air District provides a Determination of Compliance (DOC) to the CEC on these projects so that applicable air quality requirements can be subsumed into the CEC license. Some projects also require federal preconstruction air quality permits under the Clean Air Act's Prevention of Significant Deterioration (PSD) program. The US Environmental Protection Agency (EPA) has delegated their authority to issue federal PSD permits to the Air District for projects in the Bay Area.

Power plant projects are subject to stringent New Source Review requirements that include the use of the Best Available Control Technology (BACT) to minimize air pollutant emissions. BACT requirements become more stringent over time due to advances in air pollution control technology, and new power plants are therefore much cleaner than older existing power plants. This is true even though older Bay Area power plants have become much cleaner over time due to the adoption of rules that require retrofit emission controls. Additional permit requirements for proposed power plant projects include emission offsets, air quality impact analysis (for criteria air pollutants), and health risk screening (for toxic air contaminants).

The vast majority of Bay Area power plants exclusively use natural gas, a fuel that results in relatively low air emissions compared to the use of liquid or solid fuels (e.g., fuel oil or coal). The primary pollutants emitted from natural gas-fired power plants are nitrogen oxides (NO_x), carbon monoxide (CO), and carbon dioxide (CO₂). NO_x and CO are criteria air pollutants that are formed in the combustion process -- NO_x from the combination of nitrogen and oxygen in the combustion air, and CO from incomplete combustion of fuel. NO_x and CO emissions from natural gas-fired power plants can be controlled with the use of add-on control devices that use catalysts to create chemical reactions to reduce emissions. These catalyst-based control technologies have improved significantly over the years, and are highly effective in reducing NO_x and CO emissions.

CO₂ is a greenhouse gas (GHG) generated from the complete combustion of carbon containing fuel, and it is emitted in much larger quantities than NO_x and CO. Effective add-on control devices for reducing CO₂ emissions from power plants are generally unavailable. CO₂ emissions from fossil-fueled power plants can be minimized with the use of natural gas (which results in lower CO₂ emissions than other fossil fuels), and with equipment designs that convert the energy in fuel to electricity in an efficient manner.

The CEC, in their role as lead agency under their CEQA-equivalent review process, has begun to review GHG emissions from new power plant projects for consistency with California's stringent GHG goals and policies. This review has been in the context of the operation of the entire electricity system of which the proposed plant is an integrated part. Because the system is integrated, and because electricity is produced and consumed instantaneously, any change in output from one generation source is likely to affect the output from all generators. The CEC has noted that the electricity produced from a new plant will most likely displace the output from older, less energy efficient, fossil-fueled plants, thereby reducing the GHG emissions that would otherwise occur. The CEC also indicates that, even as more renewable generation is introduced into the system to meet GHG emission reduction goals, gas-fired power plants will be necessary to provide intermittent generation support, extreme load and system emergencies support, as well as meeting local capacity requirements. At this time, gas-fired plants are better able to provide such services than are most renewables, because they can be dispatched when they are needed.

DISCUSSION

Staff last provided the Stationary Source Committee with an update on proposed new power plants at their meeting on February 24, 2010. At the committee meeting on May 5, 2011, staff will provide an update on the status of six proposed power plants as follows: Russell City Energy Center, Los Esteros Critical Energy Facility, Marsh Landing Generating Station, Mariposa Energy Project, Oakley Generating Station, and Willow Pass Generating Station. Additional details on these plants follow.

Russell City Energy Center (RCEC)

RCEC is a proposed 600-MW natural gas fired combined-cycle power plant to be located at 3862 Depot Road in Hayward. The RCEC includes two gas turbines, two heat recovery boilers, a fire pump engine, and a cooling tower. The initial project, proposed by an affiliate of Calpine Corporation, was licensed by the CEC in 2002. The project thereafter changed location and an amendment to the license was required. On June 19, 2007, the Air District issued a Final Determination of Compliance (FDOC) for the amended RCEC, concluding that the project, with appropriate permit conditions, could comply with all applicable air quality requirements. On September 26, 2007, the CEC approved the amended RCEC and granted a power plant license. The Air District subsequently issued an Authority to Construct (ATC) and federal PSD permit for the amended RCEC on November 1, 2007. An appeal of the PSD permit resulted in a remand by EPA's Environmental Appeals Board (EAB) that required the Air District to provide additional opportunities for public comment. In response to this remand, the Air District conducted more extensive public noticing, held additional comment periods, and held two public hearings in Hayward on the PSD permit. The Air District received numerous comments on the PSD permit, and revised its proposal based on some of these comments. Permit issuance was further delayed pending the completion of a required endangered species consultation by the U.S. Fish and Wildlife Service. The Air District approved the PSD permit for the RCEC on

February 3, 2010, upon completion of the endangered species consultation. The PSD permit issued for this project was appealed again to the EAB and, on November 18, 2010, the EAB dismissed the appeal in favor of the Air District's permit issuance. Due to delays resulting from the two PSD permit appeals, the ATC for RCEC needed to be renewed for an additional term. On August 18, 2010, the CEC issued an amendment to their license for RCEC that incorporates conditions for updated BACT requirements that were needed for the ATC renewal. The Air District subsequently renewed the ATC for RCEC on November 18, 2010. This action was appealed to the Air District's Hearing Board and, on March 3, 2011, the Hearing Board dismissed the appeal. Construction of RCEC has begun with site grading now complete, and excavation of foundations and pile driving underway.

Los Esteros Critical Energy Facility (LECEF)

The LECEF, located at 800 Thomas Foon Chew Way in San Jose, is a simple-cycle gas turbine facility that became fully operational in March 2003. The LECEF currently consists of four natural gas fired turbines with a combined nominal output of 180-MW, a fire pump diesel engine, and a cooling tower. The simple-cycle configuration was planned as the first stage of a phased development leading to conversion to a combined-cycle power plant. The Air District issued LECEF an ATC on August 22, 2007, for the project to convert the plant to a combined-cycle configuration. This conversion would increase the nominal output to 320-MW, and requires the addition of four heat recovery steam generators, one steam turbine generator and one six-cell cooling tower. On June 5, 2009, the applicant, a Calpine affiliate, submitted a request to renew the ATC for the conversion project for an additional two year term. Based on input received from the Air District regarding updated BACT requirements resulting from this ATC renewal request, the CEC issued an amended license to the facility on February 2, 2011. The Air District subsequently issued a renewed ATC for the conversion project on February 16, 2011. An appeal of the ATC has been filed with the Air District's Hearing Board, and a pro forma hearing on this matter was scheduled for April 21, 2011. The CEC is expected to provide a "start of construction" approval for the LECEF conversion project by the end of April, with the start of construction activities at the site planned for May 2011.

Marsh Landing Generating Station (MLGS)

MLGS is a proposed 760-MW natural gas fired power plant that is to be located adjacent to the existing Contra Costa Power Plant in unincorporated Antioch. The applicant for MLGS is GenOn Marsh Landing, LLC (formerly an affiliate of Mirant Corporation). MLGS consists of four simple-cycle gas turbines; two natural gas fired preheaters, and associated equipment. The construction of MLGS is intended to allow for the shut-down of the two remaining utility boilers at the Contra Costa Power Plant, with a capacity of 674-MW, which are owned by GenOn Energy, Inc. The Air District issued a PDOC for the MLGS on March 29, 2010, and an FDOC on June 25, 2010. The CEC issued a license for the MLGS on August 25, 2010. The Air District subsequently issued an ATC for the project on August 31, 2010. An appeal of the ATC was filed with the Air District's Hearing Board, but this appeal was later withdrawn. Work at the project site began in January 2011, with more extensive construction (e.g., foundation work) expected to be underway in May 2011.

The Mariposa Energy Project (MEP)

MEP is a proposed 200-MW natural gas fired power plant to be located in northeastern Alameda County, approximately 7 miles northwest of Tracy, 7 miles east of Livermore, and 6 miles south of Byron. The MEP is a simple-cycle plant consisting of four gas turbines and associated

equipment. The applicant, Mariposa Energy, LLC, started the permit process in 2009. The Air District issued a PDOC for the MEP on August 18, 2010, and an FDOC on November 24, 2010. On April 13, 2011, a CEC siting committee recommended the approval of MEP, and began a 30-day public comment period. The CEC committee will consider comments before bringing the proposed decision to the full Energy Commission for consideration.

Oakley Generating Station (OGS)

OGS is a proposed 624-MW natural gas fired power plant to be located at 6000 Bridgehead Road in the City of Oakley. The OGS is a combined-cycle plant that includes two gas turbines with heat recovery boilers, one steam turbine, and an auxiliary boiler. The applicant, Contra Costa Generating Station, LLC (wholly owned by Radback Energy, Inc.) started the permit process in 2009. The Air District issued a PDOC for the OGS on October 29, 2010, and an FDOC on January 21, 2011. On April 12, 2011, a CEC siting committee recommended the approval of OGS, and began a 30-day public comment period. The CEC committee will consider comments before bringing the proposed decision to the full Energy Commission for consideration.

Willow Pass Generating Station (WPGS)

WPGS is a proposed 550-MW natural gas fired power plant to be located in the City of Pittsburg adjacent to the existing Pittsburg Power Plant. The WPGS is a combined-cycle plant that includes two gas turbines with heat recovery boilers and steam turbines. The applicant (an affiliate of GenOn Energy, Inc.) started the permit process in 2008, but subsequently put the project “on-hold”. The applicant has indicated their intent to reactivate the permit application at some point, but the timeframe for action has not been specified.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Brian Bateman
Reviewed by: Jeffrey McKay

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Memorandum

To: Chairperson Uilkema and Members
of the Stationary Source Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: April 25, 2011

Re: Advanced Thermal Imaging Camera Technology Utilized in the Compliance Assurance Program

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

The Air District has been utilizing Forward Looking Infrared (FLIR) camera technology as a screening tool for compliance activities. The FLIR camera can detect volatile organic compound leaks and provides thermal imaging of otherwise invisible plumes.

DISCUSSION

The Air District has been using the FLIR camera for inspections of industrial facilities, incident responses for accidental releases of air pollution, and research and development. Staff will present the basic science of FLIR technology and how it has been utilized in the Compliance Assurance Program.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Richard Lew
Reviewed by: Kelly Wee

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Memorandum

To: Chairperson Tom Bates and Members
of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: May 11, 2011

Re: Report of the Climate Protection Committee Meeting of May 16, 2011

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

The Climate Protection Committee will meet on Monday, May 16, 2011. The Committee will receive the following reports and updates:

- A) Status Report on Greenhouse Gas Tailoring Rule
- B) Discussion of Decision in Association of Irritated Residents, Et al. v. California Air Resource Board, Et al.
- C) Advisory Council Recommendations to Meet the 2050 Greenhouse Gas (GHG) Emission Target

Attached are the staff reports presented in the Climate Protection Committee packet. Chairperson, Jennifer Hosterman 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: Kris Perez Krow
Reviewed by: Rex Sanders

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: May 5, 2011

Re: Status Report on Greenhouse Gas Tailoring Rule

RECOMMENDED ACTION:

None; receive and file.

BACKGROUND

Section 202(a)(1) of the Federal Clean Air Act (CAA) requires the U.S. Environmental Protection Agency (EPA) to set emissions standards for any air pollutants from motor vehicles which, in EPA's judgment, causes or contributes to air pollution which may reasonably be anticipated to endanger public health or welfare. In 2003, EPA made the determination that it lacked the authority under the CAA to regulate Greenhouse Gases (GHGs) for climate change purposes. This determination was litigated, and in 2005 the U.S. Court of Appeals upheld EPA's decision. The case was later heard by the U.S. Supreme Court (*Massachusetts v. EPA* 549 U.S. 497 (2007)), and in April 2007 the Supreme Court found that GHGs meet the CAA definition of "air pollutant" subject to an EPA determination that GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare.

On December 15, 2009, EPA published their "cause or contribute" and "endangerment" findings for GHGs. This action did not immediately result in GHGs becoming "regulated air pollutants" under the CAA because EPA had previously taken the position that an air pollutant becomes a "regulated air pollutant" on the date that the first adopted EPA rule requires actual control of the pollutant. On April 1, 2010, EPA and the Department of Transportation's National Highway Safety Administration issued the first national rule setting GHG emission standards for 2012 to 2016 model year cars and light duty trucks. The requirements of this rule took effect on January 2, 2011, which is the earliest date that 2012 model year vehicles meeting the standards can be sold in the United States. GHGs therefore officially became "regulated air pollutants" under the CAA on January 2, 2011.

The CAA contains permit requirements for facilities that are "major sources" of regulated air pollutants. There are two permit programs that apply: (1) the Prevention of Significant Deterioration (PSD) program, which requires preconstruction permit review for new major sources and major modifications to existing major sources, including the requirement for use of the Best Available Control Technology (BACT), and (2) the Title V program, which requires detailed operating permits for new and existing "major sources" which specify all applicable air emissions standards and compliance requirements. The CAA defines a "major source" as a facility that has the potential to emit any regulated air pollutant of more than 100 tons per year

(although, for certain types of facilities subject to PSD permit requirements, this applicability threshold is 250 tons per year, rather than 100 tons per year).

Based on the CAA's statutory 100/250 ton per year emissions thresholds for major sources, a very large number of facilities would become subject to CAA permit requirements based on emissions of GHGs. This is because carbon dioxide, the most prevalent GHG, is emitted in much larger quantities than other "conventional" air pollutants. For example, EPA estimated that nationally: (1) more than 40,000 new and modified facilities would be subject to PSD permitting per year based on emissions of GHGs, as compared with 280 PSD permits per year currently based on emissions of other regulated air pollutants, and (2) more than 6 million additional facilities would be subject to Title V permitting based on emissions of GHGs, compared to 11,000 currently based on emissions of other regulated air pollutants. Facilities like schools, hospitals, small farms, and restaurants often have GHG emissions above the CAA 100/250 ton per year thresholds and would become subject to PSD and Title V permit requirements. EPA concluded that these increases in PSD and Title V permits would result in significant administrative burdens that exceed the current capacities of these permit programs, and create significant economic burdens on affected facilities, to an extent that Congress could never have intended. Relying on the legal doctrines of "absurd results" and "administrative necessity", EPA therefore developed an approach to "tailor" the major source thresholds for GHGs to more appropriate levels. The GHG "tailoring rule" was proposed by EPA on September 30, 2009, and was adopted on May 13, 2010.

The EPA tailoring rule indicates that a facility that has a potential to emit GHGs of more than 100,000 tons per year, based on carbon dioxide equivalent emissions (CO₂e), is a major source of GHGs. The rule also indicates that an existing major source that would modify and increase emissions of GHGs by more than 75,000 tons per year CO₂e would be a "major modification" subject to PSD permit requirements. Based on the tailoring rule, EPA estimates that nationally: (1) about 550 facilities will need to obtain Title V permits for the first time due to their GHG emissions, and (2) approximately 900 additional PSD permits per year will be required. The primary industries affected would be power plants, refineries, cement manufacturing facilities, and solid waste landfills, which together account for 70 percent of GHG emissions from stationary source facilities nationally.

In response to a petition for reconsideration filed by the National Alliance of Forest Owners, EPA issued a proposal on March 20, 2011 to defer for a period of three years the PSD and Title V permitting requirements of the tailoring rule for emissions of biogenic carbon dioxide. Biogenic carbon dioxide is emitted from biomass combustion or oxidation from solid waste landfills, waste-to-energy projects, fermentation processes, combustion of renewable fuels, ethanol manufacturing, biodiesel production, and other alternative energy production that uses biomass such as crops or trees. Biogenic carbon dioxide is often considered to be "carbon neutral" because those emissions are naturally offset when the biomass removes an equivalent amount of carbon dioxide from the atmosphere via photosynthesis. EPA has not yet taken final action on this proposal.

EPA established a three step phase-in for the tailoring rule requirements as follows:

- Step 1: which is effective January 2, 2011 for facilities currently subject to PSD or Title V permit programs based on emissions other than GHGs.

- Step 2: which is effective July 1, 2011 for facilities not currently subject to PSD or Title V permit programs, but which exceed tailoring rule GHG emission thresholds.
- Step 3: which is effective no sooner than April 30, 2016, based on an EPA rule to be adopted by the end of 2015, for certain smaller facilities if EPA determines that successful streamlining will adequately reduce burdens associated with permitting these facilities. EPA has indicated that Step 3, if established, will not require permitting for sources with GHG emissions below 50,000 tons per year CO₂e.

Since the adoption of the tailoring rule, EPA has taken actions to: (1) require all state/local air permitting agencies that do not have the legal authority to permit GHGs to receive such authority, or be on a path to have such authority, with EPA serving as the permitting authority in the interim, (2) ensure that existing state/local programs will not inappropriately draw smaller sources not covered by the tailoring rule into PSD and Title V permit programs based on the statutory CAA definition of major source. EPA has also issued guidance to assist permit writers and permit applicants on permit requirements for GHG emissions including how to determine the BACT.

EPA has also recently taken actions that would establish GHG emissions standards under the CAA's New Source Performance Standards (NSPS) program. On December 23, 2010, EPA announced that it had settled litigation with states and environmental groups that sought to compel EPA to establish NSPS for GHG emissions from fossil fuel power plants and petroleum refineries. Under the terms of these settlements, EPA will promulgate proposed NSPS for fossil fuel power plants by July 26, 2011, and final standards by May 26, 2012. Proposed standards for petroleum refineries will be promulgated by December 10, 2011, and final standards by November 10, 2012.

Both settlement agreements commit EPA to issue standards for new and modified facilities. The power plant settlement also commits EPA to issue standards for existing facilities (whether or not the facilities are modified), although these standards will be implemented under a somewhat different procedure and schedule. Under Section 111(d) of the CAA, EPA may issue "guidelines" to the states requiring them to adopt and submit to EPA for approval standards for existing facilities that conform to the EPA guidelines. EPA regulations provide that states must submit such standards to EPA for approval nine months after EPA promulgates standards for new and modified facilities (or nine months after May 26, 2012, per the settlement agreement). Once the state standards are then approved by EPA and become effective, existing facilities must be given a reasonable amount of time to comply with the standards.

DISCUSSION

The Air District is the designated air permitting agency in the Bay Area, and the EPA has delegated the responsibilities for issuing both PSD and Title V permit programs to the Air District. Following adoption of the GHG tailoring rule, staff determined that existing Air District permit rules provide sufficient authority to implement the tailoring rule requirements without inappropriately drawing in smaller sources of GHGs not covered by the tailoring rule. Staff believes that some rule amendments are needed, however, to increase the clarity of these requirements, and the process of drafting these amendments has begun. In the meantime, guidance materials are being used to inform facilities and permit applicants about these new requirements.

In accordance with tailoring rule Step 1 phase-in, Air District staff has begun incorporating applicable GHG requirements into Title V permits for facilities currently subject to this program. The primary requirement involves GHG emissions reporting. The only PSD permit application that the Air District has evaluated subsequent to adoption of the tailoring rule (for the proposed Russell City Energy Center in Hayward) was completed with the PSD permit issued prior to the January 2, 2011 effective date of Step 1 (the District nonetheless completed a GHG BACT determination for this project, and the applicant accepted enforceable conditions on GHG emissions on a voluntary basis).

With regard to tailoring rule Step 2 phase-in, Air District staff completed an evaluation of Bay Area facilities that might be subject to Title V permit requirements for the first time due to their GHG emissions. Five facilities were identified in this category, and all five are petroleum coke-fired power plants located in Contra Costa County that are owned/operated by GWF Power Systems, L.C. An additional 38 facilities that don't have existing Title V permits were identified that may have the potential to emit GHGs above the 100,000 ton per year GHG threshold, although current actual emissions are below this level. These 38 facilities need to do one of the following: (1) obtain a Title V permit, (2) obtain a Synthetic Minor Operating Permit (SMOP), which would establish enforceable conditions that limit the facility's potential to emit GHGs to below the 100,000 ton per year threshold, or (3) make a potential to emit demonstration that the facility's GHG emissions could not exceed the 100,000 ton per year threshold. On December 2, 2010, the Air District notified the affected Bay Area facilities of the tailoring rule requirements, and indicated that required permit applications are due by July 1, 2011. Eight of the 38 facilities have since provided information to the Air District to substantiate that their potential to emit GHGs is below the applicability thresholds (i.e., Option 3 above). Most of the 30 remaining facilities are expected to apply for SMOPs, which are due by July 1, 2011.

With regard to tailoring rule Step 2 phase-in for PSD permits, staff expects an additional 3 or 4 projects per year, on average, to trigger these requirements due to GHG emissions. The Air District has recently received a PSD permit application for a waste-to-energy facility that appears to be the first project that will require a GHG BACT determination under the tailoring rule (it is possible that this requirement could be deferred, however, under the upcoming EPA rule regarding biogenic carbon dioxide). A second permit application for a large power plant (Willow Pass Generating Station in Pittsburg) that would be subject to these requirements has been received, but the application has been put "on-hold" by the applicant. Several other proposed Bay Area power plants previously reviewed by the Air District will need to obtain all necessary regulatory approvals and begin construction by July 1, 2011, to avoid PSD permit requirements under the tailoring rule. All of these projects have indicated that they are on schedule to meet this goal.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Brian Bateman
Reviewed by: Jeffrey McKay

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: May 5, 2011

Re: Discussion of Decision in Association of Irritated Residents, et al. v. California
Air Resource Board et al.

RECOMMENDED ACTION:

None; receive and file.

BACKGROUND

The California Global Warming Solutions Act of 2006, or AB32 as it is often known, generally requires the reduction of California's greenhouse gas (GHG) emissions to 1990 levels by 2020. AB32 gives the California Air Resources Board (CARB) primary responsibility for the development of regulatory measures to achieve the emission reduction goals of the Act. AB32 also requires the CARB to develop a plan outlining the measures it intends to adopt to accomplish AB32's goals.

In 2008, the CARB adopted its Climate Change Scoping Plan. The scoping plan included a market-based cap-and-trade program as a key measure for achieving AB32's emission reduction goals. When it adopted the Scoping Plan, CARB, which under the California Environmental Quality Act ("CEQA") has a certified regulatory program, prepared what is known as a "Functionally Equivalent Document" under CEQA, which is effectively a CEQA Environmental Impact Report.

In December 2010, CARB adopted a regulation establishing a market-based cap-and-trade program providing for the creation, sale, and transfer of GHG credits. The cap-and-trade regulation takes effect for a first round of industrial facilities in January 2012. Subsequently, under the regulation other GHG emissions sources, including some smaller facilities and all GHGs associated with fuels sold in California, are brought into the cap-and-trade program.

DISCUSSION:

In June 2009, a coalition of environmental groups and activists filed a lawsuit in San Francisco Superior Court seeking a writ of mandate or prohibition invalidating the Scoping Plan – *Association of Irrigated Residents, et al. v. California Air Resources Board, et al., San Francisco County Superior Court, Case No. CPF-09-509562*. The Petitioners contended that CARB violated the provisions of AB32 in adopting the Scoping Plan and violated the provisions of CEQA in approving the Functional Equivalent Document. The Petitioners raised a number of arguments in connection with each of these broad contentions.

On March 18, 2011, Judge Ernest Goldsmith of the San Francisco Superior Court issued a Statement of Decision and Order Granting in Part Petition for Writ of Mandate (“Statement of Decision”). In the Statement of Decision, Judge Goldsmith concluded that CARB had not violated AB32 in adopting the Scoping Plan and denied the Petition for Writ of Mandate as to those issues. He also concluded that the analysis of the environmental impacts of the Scoping Plan measures contained in the Functional Equivalent Document were adequate and denied the Petition for Writ as to that cause of action.

However, in his Statement of Decision, Judge Goldsmith found fault with CARB’s CEQA process in adopting the Scoping Plan. In particular, Judge Goldsmith found that CARB had not prepared and presented an adequate “alternatives analysis,” especially with respect to the cap-and-trade portion of the Scoping Plan. Primarily, Judge Goldsmith noted the lack of a meaningful discussion of a carbon tax as a viable alternative to the cap-and-trade program. Judge Goldsmith also found that CARB had impermissibly begun implementation of the Scoping Plan before completing the CEQA process, because responses to comments on the Functional Equivalent Document had not been completed prior to CARB acting to adopt the Scoping Plan in December 2008. In addition, a public workshop to discuss implementation of the Scoping Plan was held in January 2009, approximately four months before the response to comments was finalized in May of 2009.

Based on these deficiencies, Judge Goldsmith granted the Petition for Writ of Mandate as to the alternatives analysis and timing causes of action. In the Statement of Decision, he ordered that a “peremptory writ of mandate issue commanding [CARB] to set aside its certification of the [Functional Equivalent Document] and enjoining any further implementation of the measures contained in the Scoping Plan until after [CARB] has come into compliance with its obligations under its certified regulatory program and CEQA.” Judge Goldsmith also retained jurisdiction to review CARB’s compliance with his order. Petitioners were ordered to prepare the Writ, which has not yet been issued by Judge Goldsmith.

Staff will discuss potential next steps in this case and the implications of this decision.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Brian C. Bunger
Reviewed by: Jack P. Broadbent

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: May 5, 2011

Re: Advisory Council Recommendations to Meet 2050 GHG Emission Targets

RECOMMENDED ACTION:

None; receive and file.

BACKGROUND

In 2010, the Air District Advisory Council discussed California's 2050 greenhouse gas (GHG) emission reduction target of 80% below 1990 levels. The Council was given presentations by subject matter experts on the Air District's climate protection initiatives, carbon capture and sequestration, carbon cap and trade strategies, and emission reduction strategies for the transportation sector.

Advisory Council members John Holtzclaw and Jennifer Bard provided a final report on emission reduction strategies for the transportation sector to the Board of Directors on March 2, 2011, including recommendations for inter-agency cooperation. Chairperson Bates requested that these recommendations be reviewed and discussed by the Climate Protection Committee.

DISCUSSION

Staff will provide a review of the Advisory Council recommendations to the Climate Protection Committee, along with status and potential responses/actions (see attachment).

BUDGET CONSIDERATION / FINANCIAL IMPACT:

None.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Eric Stevenson
Reviewed by: Jean Roggenkamp

ADVISORY COUNCIL RECOMMENDATIONS, STATUS AND RESPONSES

The following Advisory Council recommendations to the Board are based on the October 13, 2010 Advisory Council meeting on transportation policies and subsequent discussions among Advisory Council members. It also includes the status of the recommendation and staff responses and/or possible actions.

1. Work with MTC and ABAG to condition transportation and development investments and grants upon implementation of parking reform. The Air District should also include parking reform policies in development of an indirect source rule.

Status – Underway

Response/Action - The Air District and MTC are collaborating to implement Transportation Control Measures (TCM) E-2 in the 2010 Clean Air Plan (CAP) (Promote Parking Policies to Reduce Motor Vehicle Travel); this measure includes a comprehensive set of policies and actions to reform local parking policies. District staff will also look for opportunities to address parking policies in the development of the indirect source rule.

2. Work with MTC to analyze induced demand impacts from MTC's HOT Lane network expansion (study being done by MTC consultant Parsons Brinkerhoff). Modeling does not currently, but should, include a range of impacts of induced demand or increased housing at suburban fringe. The Air District should recommend that net revenues from HOT lanes be used for expanded non-highway transit and transit choices, rather than expansion of the highway system.

Status – Future study

Response/Action - Concerns about the potential induced demand impacts of the HOT lane network are described in TCM B-3 in the 2010 CAP (Bay Area Express Lane Network). It includes a provision that the Air District will perform an independent analysis to evaluate the long-term effects of the HOT lane network on vehicle travel and emissions. This analysis will be performed once MTC and ABAG have fully implemented planned upgrades to the regional travel and land use models. TCM B-3 supports providing express bus service in the HOT lane corridors, and the District will continue to support use of HOT lane revenues for this purpose.

3. Work with MTC to consider adoption of a quantification tool that evaluates a broad range of public health impacts and benefits from transportation and land use policies and decisions. The Air District should also encourage MTC to conduct a performance-based analysis of transportation projects to ensure investments are cost effective.

Status – Underway

Response/Action - Staff work with MTC, ABAG, and local governments to ensure that potential air quality and public health impacts are considered in transportation and land use decisions. For the *Plan Bay Area* sustainable communities strategy, staff have been participating in a technical committee

working to develop recommended qualitative and quantitative methods to evaluate the benefits (or draw backs) of potential projects based upon a range of objectives, including air quality and climate protection.

4. Through the Air District's role in the Joint Policy Committee, encourage MTC to evaluate all transportation projects, including projects in previous Regional Transportation Plans (RTP), for impacts on VMT and potential to induce growth. The air district should encourage MTC to only include SCS/ RTP projects that do not increase personal VMT and do not induce sprawl.

Status – Underway

Response/Action - Staff are working with MTC and ABAG to ensure that projects funded through the *Plan Bay Area* sustainable communities strategy will provide the greatest possible benefit in terms of reducing criteria pollutants and greenhouse gases (GHG) emissions, reducing VMT, preventing sprawl, and protecting the health of people who live and/or work in priority development areas.

5. Develop a social marketing campaign to increase walking, cycling, and transit, based on latest research of proven strategies that affect behavior change, including comparison-with-neighbor policies.

Status – Underway

Response/Action - The Air District currently has a social media program on Facebook, Twitter and soon on LinkedIn that works in concert advertising. Last year the Spare the Air campaign was targeted to the 17 to 34 year-old audience and messaged walking, biking, carpooling and transit as commute options to this younger audience. This year the same campaign will be expanding to a much broader age range representing the general public. In addition, the Communications and Outreach Division will investigate social media policies and programs in neighboring air districts, and will research biking, walking, social messaging campaigns from NGO's and individual counties throughout the Bay Area.

6. Seek state legislation requiring CMAs to expand their mission statement from primarily "congestion management" to include a major emphasis on reducing GHG and to enable a focus on: health; increasing mode share of walking, cycling, and transit; and on reducing VMT, rather than managing congestion.

Status – Future Study

Response/Action - The Air District will explore the possibility of such legislation, as well as non-legislative approaches to creating this change, with our regional partners.

7. Develop a toolkit for planners, local agencies, and CMAs for land use and transportation policies that have the greatest public health, air quality, and GHG reduction benefits.

Status – Underway

Response/Action – Staff are working closely with a wide range of partners to integrate land use, transportation, and air quality planning. This effort includes implementing the District’s June 2010 CEQA guidelines and thresholds of significance, developing community risk reductions plans (CRRPs), and developing draft Community Development Guidelines, scheduled for release in summer 2011. As part of this effort, staff are developing various tools to evaluate the impacts of land use decisions and development projects, and to quantify the effectiveness of potential mitigation measures. These tools will provide assistance to local planners and other stakeholders designing future development that protects air quality, public health, and the climate.

8. Promote the use of cool paving materials, such as high albedo materials, for future outdoor surfaces, such as parking lots, median barriers, and roadway improvements to reduce urban heat island effects and to save energy.

Status – Scheduled for next fiscal year

Response/Action - Energy & Climate Measure (ECM) #3 in the 2010 CAP (*Urban Heat Island Mitigation*) describes various actions to reduce urban heat island impacts, including cool paving and cool roofing. Staff will begin implementation of this measure, including actions to promote cool paving, in the next fiscal year.

9. Use MTC’s SB 375 implementation planning funds for local community planning processes.

Status – Underway

Response/Action - In providing input to the development of the *Plan Bay Area* sustainable communities strategy, staff will encourage MTC to provide increased funding for local planning processes that will promote and implement focused growth, while working to improve air quality and protect public health in identified areas.

10. Build upon SB 535 (Yee) to support development of a strong statewide ZEV mandate and incentives to help the state reach aggressive GHG reduction goals.

Status – Underway

Response/Action - The Air District currently chairs the California Air Pollution Control Officers Association (CAPCOA) Mobile Source and Grants Committee tasked by the CAPCOA Board to redraft the authorizing legislation for a number of programs scheduled to sunset at the end of 2014 (portions of the Carl Moyer Program and funding authorized by Assembly Bill 923). As part of this redrafting, staff plan to seek inclusion of GHG as an eligible funding category. It is anticipated that any funds authorized would be expended to reduce emissions from mobile sources primarily in the heavy-duty transportation sector.

11. Continue to work with other agencies in regional efforts to fund and accelerate EV charging infrastructure and streamline residential charging station installation and permitting, including incentives to promote solar EV charging installations. In addition, work with cities, counties, and utility districts to assist property owners

in funding charging stations through Property Assessed Clean Energy (PACE) bonds, pursuant to SB 1340 (Kehoe)

Status – Underway

Response/Action - The Air District participates in a number of working groups that coordinate regional and local efforts to accelerate the installation of electric vehicle infrastructure, its permitting and installation, and also acts to coordinate various incentives programs. The District is using information generated by these working groups (in addition to its own efforts to install 2,750 residential chargers) to provide templates, business models and lessons learned to State and local Bay Area governmental agencies which should be completed and available by the end of 2011.

12. Promote expansion of congestion toll pricing to all other regional bridges. Revenues raised should be used to improve public transit service in those corridors.

Status – Future study

Response/Action - TCM E-1 in the 2010 CAP (*Value Pricing Strategies*) calls for future expansion of congestion pricing strategies on trans-bay bridges. Staff will work with MTC, as well as related efforts such as the SFCTA Mobility, Access, and Pricing Study (MAPS), to expand the implementation of pricing strategies throughout the Bay Area.

13. Develop and promote policies and programs, including securing necessary legislative authority, to achieve significant reductions in employer-related vehicle miles traveled, including employer transportation demand management plans.

Status – Underway

Response/Action - The Air District is co-sponsoring SB 582 (Emmerson) in 2011. This bill would allow MPO's and air districts to jointly adopt a regional regulation on employers of 20 or more. The regulation would require these employers to either:

- 1) Provide transit passes for their employees, or pay for their vanpooling and bicycling expenses; OR**
- 2) Provide shuttle service to their worksite; OR**
- 3) Allow employees to pay for transit/vanpooling/bicycling expenses with pre-tax dollars.**

This regulation would reduce VMT and greenhouse gas emissions, and significantly affect how commuters choose to travel to work. The bipartisan bill passed out of its first policy committee without any 'no' votes and is supported by a diverse coalition of environmental organizations, businesses and business organizations, transit agencies and interests, and others.

14. Support establishment of a VMT fee or gasoline tax in the Bay Area to achieve GHG, criteria pollutant, and air toxics reductions goals.

Status – Future study

Response/Action - TCM E-3 in the 2010 CAP (*Implement Transportation Pricing Reform*) calls for the regional agencies and other stakeholders to develop a

comprehensive transportation-pricing strategy to improve air quality and reduce congestion. Staff will work with partner agencies to advocate that pricing strategies are considered, in conjunction with land use and transportation investments, in the development of the *Plan Bay Area* sustainable communities strategy.

15. The Air District should continue to implement the relevant Transportation Control Measures and Leadership Platform* in the 2010 CAP.

Status – Underway

Response/Action - Staff are working with MTC and other partners to implement the Transportation Control Measures and Leadership Platform in the 2010 CAP as quickly and comprehensively as available resources permit.

- * Leadership Platform: Some of the most potentially beneficial measures in the Bay Area 2010 CAP to improve air quality will require action by other agencies, such as CARB or US EPA, or adoption of new legislation. The CAP also thus includes a Leadership Platform, summarized in its Volume I, Table 4-7, which identifies policies and actions by other entities to complement the CAP control strategy.

GLOSSARY

ABAG	–	Association of Bay Area Governments
BAC	–	Bay Area Council
BACC	–	Bay Area Climate Collaborative
CEQA	–	California Environmental Quality Act
CMA	–	Congestion Management Agency
EV	–	Electric Vehicle
FAR	–	Floor Area Ratio
FOCUS	–	Focusing Our Vision
GHG	–	Greenhouse gases
HOT	–	High Occupancy Toll
ISR	–	Indirect Source Rule
LEV	–	Low Emission Vehicle
LOS	–	Level of Service
MTC	–	Metropolitan Transportation Commission
PCO	–	Parking Cash-out
PEV	–	Partial Electric Vehicle
PDA	–	Priority Development Area
RTP	–	Regional Transportation Plan
SVLG	–	Silicon Valley Leadership Group
SCS/RTP	–	Sustainable Community Strategy/Regional Transportation Plan
TDM	–	Transportation Demand Management
TOD	–	Transit Oriented Development
VMT	–	Vehicle Miles Traveled
ZEV	–	Zero Emission Vehicle

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Memorandum

To: Chairperson Tom Bates and Members
of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: May 4, 2011

Re: Update on the Implementation of the Air District's California Environmental
Quality Act (CEQA) Guidelines

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

On June 2, 2010, the Air District Board of Directors unanimously adopted the CEQA thresholds of significance. The thresholds of significance are included in the Air District's updated CEQA Guidelines (June 2010). All of the adopted CEQA thresholds of significance – *except for the risk and hazards thresholds for new receptors* – became effective as of June 2, 2010. The risk and hazards thresholds for new receptors became effective on May 1, 2011. On June 2, 2010 the Board also directed staff to report to the Board periodically on the implementation progress of the CEQA Guidelines and thresholds.

DISCUSSION

Since adoption of the CEQA Guidelines and Thresholds of Significance, Air District staff has continued to meet extensively with local government officials and staff, developers, consultants, and other stakeholder groups. Staff has met with many local jurisdictions to discuss specific CEQA projects; has responded to numerous phone and email inquiries from local government staff, developers, and consultants; and has presented the CEQA Guidelines and Thresholds to a number of stakeholder group meetings. It is clear that local lead agencies are familiar with the CEQA Guidelines, are using them in environmental review processes, and understand they may call upon Air District staff for assistance.

Staff conducted a series of three workshops in February/March 2011 to receive feedback from local government staff and others on the implementation of the CEQA Guidelines and to present updates on tools and methodologies being developed to assist local governments in applying the CEQA Guidelines. The workshops were held in Santa Rosa (2/22/11), Oakland (2/23/11), and Mountain View (3/3/11). Approximately 150 people attended the workshops including representatives from over 30 Bay Area local governments and various agencies, consultants, and non-profit groups.

Staff has been tracking implementation of the CEQA Guidelines by local governments. By reviewing CEQA projects and communicating with local government staff, staff is tracking whether lead agencies are using the Guidelines and how the Guidelines may be affecting infill projects. Staff is also tracking whether the Air District's air quality thresholds alone trigger development of an EIR.

Staff refined the Air District's screening tools to assist lead agencies in their CEQA risk and hazard analysis. The refined screening tools use more local traffic and meteorological data to generate less conservative values for risk and hazards. These refinements address concerns raised by local planners and other stakeholders regarding the potential impact of the risk and hazard screening analysis on infill and affordable housing development. Staff also updated the June 2010 CEQA Guidelines to reflect the recently released refined risk and hazard analysis tools. The updated CEQA Guidelines and tools are all available on the Air District's website (posted 4/29/11).

Staff is continuing its work on the development of pilot Community Risk Reduction Plans (CRRPs) in San Jose and San Francisco. Staff is collaborating with San Jose staff on preparing a local emissions inventory, conducting air quality modeling, and identifying mitigation strategies. Staff also assisted with San Jose's outreach efforts including coordination of two public workshops on the CRRP. Staff is meeting regularly with San Francisco planning and health department staff to discuss modeling inputs, develop appropriate risk reduction goals, and identify mitigation strategies.

The Staff initiated an Air Quality/Priority Development Area (PDA) workgroup with Metropolitan Transportation Commission (MTC), Association of Bay Area Governments (ABAG), and Bay Conservation and Development Commission (BCDC) which meets on a regular basis. Staff is working with the regional agencies to assist station area plans in addressing potential risk and hazards on a community-wide approach. This effort will help streamline CEQA reviews for future proposed projects in station area plans. Staff presented the Air District's recommended risk and hazard analysis approach at MTC's recent Station Area Planning Workshop.

Staff will provide an update to the Board of Directors on implementation of the CEQA Guidelines, Air District collaboration with the other regional agencies, and progress on the CRRPs and Community Development Guidelines.

BUDGET CONSIDERATION/FINANCIAL IMPACT

Resources to implement the CEQA Guidelines and support CRRPs are included in the FYE 2011 and proposed FYE 2012 budgets.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Sigalle Michael
Review by: Henry Hilken

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Tom Bates and Members
of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: May 4, 2011

Re: Public Hearing to Consider Adoption of Proposed Regulation 11, Rule 17:
Limited Use Stationary Compression Ignition (Diesel) Engines in Agricultural
Use; and Certification of a CEQA Environmental Impact Report

RECOMMENDED ACTION

Staff recommends that the Board of Directors take the following actions:

- Adopt proposed Regulation 11, Hazardous Pollutants, Rule 17: Limited Use Stationary Compression Ignition (Diesel) Engines in Agricultural Use; and
- Certify a Final Environmental Impact Report pursuant to the California Environmental Quality Act (CEQA) for this rule-making activity.

BACKGROUND

In 2006, the California Air Resources Board (CARB) amended its Airborne Toxic Control Measure (ATCM) to include agricultural diesel engines. The ATCM required existing stationary agricultural diesel engines greater than 15 years old and greater than 100 HP (most engines) to meet emission standards by 12/31/2010, and those diesel engines from 50 – 100 HP to meet emissions standards by 12/31/2011. The ATCM exempts agricultural wind machines and agricultural emergency generators, however requires other infrequently-used agricultural engines to comply with the standards. CARB staff was petitioned in early 2008 by agricultural interests, mainly grape growers, to amend the ATCM to address their concern that infrequently-used agricultural engines have not yet reached the end of their useful lives. CARB declined to do so, but allowed other Air Districts (Northern Sonoma, Lake County, and Yolo-Solano), to develop equivalent rules that had longer timelines for compliance.

Regulation 11, Rule 17 would provide flexibility to affected parties in meeting the requirements of the ATCM. This proposed new rule is concerned primarily with low-use diesel powered water pumps used to protect agricultural crops from frost on cold winter nights. The proposed rule provides the option of an alternate compliance plan that will allow existing Tier 0 and Tier 1 engines (those with the highest emissions) that are used on average less than 100 hours per year and either located no less than 1000 feet from a residential area, school or health facility, or that conduct a successful Health Risk Screening Analysis, to be used through December 31, 2020. The alternate compliance plan allows Tier 2 engines that meet these criteria to operate through December 31, 2025. Additional provisions establish the criteria for utilizing the alternate compliance plan, provide for

additional use during extreme frost seasons, and exempt engines used less than 20 hours per year.

By 2020, Tier 4 engines, utilizing the lowest-emitting technology, will be available. Consequently, by the time the existing engines are replaced, emission reductions of diesel particulate matter and nitrogen oxides (NOx) from these engine replacements under the Air District's rule will be greater than achieved by compliance with ATCM.

DISCUSSION

Adoption of this new rule will provide compliance flexibility to affected users, and reduce emissions of ozone precursors and toxics over the long term. Staff worked with consultants to evaluate potential environmental and socioeconomic impacts of Reg. 11, Rule 17. During the interim period from 2011 through 2020 when replacement of certain agricultural diesel engines is deferred, emission reductions of NOx may be less than would have occurred under the ATCM. These temporarily foregone NOx reductions may be potentially significant compared to the Air District's CEQA Thresholds of Significance. Funding of NOx emission reduction projects through the Air District's grant program will reduce these potential NOx emissions to less than significant. During the interim period, toxic diesel particulate emissions were found to be less than significant for cancer risk, and less than significant for ground level concentrations of particulate matter 2.5 microns or smaller in size. After the interim period, Rule 11-17 reduces both ozone precursor emissions and toxic emissions significantly, beyond the emissions reductions achieved under the ATCM, and will benefit public health and the environment. In addition, the EIR considered greenhouse gas emissions from the replacement of existing agricultural diesel engines with future technology. The EIR concludes that any potential increases in greenhouse gases are less than significant. The EIR concludes that the project will not cause any unmitigated significant adverse environmental impacts.

The proposed rule provides a deferred compliance alternative to the ATCM. The benefit of this proposal is that the deferred replacement deadlines will allow further recovery of useful engine life and will allow the Air District's Agricultural Assistance Program funding to remain available for these engines until the proposed compliance dates (providing state law continues to make these funds available). These funds offset up to 85% (typically 60 – 75%) of the cost of a replacement. In addition, because it is optional, any incremental costs associated with deferred compliance (future purchase of cleaner, more expensive engines) do not have to be incurred by engine operators. A socio-economic analysis has determined that this proposed rule has no significant economic impact or loss of jobs.

RULE DEVELOPMENT PROCESS

The proposed rule is based on extensive outreach to the agricultural community through contact with each of the Bay Area county agricultural departments, and trade organizations such as each county's Farm Bureau, grape and flower growers associations, the California Poultry Association and Western United Dairymen's Association. Staff met with three county Farm Bureaus and the Suisun Valley Grape Growers Association, spoke at four county agricultural continuing education meetings, and provided a booth at the Napa Valley Viticulture Fair. Staff provided handouts regarding the requirement for agricultural engine registration with the Air District and the 11-17 proposal, as well as supplemental information about strategic incentive funding available to help replace existing diesel engines.

Staff conducted nine public workshops in January of 2011 to solicit comments on the draft rule, with approximately 100 people attending the workshops. The final proposal incorporates a request to average engine use hours over three years to accommodate variability in weather conditions.

A public hearing notice; proposed Regulation 11, Rule 17; socioeconomic analysis; and staff report were available by request and have been posted on the Air District's website since April 18 at <http://www.baaqmd.gov/Divisions/Planning-and-Research/Rule-Development/Current-Regulatory-Public-Hearings.aspx>. The draft Environmental Impact Report was posted on March 18, 2011 in compliance with CEQA noticing requirements. No comments have been received as of May 4, 2011 on any of the documents.

BUDGET CONSIDERATIONS/FINANCIAL IMPACTS

An application process for the very low-use exemption or Alternate Compliance Plan has been integrated into the existing Agricultural Diesel Engines Registration Program. Costs for this program will be offset through a one-time ACP application fee of \$129, effective July 1, 2011. The existing registration program renewal fees adequately cover on-going administrative costs.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Guy A. Gimlen
Reviewed by: Henry Hilken

Attachments:

Proposed Regulation 11, Hazardous Pollutants, Rule 17: Limited Use Stationary Compression Ignition (Diesel) Engines in Agricultural Use

Staff Report, including Appendices:

1. Socioeconomic Analysis
2. Final Environmental Impact Report

**REGULATION 11
HAZARDOUS POLLUTANTS
RULE 17
LIMITED USE STATIONARY COMPRESSION IGNITION (DIESEL) ENGINES
IN AGRICULTURAL USE**

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**REGULATION 11
HAZARDOUS POLLUTANTS
RULE 17
LIMITED USE STATIONARY COMPRESSION IGNITION (DIESEL) ENGINES
IN AGRICULTURAL USE**

11-17-100 GENERAL

11-17-101 Description: The purpose of this rule is to reduce public exposure to air toxics from stationary compression ignition (diesel) engines used in agricultural operations within the District. This rule is adopted pursuant to Section 39666 of the California Health and Safety Code, to implement the provisions of the Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition Engines adopted by the California Air Resources Board (Sections 93115 through 93115.15, Title 17, of the California Code of Regulations) that apply to stationary diesel engines used in agricultural operations, effective October 18, 2007. In addition, this rule provides an exemption for very low-use stationary agricultural diesel engines, and an alternate compliance schedule for low-use stationary agricultural diesel engines.

11-17-102 Applicability: This rule applies to any person who owns or operates any stationary compression ignition (diesel) engine used in agricultural operations with greater than 50 brake horsepower within the District.

11-17-103 Exemption, Very Low-Use Stationary Agricultural Diesel Engines: A stationary diesel engine used in agricultural operations that operates less than 20 hours per registration renewal period, and is located more than 1000 feet from residential areas, schools, and health facilities is exempt from the emissions standards in the ATCM, Section 93115.8 (b).

103.1 In order to qualify for this exemption, any person operating an engine located 1000 feet or less from a residential area, school or health facility must conduct a Health Risk Screening Analysis (HRSA) in accordance with Regulation 2, Rule 5, Section 603 or provide the information necessary for the APCO to conduct an HRSA for that engine to demonstrate that the cancer risk from the engine, at the location of the residential area, school or health facility, is less than 10 in a million and PM_{2.5} ground level concentration is less than 0.3 µg/m³, and that the cumulative cancer risk from all sources within 1000 feet is less than 100 in a million and cumulative PM_{2.5} ground level concentration is less than 0.8 µg/m³. The Health Risk Screening Analysis results must be approved by the APCO in writing for this exemption to be valid.

11-17-104 Limited Exemption, Low-Use Stationary Agricultural Diesel Engines: The owner or operator of a stationary diesel engine used in agricultural operations may apply for an Alternate Compliance Plan schedule, as provided in Section 11-17-402, if the engine complies with the provisions of Section 11-17-302. If the Alternate Compliance Plan is approved, the engine is exempt from the emissions standards in the ATCM, Section 93115.8 (b) until the alternate compliance date specified in Section 11-17-302.

11-17-200 DEFINITIONS

11-17-201 Agricultural Diesel Engine Registration Program: The registration program established by the District for agricultural diesel engines as required by the ATCM, Section 93115.8 (c).

11-17-202 Agricultural Operation: For the purposes of this regulation, and to be consistent with Title 17, California Code of Regulations, Section 93115 et. seq., an agricultural operation is the growing and harvesting of crops, or the raising of fowl, animals or bees as a gainful occupation.

- 11-17-203 Certified Engine:** A compression ignition (diesel) engine that is certified to meet the Tier 1, Tier 2, Tier 3, or Tier 4 Off-Road Compression Ignition Certification Standards as specified in Title 13, California Code of Regulations, section 2423. Any engine not certified to meet these standards is defined as a Tier 0 engine.
- 11-17-204 Extreme Frost Season:** Any Frost Protection Season when more than 100 hours of frost protection have been required, and the County Agricultural Commissioner declares an “Extreme Frost Season” as specified in Section 11-17-404.
- 11-17-205 Frost Protection Season:** October 1st – May 15th of each year.
- 11-17-206 Health Facility:** Any facility that is operated for the diagnosis, care, prevention, and treatment of human illness including convalescence and rehabilitation, and including care during and after pregnancy, as defined in Section 1250 of California Health and Safety Code.
- 11-17-207 Registered Agricultural Equipment:** Diesel engines registered with the District under the Agricultural Diesel Engine Registration Program.
- 11-17-208 Registration Renewal Period:** The one year period from the date of initial registration or the date of registration renewal in the Agricultural Diesel Engine Registration Program.
- 11-17-209 Residential Area:** Three or more permanent residences located anywhere outside of the agricultural facility’s property.
- 11-17-210 School or School Grounds:** Any public or private school used for the purpose of the education of more than twelve (12) students. School or school grounds include any buildings or structures, playground, athletic field or other areas of school property but do not include unimproved or closed school properties.
- 11-17-211 Stationary Agricultural Diesel Engine:** Any compression ignition (diesel) engine used in an agricultural operation that is designed to stay in one location, or remains in one location. An engine is stationary if it meets any of the three requirements set in ATCM 93115.4 (a) (72) (A), (B), or (C).

11-17-300 STANDARDS

- 11-17-301 Compliance Requirements:** Stationary agricultural diesel engines shall comply with all applicable requirements of the Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition Engines adopted by the California Air Resources Board (Section 93115 through 93115.15, Title 17, of the California Code of Regulations), effective October 18, 2007.
- 11-17-302 Requirements – Alternate Compliance Plan:** Stationary agricultural diesel engines approved for an Alternate Compliance Plan shall meet the following requirements:
 - 302.1 The engine must be used exclusively for an agricultural operation.
 - 302.2 The engine must be equipped with a non-resettable hour meter.
 - 302.3 The engine must be registered in the District’s Agricultural Diesel Engine Registration Program.
 - 302.4 The engine must be located more than 1000 feet from a residential area, school or health facility; or if any engine is located 1000 feet or less from a residential area, school or health facility the owner/operator must conduct a Health Risk Screening Analysis (HRSA) in accordance with Regulation 2, Rule 5, Section 603 or provide the information necessary for the APCO to conduct an HRSA for that engine to demonstrate that the cancer risk from the engine, at the location of the residential area, school or health facility, is less than 10 in a million and PM_{2.5} ground level concentration is less than 0.3 µg/m³, and that the cumulative cancer risk from all sources within 1000 feet is less than 100 in a million and cumulative PM_{2.5} ground level concentration is less than 0.8 µg/m³.
 - 302.5 Engine use must average 100 hours or less per registration renewal period over any consecutive three registration renewal periods, and must not exceed 150 hours in any registration renewal period.
 - 302.6 Total use hours during each registration renewal period shall be reported as part of annual Agricultural Diesel Engine Registration renewal.
 - 302.7 Tier 0 engines shall be removed from service no later than December 31, 2020.

- 302.8 Tier 1 engines shall be removed from service no later than December 31, 2020.
- 302.9 Tier 2 engines shall be removed from service no later than December 31, 2025.
- 302.10 Each Tier 0, Tier 1, or Tier 2 engine shall be replaced with an electric motor, certified Tier 4 engine or an engine meeting Tier 4 emission standards, or the highest tier (lowest emissions) engine available for purchase at the time of replacement.

11-17-303 Additional Engine Use Allowed During Extreme Frost Seasons – Alternate Compliance Plan: An agricultural diesel engine may be used an additional 100 hours beyond engine use allowed in 11-17-302.5 during a registration renewal period when the County Agricultural Commissioner declares an Extreme Frost Season that meets the requirements in Section 11-17-404. If an Extreme Frost Season is declared in the county, one hundred (100) hours shall be excluded from an engine's total use hours during the applicable registration renewal period (before averaging).

11-17-400 ADMINISTRATIVE REQUIREMENTS

11-17-401 Agricultural Diesel Engine Registration Program: The owner or operator of a stationary agricultural diesel engine must register the engine in the District's Agricultural Diesel Engine Registration Program, and renew registration annually. Any person registering a stationary agricultural diesel engine shall pay fees required as set forth in Regulation 3.

11-17-402 Requirements for Alternate Compliance Plan Approval: The APCO may grant an Alternate Compliance Plan for owners and operators of stationary agricultural diesel engines that meet the following conditions:

- 402.1 All requests for an Alternate Compliance Plan must be submitted to the District through the District's Agricultural Diesel Engine Registration Program after July 1, 2011, and by December 31, 2011. An application for an Alternate Compliance Plan will be accepted after December 31, 2011 only if it is for an engine previously exempt and later disqualified from the exemption in 11-17-103, as provided in 11-17-403.
- 402.2 Each owner or operator must certify that the engine meets all the requirements set forth in 11-17-302.
- 402.3 Request for Alternate Compliance Plan must be approved in writing by the APCO.

11-17-403 Disqualification from Exemption or Alternate Compliance Plan Status: Any owner or operator of a stationary agricultural diesel engine that no longer qualifies for an exemption in 11-17-103 or 11-17-104, or for the Alternate Compliance Plan in 11-17-302 must take the following actions:

- 403.1 Notify the APCO within five (5) days immediately after they become aware that the exemption or qualification for the Alternate Compliance Plan no longer applies.
- 403.2 Apply for the Alternate Compliance Program as provided in Section 11-17-402 within thirty (30) days of the date of notification to the APCO; or replace the existing engine with an electric motor, a certified Tier 4 engine or an engine meeting Tier 4 emissions standards, or the highest tier (lowest emissions) engine available for purchase at the time of replacement within six (6) months of the date of notification to the APCO of loss of the exemption or loss of qualification for the Alternate Compliance Plan.

11-17-404 Declaration of Extreme Frost Season: Any County Agricultural Commissioner within the jurisdiction of the District may declare an Extreme Frost Season if the hours needed for frost protection in that County exceed 100 hours during any Frost Protection Season.

- 404.1 This declaration must be submitted to the District in writing no later than June 30th following the end of the Frost Protection Season for the applicable season.
- 404.2 The declaration must contain appropriate meteorological documentation to support the declaration.

11-17-500 MONITORING AND RECORDS

11-17-501 Recordkeeping: The owner or operator of a stationary agricultural diesel engine must comply with the recordkeeping, reporting, and monitoring requirements in the ATCM as specified in the ATCM, Section 93115.10.

11-17-502 Reporting of Stationary Agricultural Diesel Engine Use: The owner or operator of a stationary agricultural diesel engine qualifying for the exemption (Section 103), or Limited Exemption - Alternate Compliance Plan (Section 104) shall keep a monthly log of usage that records the total hours of operation. Records shall be retained on-site for a minimum of 36 months, and made immediately available to District staff upon request. The owner or operator shall report for each renewal period total hours used as part of each engine's annual renewal in the Exemption / Alternate Compliance Plan segment of the Agricultural Diesel Engine Registration Program.

Bay Area Air Quality Management District

**939 Ellis Street
San Francisco, CA 94109**

BAAQMD Regulation 11, Rule 17: Limited Use Stationary Compression Ignition (Diesel) Engines in Agricultural Use



**Staff Report
May, 2011**

**Guy A. Gimlen
Senior Air Quality Engineer
Planning, Rules and Research Division**

Thanks and appreciation to the following people who contributed significantly during the rulemaking process:

- Brandon Dayoan Compliance & Enforcement Division
- Malinda Lai Information Services Division
- Anja Page Information Services Division
- Joe Slamovich Engineering Division
- Stacy Shull Strategic Incentives Division
- Randi Wallach Legal Division

STAFF REPORT

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I. EXECUTIVE SUMMARY

The Bay Area Air Quality Management District (District or BAAQMD) is proposing Regulation 11, Hazardous Pollutants, Rule 17: Limited Use Stationary Compression Ignition (Diesel) Engines in Agricultural Use as a local regulation that is equivalent to the Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition (CI – also known as diesel) Engines adopted by the California Air Resources Board (CARB) for the same category of sources. The intent of this regulation is to adopt CARB requirements for stationary engines in agricultural operations, but to also make some changes to better address local needs, specifically, allow an option to defer compliance until 2020 or 2025.

A. Proposed Rule

Regulation 11, Hazardous Pollutants, Rule 17, Limited Use Stationary Compression Ignition (Diesel) Engines in Agricultural Use, is a proposed new rule intended to reduce public exposure to toxic air contaminants from stationary compression ignition (diesel) engines used in agricultural operations within the District and to adopt CARB requirements for stationary engines in agricultural operations, but to also make some changes to better address local needs. The proposed Rule is specifically intended to address local compliance issues faced by low-use stationary agricultural diesel engines.

The District has been implementing CARB's ATCM since it was first approved in 2004. The ATCM sets emissions standards for all types of stationary diesel engines and schedules for compliance based on engine size and use. Engines in agricultural use, initially exempt, were added to the ATCM by CARB in 2006, and given compliance dates of October 1, 2007 to register with local districts, and January 1, 2011 and January 1, 2012 to meet emissions standards, depending on engine size. Most low-use agricultural engines in the District were not in compliance with the ATCM requirements on January 1, 2011.

As of May 1, 2011, approximately 395 agricultural diesel engines have been registered with the District. The BAAQMD is proposing a combination of strategies including a very limited exemption for the least used engines, a compliance extension for low-use engines that would allow their replacement with Tier 4 engines, as well as shorter time periods for engines that no longer meet criteria for certain limited exemptions to come into compliance.

Exemption for Very Low-Use Engines

Proposed Regulation 11, Rule 17 would exempt from emissions control requirements any agricultural engine that operates less than 20 hours per year.

Alternative Compliance Plan for Low-Use Engines

Owners or operators of an agricultural diesel engine may apply for alternate compliance by petitioning for approval of a low-use Alternative Compliance Plan (low-use ACP),

provided that applicable criteria are met (e.g., engine operates on average less than 100 hours per year, and is located more than 1,000 feet from a residential area, school, or health facility). If the low-use ACP is approved by the APCO, the engine may continue to operate through December 31, 2020 if the existing engine is a Tier 0 or Tier 1 engine and through December 31, 2025 if the existing engine is a Tier 2 engine.

Each engine must be replaced with an electric motor, a certified Tier 4 engine or an engine meeting Tier 4 emission standards, or the highest tier (lowest emissions) engine available for purchase at the time of replacement. The ACP deadlines are designed to enable replacement of existing engines (mostly Tier 0) with Tier 4 engines. In addition, the owner or operator of each engine must record its use and report it to the District each year at the time of registration or registration renewal.

Shortened Compliance Term for Engines No Longer Eligible for Exemption or Low-Use ACP

CARB's ATCM provides a period of up to eighteen months for an agricultural engine that loses its exempt status to come into compliance with the otherwise applicable emissions standards. Proposed Regulation 11, Rule 17 reduces the period to six months.

B. Sources Affected by Proposed Regulation 11, Rule 17

On February 1, 2011 three hundred and thirty five (335) agricultural engines were registered with the District. While there may be additional engines registered in the future, the then-current inventory of registered engines that may be affected is as follows:

- 64 engines operate fewer than 20 hours per year and are potentially eligible to be exempted from control requirements.
- 125 engines operate fewer than 100 hours per year, and may qualify for a low-use Alternate Compliance Plan.
- 42 engines are used up to 200 hours per year, and may be able to qualify for the Alternate Compliance Plan if they can reduce usage to less than 100 hours through disciplined control of engine use.

The remaining engines are considered "prime" engines since they are used regularly.

C. Economic Impacts

A socioeconomic analysis conducted by Applied Development Economics for the District shows the economic impacts of the CARB ATCM on low-use engines are greater than stated in the CARB economic analysis, because the CARB analysis was based on engines operating 1000 hours per year, with 20 year engine life. This is typically many more hours per year than low-use engines operate, resulting in a much longer useful engine life for these low-use engines. Consequently, many District low-use engines have significant remaining life available. The analysis shows that the economic impacts of proposed Regulation 11, Rule 17 are less than significant for both

small and large agricultural operations, primarily because this proposal provides compliance flexibility. The benefit of this proposal is that the deferred replacement deadlines will allow further recovery of useful engine life, and, providing it is found to be equivalent to the CARB ATCM, will allow the District's Agricultural Assistance Program funding to remain available until the proposed compliance dates (providing state law continues to make these funds available). These funds can provide critical funding to offset up to 85% (typically 60 – 75%) of the cost of a replacement engine. In addition, because it is optional, any incremental costs associated with deferred compliance (future purchase of cleaner, more expensive engines) do not have to be incurred by engine operators if they choose to comply with the ATCM.

The ATCM requires Tier 0 stationary agricultural diesel engines over 100 hp to meet stringent emissions requirements effective 12/31/2010, and Tier 0 engines from 50 – 100 hp to meet emissions requirements by 12/31/2011. The most practical way to achieve these emissions standards is to replace the engines. Tier 3 engines that meet these standards are currently available. Under the proposed rule, the owner/operator can replace the low-use engine now as required by the ATCM, or choose to apply for the Alternate Compliance Plan and delay replacement until 12/31/2020. While Tier 4 engines may be more expensive in the 2020 timeframe, each owner/operator has the opportunity to choose which course of action is best for their particular situation. Similarly, for existing Tier 1 and Tier 2 engines, the ATCM requires that they meet even more stringent Tier 4 standards by the end of 2014 or 2015, depending on the size of the engine. In this case, these engines must be replaced with Tier 4 engines. This proposal provides flexibility to defer the replacement costs until 2020 or 2025. A socioeconomic analysis has determined that this proposed rule has no significant economic impact or loss of jobs.

The District is proposing a one-time application fee to participate in the Alternate Compliance Plan of \$129. This fee covers the development and administrative costs for the integration of the ACP into the existing Agricultural Diesel Registration Program.

D. Environmental Impacts

The existing emissions associated with low-use CI engines were developed using data from engines that were registered with the BAAQMD in August, 2010, which included 279 agricultural diesel engines, 82% of which were engines installed before 1996. These are known as Tier 0 engines because they don't meet any emissions standards. The emissions for these low use agricultural engines following implementation of Regulation 11, Rule 17 were also estimated, assuming the same engine operating parameters (e.g., hours per year) and that Tier 4 compliant engines would be installed. Feedback from farmers, cattlemen, dairymen and agricultural equipment suppliers indicate there may be significantly more diesel engines in the field that have not yet been registered. A range of emissions estimates are given to accommodate the range of uncertainty regarding the number of potential agricultural diesel engines. Full implementation of Regulation 11, Rule 17 is expected to result in emissions reductions of:

- VOC 1.78-2.67 tons/year,
- NOx 22.70 – 34.05 tons/year, and
- PM 1.24 to 1.86 tons/year.

However, the proposed rule will delay implementation of engine replacement that is currently required under CARB’s ATCM. The base case or “baseline” for CEQA consideration is normally the physical conditions as they exist at the time the project is proposed. In this case, the CARB ATCM is only partially implemented, so most current agricultural diesel engines are Tier 0. Full implementation through replacement of existing low-use engines with Tier 3 engines is anticipated to take an additional year or two. To most conservatively consider any potential impacts from the proposed rule, however, three scenarios have been analyzed:

1. the existing emissions baseline (population of current engines) is compared to the predicted engine emissions at full implementation of the proposed rule;
2. the existing emissions baseline (population of current engines) is compared to the predicted engine emissions at full implementation of the ATCM, especially during the early years (2011 through 2020); and
3. the impact of the emissions of engines associated with the proposed rule at full implementation is compared to the emissions of engines associated with the ATCM at full implementation.

Scenario (3) considers the delay in emissions reductions that would occur from implementation of the ATCM.

Implementation of Regulation 11, Rule 17 is expected to result in emissions reductions of VOC (1.78-2.67 tons/year), NOx (22.70 – 34.05 tons/year), and PM (1.24 to 1.86 tons/year) following full implementation. However, the proposed rule will delay implementation of engine replacement that is currently required under CARB’s ATCM. The emissions associated with the use of low-use agricultural engines will be higher in the 2011 to 2020 timeframe under Regulation 11, Rule 17 as the proposed regulation would delay implementation of portions of the ATCM until after 2020. Under the ATCM, some Tier 0 engines would be required to convert to Tier 3 engines sooner and these engines are assumed to remain Tier 3 engines into the future. Under the proposed Regulation 11, Rule 17, all existing Tier 0, Tier 1 and Tier 2 engines would be replaced with Tier 4 engines, but not until 2020 or 2025. Therefore, even though a vast majority of the low use agricultural engines have not complied with the ATCM, the proposed project would delay emission reductions that would have occurred due to compliance with the ATCM in the 2011 through 2020 timeframe. Table I-1 shows the difference between the emissions reductions that would have been achieved by compliance with the ATCM and under the proposed Rule, and compares the delayed emissions reductions to the Bay Area’s recently adopted CEQA thresholds.

**TABLE I-1
Estimated Emission Reductions Foregone During Early Years Associated with
Implementation of Regulation 11, Rule 17 (tons/yr)**

Pollutant	Emission Reductions foregone⁽¹⁾ (tons/yr)	CEQA Significance Thresholds (tons/yr)	Potentially Significant?
VOC	1.12 - 1.68	10	NO
NOx	17.04 - 25.56	10	YES
PM	0.82 - 1.23	15	NO

(1) Emission reductions that would not occur in 2011 through 2020 if Regulation 11, Rule 17 was implemented.

The emissions of VOC and PM relative to the ATCM in the interim years are less than the applicable CEQA significance threshold and, therefore, less than significant. However, the emissions of NOx relative to the ATCM could exceed the 10 tons per year CEQA threshold and are potentially significant.

Implementation of Regulation 11, Rule 17 would result in additional VOC, NOx, and PM emission reductions in the long-term (after 2020) and provide additional long-term beneficial air quality and related health impacts than the ATCM. Greater VOC, NOx, and PM emission reductions are expected under the proposed rule than under CARB's ATCM.

Since the emissions of NOx relative to the ATCM could exceed the 10 tons per year CEQA threshold and are potentially significant, draft and final CEQA Environmental Impact Reports (EIR) have been prepared. The EIR discusses the potential impacts of criteria air pollutants (ozone and its precursors, NOx and VOC, and particulate matter), impacts of toxic air contaminants and impacts of greenhouse gas (GHG) emissions.

The proposed rule at full implementation is expected to result in a reduction in toxic (diesel particulate) emissions and health risk. Until the proposed rule is fully implemented, there could be slightly greater health risks than would occur under the ATCM, were it fully implemented. The proposed rule includes provisions that affected engines must not have significant local health risks in order to be eligible for an ACP. Cancer risks were assessed, and time-weighted for the interim period before Regulation 11-17 would take full effect. Cancer risks were not found to be significant. PM_{2.5} ground level concentrations are determined using the CARB HARP model. Proposed Regulation 11-17 would not cause a significant increase in local ground level concentrations of PM_{2.5}. Following full implementation, the PM_{2.5} concentrations would be reduced by 99 percent from existing levels. A cumulative impact analysis of potential health risk resulting from the proposed rule was conducted. Areas within the District where agricultural property is adjacent to major roadways were identified. The incremental risk associated with the engines affected by this proposed rule will not significantly increase cumulative risks to nearby sensitive receptors. While some of the

major highways' current risk values are high, in the long term the proposed rule will reduce the risk from agricultural engines which may be adjacent to major roadways, thereby lowering the cumulative risk to receptors.

Because NOx emissions in the time period from 2011 to 2020 may be above the District's CEQA threshold, the District will use District grants and incentives to achieve equivalent NOx reductions from other sources. The District has identified specific strategic incentive funding from the Transportation Fund for Clean Air (TFCA) and other grant programs that will be used to fund NOx reduction projects anticipated to reduce NOx emissions by up to 25 tons per year between 2011 and 2020. These projects will mitigate the delayed NOx reductions from the proposed rule, resulting in less than significant NOx impacts.

E. Rule Development Process

Staff has conducted an extensive outreach process through county agricultural commission offices and agricultural trade associations to notify owners and operators of stationary agricultural diesel engines of the requirement to register their engines with the District, and to get feedback on the proposed Regulation 11, Rule 17. Nine public workshops were held in each of the Bay Area counties (except San Francisco), with attendance totaling approximately 100 people. Suggestions were received and some have been incorporated into the proposed rule.

Details of the CEQA EIR Notice of Preparation (NOP) and Initial Study (IS) were also discussed at the workshop. No comments were received on the NOP/IS. Subsequent to the workshops, a CEQA Notice of Completion and draft EIR on the proposed rule was published on March 18, 2011. No comments were received during the comment period on the draft.

A Public Hearing notice on proposed Regulation 11, Rule 17 and final proposed rule was published on April 18, 2011. No comments were received on the proposal.

F. Conclusion

Proposed Regulation 11, Rule 17 meets all the legal criteria for adoption. A socio-economic analysis indicates the proposed rule has less than significant impact on both small and large agricultural operations, and costs can be further mitigated by the availability of Agricultural Assistance program funding to help with the cost of engine replacement. The EIR concludes the proposal, when mitigated as proposed, has no significant adverse environmental impacts.

II. BACKGROUND

A. Introduction

The Bay Area Air Quality Management District (District) is proposing Regulation 11, Hazardous Pollutants, Rule 17: Limited Use Stationary Compression Ignition (Diesel) Engines in Agricultural Use as a local regulation that is equivalent to the Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition (CI – also known as diesel) Engines adopted by the California Air Resources Board (CARB) for the same category of sources. The intent of this regulation is to provide compliance flexibility by adopting CARB requirements for stationary engines in agricultural operations, but to also make some changes to better address local needs. The proposed Rule is specifically intended to address local compliance issues faced by a sub-group of affected sources, low-use stationary agricultural diesel engines, by offering an option to extend the compliance deadline provided certain criteria are met.

B. Air Resources Board Airborne Toxics Control Measure for Stationary Diesel Engines

The Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition Engines (Sections 93115 through 93115.15, Title 17 of the California Code of Regulations, effective October 17, 2007) was originally adopted by CARB pursuant to Section 39650, et seq., of the California Health and Safety Code (H&SC). Section 39650 establishes a program for CARB, along with the Office of Environmental Health Hazard Assessment (OEHHA), to review the health effects of pollutants emitted into the air, to identify those that are most harmful as Toxic Air Contaminants (TACs), and to establish risk reduction plans and regulations to reduce public exposure to TACs they have identified. The particulate fraction of diesel exhaust was identified by CARB as a TAC in 1998, and CARB adopted a Risk Reduction Plan in 2000 that identified the main sources of diesel particulate matter and set out a schedule for regulating them.

CARB adopted the ATCM for stationary CI engines in 2004, affecting diesel engines driving a wide variety of machinery including electrical generators, conveyors, pumps and compressors. The ATCM required all applicable sources of TACs to hold valid operating permits or be registered with the local air district, unless the source is covered by a specific exemption. The registration or permit review is the gateway to implementation of the regulatory program, however the regulations apply whether or not a source is registered or has a valid permit. In 2006 CARB determined that both emergency standby engines and agricultural engines were potentially significant sources of air pollution, so both categories of engines were included in the ATCM and brought into the registration or permit program.

Under Section 39666 of the H&SC, local air districts are charged with implementing and enforcing ATCMs that affect stationary sources. The District has enforced the ATCM for stationary CI engines since it became effective. Section 39666 of the H&SC also allows districts to adopt equivalent or more stringent local rules for the same sources. When

the ATCM was amended in 2006 to include stationary agricultural engines, agricultural interests raised concern about compliance with the ATCM for low-use engines, because replacement of the engine with a new cleaner burning engine is the only practical way to achieve compliance. CARB staff and staff from several air quality management districts in the state have been working together to identify acceptable equivalent local rules that resolve the concerns regarding these low-use agricultural diesel engines. The proposed Regulation 11, Rule 17: Limited Use Stationary Compressions Ignition Engines in Agricultural Use is the result of that effort in the Bay Area.

Diesel Particulate Pollution

In 1998, CARB identified the particulate fraction in diesel exhaust as a Toxic Air Contaminant based on its potential to cause or contribute to cancer, heart and lung disease, poor pregnancy outcomes, premature death, and other health problems. Diesel particulate matter has an associated unit risk value that is relatively potent. In most areas of California, emissions of diesel exhaust account for over 80% of the air pollution caused cases of cancer and other health effects. CARB estimated the number of premature deaths associated with exposure to diesel particulate to be 3,500 per year statewide in 2008.

In addition to the health problems specifically attributed to diesel particulate, studies have shown that combustion-related pollutants, including diesel particulate, adversely affect lung growth and lung function in children. The Southern California Children's Health Study, conducted primarily by researchers at the University of Southern California, is a longitudinal study that included 10,000 children over a 10 year period and examined how exposure to air contaminants affected their pulmonary health over time. In 2004, the New England Journal of Medicine published a comprehensive report of the study's results, which conclusively showed measurable impacts of air pollution on children's lung tissue. Specifically, the study found that:

- (1) children exposed to higher levels of combustion-related pollutants had lungs that developed more slowly than socio-economically matched children with lower exposure,
- (2) exposed children had smaller lungs and poorer lung function,
- (3) exposed children missed more school days, and
- (4) lungs of children who moved from a high-exposure area to a low-exposure area in the course of the study resumed a more normal growth rate, but never recovered the lost lung function.

For all of these reasons, CARB has set in place an aggressive program to reduce exposure to diesel particulate exhaust. Within the Bay Area, ambient concentration of diesel particulate is a primary source of health risk, particularly near freeways and the Oakland harbor area. Stationary sources are a relatively small fraction of total diesel emissions, although they sometimes contribute to local health risks.

The District's Community Air Risk Evaluation (CARE) Program is designed to identify industrial and commercial facilities, as well as on-road and off-road mobile sources that

may result in locally elevated ambient concentrations of TACs, to report significant emissions to the affected public, and to reduce unacceptable health risks. The CARE program is a major program for the District, providing the basis for identifying impacted communities which set priorities for many District actions. The CARE program has directly influenced the development of the 2010 CEQA Guidelines, especially the Risk and Hazards thresholds. The CARE program includes developing a gridded TAC emission inventory, regional modeling of TAC concentrations, mapping of vulnerable communities, and identifying risk reduction measures.

Diesel Risk Reduction Program

CARB adopted its Diesel Risk Reduction Plan in October of 2000. The Plan sets out the basis for regulating diesel particulate exhaust from internal combustion engines in all sectors of the economy in California. This includes mobile engines, off-road engines, portable engines, and stationary engines. Mobile diesel engines include diesel engines in passenger vehicles, marine vessels, buses, and trucks, and account for at least 27% of statewide emissions of diesel particulate. Off-road mobile equipment, like bulldozers, excavators, and drilling rigs, is responsible for up to 66% of statewide diesel emissions, although CARB has recently reduced those emissions estimates substantially¹. Portable generators and other portable equipment contribute about 5% of the total, and engines in stationary service are responsible for about 2%. Stationary diesel engines include emergency standby generators and engines considered “prime” by CARB, which means they are normally operating, rather than in standby mode. CARB estimates that 70% of the prime engines in California are in used in agricultural operations for pumping water.

In 2000, CARB estimated the total emissions from all diesel categories to be about 28,000 tons per year. The Diesel Risk Reduction Plan aims to reduce those emissions 85% by 2020. This is to be accomplished through stringent standards for new engines, regulations to reduce emissions from existing engines in each source category, and through mandated reformulation of diesel fuel, as well as the development of alternative fuel infrastructure and technology.

New diesel engines today (currently identified as Tier 3 because they meet ATCM Tier 3 emissions standards) are much cleaner than engines built before emissions performance standards were established (also known as Tier 0 engines). The difference is dramatic. Old engines produce characteristic dark smoke, but the new engines do not have any visible exhaust other than the visual distortion from heat. The next level of diesel engine designed to meet Tier 4 emissions level engines are expected to become available in the 2014 to 2015 timeframe, and these will be even cleaner. In addition to advances in engine technology, control equipment can be added on to the engine to remove the particles from the exhaust. These include passive and active filters, oxidizers, and selective catalytic reduction. Some existing engines may be

¹ Workshops on Information Regarding the Off-Road, Truck and Bus and Drayage Truck Regulations, September 3, 2010

http://www.arb.ca.gov/msprog/ordiesel/documents/emissions_inventory_presentation_full_10_09_03.pdf

C. Limited Use Engines for Agricultural Needs

The ATCM specifically exempted diesel engines in agricultural use when approved in 2004. However, further study indicated the emissions from agricultural diesel engines were significant, and agricultural engines needed to be controlled or replaced. When CARB updated the ATCM in 2006, it included emission standards for agricultural diesel engines. CARB determined that certain low-use exemptions were appropriate, and included an exemption for diesel driven air movement fans used for frost protection in orchards and vineyards, and an exemption for emergency standby generator sets used in agriculture. However, CARB failed to include exemptions for other low-use agricultural diesel engines including water pumps used to spray water as an alternate method of frost protection. Proposed Regulation 11, Rule 17 is designed to provide a deferred timetable for replacement of limited use agricultural diesel engines because:

- Most low-use agricultural diesel engines are nowhere near their end of useful life, so early replacement represents an economic penalty that was not adequately considered in CARB's ATCM economic analysis.
- Tier 4 engines are scheduled to be available in the 2014/2015 timeframe. Replacing current low-use agricultural diesel engines with Tier 4 engines will, when available, substantially reduce long-term emissions more than currently available Tier 3 engines.

Agricultural Diesel Engines used less than 100 hours annually

Orchards and vineyards occasionally need to use diesel driven water pumps to protect crops if they suffer from lack of water during excessive heat in summer, or from freezing in winter. These orchards and vineyards are equipped with sprinkler systems used to provide supplemental water when needed during extremely hot and dry summer days (usually in August and September), and to provide frost protection during the coldest parts of the spring (February, March and April). Water for supplemental irrigation is very seldom used because most fruit trees and grape vines have deep roots, and quality of the fruit is degraded with excess water. Similarly, frost protection is seldom needed and the number of days and hours of potential frost are highly variable each year, averaging about 80 hours per year. These pumps provide water to frost protection sprinklers during the early morning hours when most people (except farmers) are indoors and asleep.

CARB based its ATCM on "irrigation pumps" like those in the central valley, and did not consider "minor supplemental irrigation" or "frost protection" pumps. CARB staff assumed that most of these engines driving irrigation pumps operated 1000+ hours per year. Engines that operate 1000 hours per year, and are over 20 years old are near their end of useful life and would soon need to be replaced (assuming a typical ~20,000 hour life). However the lower usage (under 100 hours per year) supplemental irrigation and frost protection diesel engines do not wear out as quickly. Low-use agricultural diesel engines can have significant remaining life, and this loss of remaining life was not included in CARB's economic evaluation. In addition, emissions were overestimated

based on 1000 hours of operation per year. The costs of reducing emissions by replacing low-use agricultural pumps is much higher than estimated by CARB.

Staff work done by CARB in development of the ATCM for diesel engines and cleaner burning diesel fuel is voluminous. No attempt is made here to characterize or summarize the significant quantity of information contained in the ACTM and staff report. The focus of this report is the compliance schedule required for low-use agricultural engines.

D. Current Inventory of Low-use Agricultural Diesel Engines

As of February 1, 2011, there were 335 agricultural diesel engines registered in the District. This number has increased about 20% since August, 2010 through significant outreach to the agricultural community, encouraging them to register their engines with the District. Current registration indicates there are:

- 64 engines that operate fewer than 20 hours per year
- 125 engines operate more than 20 hours per year, but less than 100 hours per year
- 42 engines operate more than 100 hours per year, but less than 200 hours per year, and may be able to reduce operating hours through disciplined control of engine use.

In August, 2010 there were 279 engines registered. Emissions analysis and potential emissions reductions are based on those 279 diesel engines. Of the 279 engines, 155 engines (56%) are identified as “low-use,” with less than 100 hours operation annually. One hundred and twenty (120) of the low-use engines drive water pumps, while 33 of these engines are used as emergency power generators, one is used for fire water, and another drives a tractor and is therefore not a stationary engine and not subject to this proposed rule. Seven of the low-use engines use propane for fuel, so are excluded from further emissions reduction analysis. This leaves a total of 147 diesel engines that are operated less than 100 hours per year. An additional 38 of the 279 engines are estimated to operate less than 200 hours annually, so they could possibly fall into the “low-use” category with disciplined control of their total overall hours of operation. The remaining engines are considered “prime” engines since they are used regularly.

Some of the registered agricultural diesel engines are new, or have already been replaced with newer low emissions diesel engines. Registration data indicates that approximately 10% of the diesel engines are Tier 1, 5% are Tier 2, and 3% of the current engines are Tier 3. Most of these have been replaced by taking advantage of grants available through the District’s Strategic Incentives Division that administers the District’s Agricultural Assistance Program. The remaining 82% of the diesel engines do not meet the Tier emissions standards, and are therefore considered Tier 0. This population of engines provides the basis for emissions estimates that follow.

Feedback from farmers, cattlemen, dairymen and agricultural equipment suppliers indicate there may be significantly more diesel engines in the field that have not yet been registered. Staff based analysis for this proposed regulation on the existing inventory of registered engines, but additional agricultural engines may be registered as this rulemaking process moves forward, and the deadline for engine upgrade or replacement approaches. Estimates for number of diesel engines, and estimates for emissions and emission reductions are based on a range from double to triple the count of registered engines in August, 2010.

III. PROPOSED RULE

The only option currently available for owners of Tier 0 agricultural diesel engines in the District is to replace their diesel engines by the end of 2010 or 2011 (depending on their size), or fall out of compliance with the ATCM. This means replacement of some low-use agricultural diesel engines is required by the end of 2010, or 2011. This rule is proposed to provide compliance flexibility that is equivalent to the ATCM. Specific elements of the proposed rule are discussed below.

The District has been implementing CARB's ATCM since it was first approved in 2004. As required by the amendments effective October, 2007, all stationary agricultural diesel engines over 50 HP must be registered with the District. The District has registered approximately 395 agricultural diesel engines to date. Over the three years since CARB's ATCM became effective for agricultural engines, affected farmers and District staff have commented to CARB staff that an exemption was needed for low-use agricultural diesel engines. It appears the best way to address these local concerns is to adopt a local rule that is equivalent to the ATCM. District staff recommends a combination of proposals including a very limited exemption for the least used engines, a compliance extension for low-use engines that would allow their replacement with Tier 4 engines, and shorter time periods for certain engines that may lose their exemption to come into compliance. These provisions are embodied in the proposed Regulation 11, Rule 17. Staff believes the combined package of proposals is equivalent to the ATCM requirements. CARB has already determined that a similar rule at the Northern Sonoma Air District is equivalent to the ATCM.

A. Exemption for Very Low-Use Engines

Proposed Regulation 11, Rule 17 would exempt from emissions control requirements any agricultural engine that operates fewer than 20 hours per year. In addition, the engine must be located more than 1000 feet from a residential area, school, or health facility. If the engine is located 1000 feet or less from a residential area, school, or health facility, a site specific Health Risk Screening Analysis must document that the individual cancer risk is less than 10 in a million and the cumulative cancer risk is less than 100 in a million, and individual PM_{2.5} ground level concentration (GLC) is less than 0.3 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) and the cumulative PM_{2.5} concentration is less than 0.8 $\mu\text{g}/\text{m}^3$.

The owner or operator of the exempt engine is required to maintain records of use to substantiate the exempt status.

B. Alternative Compliance Plan for Low-Use Engines

Under the proposed Regulation 11, Rule 17, the owner or operator of an agricultural diesel engine may apply for alternate compliance by petitioning for approval of a low-use Alternative Compliance Plan (low-use ACP). The Air Pollution Control Officer (APCO) may approve or deny the request. There are five criteria for an agricultural engine to be eligible for the low-use ACP:

- The engine must be used exclusively for an agricultural operation;
- The engine must be equipped with a non-resettable hour meter;
- The engine must be registered with the District's Agricultural Engine Registration Program;
- The engine must operate an average of fewer than 100 hours per year, averaged over three years;
- The engine must be located more than 1000 feet from a residential area, school, or health facility.

If the engine is located 1000 feet or less from a residential area, school, or health facility, a site specific Health Risk Screening Analysis must document that the individual cancer risk is less than 10 in a million and the cumulative cancer risk is less than 100 in a million, and individual PM_{2.5} ground level concentration (GLC) is less than 0.3 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) and cumulative PM_{2.5} concentration is less than 0.8 $\mu\text{g}/\text{m}^3$.

If the low-use ACP is approved by the APCO, the engine may continue to operate for an additional period until the time it is required by District Regulation 11, Rule 17 to comply with the emissions standards of the ATCM. The proposed alternate deadlines for ATCM compliance are based on the engine Tier, as follows:

- Tier 0 engines and Tier 1 engines may continue to operate for up to an average of 100 hours per year until December 31, 2020.
- Tier 2 engines may continue to operate for up to an average of 100 hours per year until December 31, 2025.

The ACP deadlines are designed to enable replacement of existing engines with Tier 4 engines. Each engine must be replaced with an electric motor, certified Tier 4 engine or an engine that meets Tier 4 emissions standards, or the highest tier (lowest emissions) engine available for purchase at the time of replacement.

The owner or operator of each engine must record its use and report it to the District each year at the time of exemption or Alternate Compliance Plan renewal. The exemption and ACP renewal cycle will be set to occur from July through September

each year, to avoid renewal during the period where an Extreme Frost Season is possible.

C. Shortened Compliance Term for Engines No Longer Eligible for an Exemption or Low-Use ACP

CARB's ATCM provides a period of up to eighteen months for an agricultural engine that loses its exempt status to come into compliance with the otherwise applicable emissions standards. Proposed Regulation 11, Rule 17 shortens that period for engines that can no longer meet the requirement for an exemption or the terms of their approved low-use ACP. The proposed rule allows the owner/operator of an engine that no longer qualifies for the exemption for less than 20 hours use to apply for the Alternate Compliance Plan within 30 days. For an engine that no longer qualifies for the Alternate Compliance Plan, the proposed rule allows six months to remove the engine from service or replace it with an engine that complies with the otherwise applicable standards.

IV. EMISSIONS AND EMISSION REDUCTIONS

A. Emissions Impacts of ATCM

The ATCM has already had a significant impact on emissions. Mobile and prime use stationary diesel engines are being replaced with newer, clean burning engines. Sixty (60) agricultural diesel engines have already been replaced through use of incentives from the Agricultural Assistance Program. Estimated emissions reductions from these 60 replacements engines are:

- Non-Methane Hydrocarbon 2.436 tons per year
- NOx 19.623 tons per year
- Particulate Matter 0.682 tons per year

Feedback from farmers, cattlemen, dairymen and agricultural equipment suppliers indicate there may be significantly more diesel engines in the field that have not yet been registered. Staff based analysis for this proposed regulation on the inventory of registered engines in August, 2010, but additional agricultural engines may be registered as this rulemaking process moves forward and the deadline for engine upgrade or replacement approaches. Estimates for the number of diesel engines, and estimates for emissions and emission reductions are based on a range from double to triple the count of registered engines in August, 2010. Table IV-1 shows known and estimated emissions from agricultural diesel engines.

**Table IV-1
Estimated Emissions Inventory for Low-Use Agricultural Diesel Engines
(tons/year)**

Pollutant	Existing Emissions - Registered Engines ⁽¹⁾	Existing Emissions - Unregistered Engines	Total Estimated Range of Existing Emissions ⁽²⁾
VOC	1.05	1.05 - 2.10	2.10 - 3.15
NOx	11.77	11.77 - 23.54	23.54 - 35.31
PM	0.64	0.64 - 1.28	1.28 - 1.92

(1) Based on August, 2010 inventory of agricultural diesel engines registered with the District.

(2) Assumes 2 to 3 times the number of registered CI engines in August 2010.

Based on the estimated inventory, the estimated range of potential emission reductions from the implementation of the ATCM are shown in Table IV-2:

**Table IV-2
Potential Range of Emissions Reductions from ATCM
(tons/year)**

Pollutant	Current Emissions	Emissions after Replacement	Emissions Reductions
Non-methane Hydrocarbon (VOC)	2.10 – 3.15	0.98 – 1.47	1.12 – 1.68
Nitrogen Oxides (NO _x)	23.54 – 35.31	6.50 – 9.75	17.04 – 25.56
Particulate Matter (PM)	1.28 – 1.92	0.46 – 0.69	0.82 – 1.23

These emissions reductions are relatively minor, considering that estimates of total District emissions of VOC's are 354 tons per day, NOx emissions are 473 tons per day, and total PM emissions are 214 tons per day. Low-use engines emit far less than prime diesel engines operating 1000 to 7000 hours per year.

Sources Affected by Proposed Regulation 11, Rule 17

There are currently 395 agricultural engines registered with the District. The number of engines registered has increased 40% since August, 2010 through extensive outreach to the agricultural community and encouragement to register their engines.

In August, 2010 there were 279 agricultural engines are registered with the District. Analysis of emissions, and potential emissions reductions were based on the 279 diesel engines in August. While there may be additional engines registered in the future, the inventory of 279 registered engines used for this analysis were as follows:

- 64 engines operate an average of fewer than 20 hours per year and are potentially eligible to be exempted from control requirements. Four (4) of these engines are fueled by propane, so are already exempt. In addition, 12 of these appear to be located close to housing, a school or a health facility, so they may

not qualify for the proposed exemption. Thus, approximately 48 additional engines (~17% of the total 279) are expected to be exempt.

- 90 engines operate an average of more than 20 hours per year, but fewer than 100 hours per year, and may qualify for a low-use Alternate Compliance Plan. Three (3) of these engines are Tier 3 engines that meet the emissions standards, and 3 more of these engines are fueled by propane so are already exempt. Thus, approximately 81 additional engines (~29% of the total 279) may be eligible for the ACP. Five (5) appear to be proximate to housing, schools or a health facility so may not actually be eligible for the ACP.
- 42 engines are used up to 200 hours per year, and may be able to qualify for the Alternate Compliance Plan if they can reduce usage to less than 100 hours through disciplined control of engine use. Three of these may be located close to housing, schools or a health facility.

B. Emission Reductions Expected

The expected emissions reductions from the August, 2010 population of registered low-use agricultural diesel engines in the District from implementation of the ACTM are:

- Non-Methane Hydrocarbon 0.56 tons per year (0.0015 tons per day)
- NO_x 8.52 tons per year (0.0234 tons per day)
- Particulate Matter 0.41 tons per year (0.0011 tons per day)

Implementation of proposed Regulation 11, Rule 17 will delay fully achieving these emissions reductions up to 10 - 15 years, but will ultimately result in greater overall emissions reductions than anticipated by the ATCM. The low-use ACP provides the advantage of delaying replacement of agricultural diesel engines until Tier 4 engines are available. Replacement of these engines in the years 2020 through 2025 provides the added benefit of even lower long-term emissions for the life of these replacement engines (typically more than 20 years). Expected emissions reductions from replacing the current registered low-use agricultural engines with Tier 4 engines are shown in Table IV-3:

**Table IV-3
Potential Range of Emissions Reductions from Implementation of
Regulation 11, Rule 17
(tons/year)**

Pollutant	Current Emissions ⁽¹⁾	Emissions after Replacement	Emissions Reductions
Non-methane Hydrocarbon (VOC)	2.10 – 3.15	0.32 – 0.48	1.78 – 2.67
Nitrogen Oxides (NO _x)	23.54 – 35.31	0.84 – 1.26	22.70 – 34.05
Particulate Matter (PM)	1.28 – 1.92	0.04 – 0.06	1.24 – 1.86

(1) Assumes 2 to 3 times the number of registered CI engines in August, 2010.

These emissions reductions over the life of the replacement engines exceed those that would be achieved by implementation of the ATCM.

Districts may adopt rules that supersede an ATCM if they are equivalent to or more stringent than an ATCM. District staff believe that proposed Regulation 11, Rule 17 is equivalent to the ATCM because:

- the Alternate Compliance Plan (ACP) for agricultural engines will reduce emissions more than the ATCM;
- the ACP is limited to low-use engines;
- the ACP is not applicable if engines are located within 1000 feet of a residential area, school or health facility unless a health risk screening analysis demonstrates that there would be no significant local health impact;
- engines used less than 20 hours are proposed to be exempt, as allowed in the ATCM;
- the proposal complies with April 2011 CARB guidelines provided to give compliance flexibility for low-use agricultural engines; and
- CARB has determined that a similar rule at the Northern Sonoma APCD is equivalent, and
- CARB staff has indicated that the District rule would be deemed equivalent.

V. ECONOMIC IMPACTS

A. Costs of Compliance

Costs and Impacts of State Regulation

In the initial statement of reasons for adopting the ATCM for Stationary CI Engines, CARB estimated that compliance with the regulation would cost between \$34 million and \$42 million over 22 years (2008-2029) statewide. It also estimated the regulation would reduce 440 tons of diesel particulate exhaust, 8,100 tons of NOx, and would reduce cancer cases associated with emissions from stationary diesel engines by 85%. Based on that record, CARB found that the costs of the regulation were justified.

However, CARB did not include all low-use agricultural engines in its analysis. Low-use engines used to drive air movement equipment for frost protection and agricultural backup emergency generators were exempted. The ATCM does not provide any other exemptions for low-use agricultural diesel engines. There are many other low-use agricultural engines in the District, used primarily for frost protection or minor irrigation as necessary during the hottest times of summer. Vineyard owners have pointed out that the economic analysis during development of the ATCM did not properly consider the remaining life of existing low-use stationary agricultural diesel engines, or the minimal emissions and minimal exposure to toxics from these engines. This proposed rule is designed to address these issues.

Additional Costs and Impacts of Proposed Regulation 11, Rule 17

The local changes to the ATCM as proposed in Regulation 11, Rule 17 will eliminate costs for some owner/operators. The proposed rule will eliminate the engine replacement costs for up to 100 - 150 engines that may be exempted from emissions requirements.

The proposed rule allows the option of an Alternate Compliance Program if stationary agricultural diesel engine owner/operators do not choose to replace their engines on the ATCM schedule. For these engines, replacement costs are deferred but the costs of the Tier 4 engines may be greater. Current Tier 3 replacement engines typically cost between \$20,000 and \$40,000 depending on size, and large engines can cost more. These estimated replacement costs are based on the costs cited in the ATCM, adjusted to 2010. The proposed regulation delays the required replacement for engines, allowing longer time to recover useful life from existing engines, and deferring replacement costs. However, interim Tier 4 diesel engines that have recently become available cost 40 – 85% more than Tier 3 engines. Costs for Tier 4 engines when available in 2015 are not known at this time, because most engine manufacturers have not yet determined the technology that will be necessary to meet the stringent emissions standards required for Tier 4 engines. However, based on discussions with these manufacturers, a reasonable estimate for final Tier 4 engines is twice the cost for the current Tier 3 engines. Installed costs are estimated in Table V-1:

Table V-1: Estimated Costs of Compliant Low-Use Ag Engines

<u>Engine Size</u>	<u>Tier 3 Cost</u>	<u>Interim Tier 4 Cost</u>	<u>Estimated Final Tier 4 Cost</u>
▪ 50 HP	\$10,577	\$15,000 – 20,000	\$21,000
▪ 100 HP	\$13,887	\$20,000 – 26,000	\$28,000
▪ 200 HP	\$20,507	\$28,000 – 38,000	\$41,000
▪ 300 HP	\$27,126	\$38,000 – 51,000	\$54,000
▪ 400 HP	\$33,746	\$47,000 – 63,000	\$67,000
▪ 500 HP	\$40,365	\$56,000 – 75,000	\$80,000

The proposed rule would delay the cost of replacement, and provide additional time to recover useful engine life for engines that qualify for the low-use ACP.

B. Strategic Incentive Funds for Diesel Engine Replacement

Proposed Regulation 11, Rule 17 will very likely be judged to be equivalent to the CARB ATCM. If this occurs, the deadline for replacement of Tier 0 engines resets to 12/31/2020. This deferral of the compliance date makes strategic incentive funding available to help with the replacement costs for Tier 0 engines greater than 100 hp, and will continue the ability to fund replacements beyond the existing ATCM deadlines, providing funding remains available. Strategic incentive funds cannot be provided once a compliance deadline has passed. Provided funds continue to be available, the District's Agricultural Assistance Program (funded by AB 923) will continue to be available to support the replacement of diesel engines approved for the proposed

Alternate Compliance Program. These programs are very important in helping offset the diesel engine replacement cost, and minimizing the economic impact on the agricultural community, particularly small operations.

C. Socio-Economic Impacts

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”. Applied Development Economics of Walnut Creek, California has prepared a socioeconomic analysis of the proposed Regulation 11-17. The analysis concludes that any significant socio-economic impacts on small agricultural operations that exist under the proposed rule are because the ATCM has a significant socio-economic impact on these same operations.

The socio-economic impact analysis conducted by Applied Development Economics concludes the economic impacts of the CARB ATCM on low-use engines are greater than stated in the CARB economic analysis, because the analysis was based on engines operating 1000 hours per year, with 20 year engine life. Low-use engines have significant remaining life available. The proposed rule provides flexibility, and if the owner/operator takes advantage of the Alternate Compliance Plan, the impact from the incremental costs are not significant for either small or large agricultural operations. Although the proposed rule provides a deferred compliance option, the alternative compliance plan is not a requirement, so any incremental costs do not have to be incurred by engine operators. The options available from this proposal are:

- Individual farmers are allowed to proceed with replacing their engine - immediately if it is a Tier 0 > 100 HP.
- Individual farmers with Tier 0 engines are allowed to wait until 2020 to replace their engines, but they will need to replace with a Tier 4 engine at that time. Tier 4 engines may cost significantly more than Tier 3 engines.
- Individual farmers with Tier 1 engines are allowed to wait until 2020 to replace their engines. Under the ATCM, they were required to replace Tier 1 engines with Tier 4 engines in 2015.
- Individual farmers with Tier 2 engines are allowed to wait until 2025 to replace their engines. Under the ATCM, they were required to replace Tier 2 engines with Tier 4 engines in the 2017 – 2019 timeframe.

The benefit of this proposal is that, providing it is found to be equivalent to the CARB ATCM, the deferred replacement deadlines will allow further recovery of useful engine life, and will allow Agricultural Assistance Program funding to remain available until the proposed compliance dates (providing funds continue to be available from the state). These funds can provide critical funding to offset up to 85% (typically 60 – 75%) of the cost of a replacement engine.

The District is proposing a one-time application fee of \$129 to participate in the Alternate Compliance Plan. This fee covers the development costs for the integration of the ACP into the existing Agricultural Diesel Registration Program.

D. Incremental Costs

Section 40920.6 of the California Health and Safety Code requires an air district to perform an incremental cost analysis for any proposed Best Available Retrofit Control Technology rule or feasible measure. The air district must: (1) identify one or more control options achieving the emission reduction objectives for the proposed rule, (2) determine the cost effectiveness for each option, and (3) calculate the incremental cost effectiveness for each option. To determine incremental costs, the air district must “calculate the difference in the dollar costs divided by the difference in the emission reduction potentials between each progressively more stringent potential control option as compared to the next less expensive control option.”

Although the proposed rule allows a deferred compliance option, the alternative compliance plan is not a requirement, so any incremental costs do not have to be incurred by engine operators. In addition, staff identified one option – called the “Earlier Implementation Option” that would have required replacement of engines shortly after Tier 4 engines were commercially available. This option would require engine replacement in approximately the 2016 – 2017 timeframe, rather than deferring replacement out to 2020. Since this option would reduce the recovery of remaining life from the existing engines and incur replacement costs sooner, this option is less economically desirable than the proposal.

VI. ENVIRONMENTAL IMPACTS

A. California Environmental Quality Act (CEQA)

Pursuant to the California Environmental Quality Act, the District had an initial study for the rule proposal prepared by Environmental Audit, Inc. A Notice of Preparation and Initial Study (NOP/IS) for the adoption of District Regulation 11, Rule 17 was distributed to responsible agencies, interested parties and the State Clearinghouse for a 30-day review on January 12, 2011. A notice of the availability of this document was distributed to other agencies and organizations and was placed on the BAAQMD’s web site, and was also published in newspapers throughout the area of the BAAQMD’s jurisdiction. The comment period was open until February 11, 2011. No comment letters were received on the NOP/IS. A copy of the NOP/IS has been included as Appendix A of the resulting final EIR.

The NOP/IS identified the following environmental resources as being potentially significant, requiring further analysis in the EIR: air quality and potential greenhouse gas emissions. The following environmental resources were considered to be less than significant in the NOP/IS: aesthetics, agricultural resources, biological resources,

cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation and traffic, and utilities service systems.

The Notice and Preparation and Initial Study concluded that there were potential significant adverse environmental impacts on air quality associated with the proposed rule, triggering the preparation of a draft Environmental Impact Report. The Notice of Completion and draft EIR was distributed and was placed on the BAAQMD's web site, and was also published in newspapers throughout the area of the BAAQMD's jurisdiction for public comment on March 18, 2011. The draft EIR was available for public comment during the period from March 18, 2011 to May 2, 2011. No comments have been received.

Criteria Pollutant Impacts

Implementation of Regulation 11, Rule 17 is expected to result in emissions reductions of VOC (1.78-2.67 tons/year), NOx (22.70 – 34.05 tons/year), and PM (1.24 to 1.86 tons/year) following full implementation. These emissions reductions are greater than what would be achieved under the ATCM.

However, the proposed rule will delay implementation of engine replacement that is currently required under CARB's ATCM. The emissions associated with the use of low-use agricultural engines will be higher in the 2011 to 2020 timeframe under Regulation 11, Rule 17 as the proposed regulation would delay implementation of portions of the ATCM until after 2020. Under the ATCM, some Tier 0 engines would be required to convert to Tier 3 engines sooner and these engines are assumed to remain Tier 3 engines into the future. Under the proposed Regulation 11, Rule 17, all existing Tier 0, Tier 1 and Tier 2 engines would be replaced with Tier 4 engines by the end of the 2020 – 2025 timeframe. Therefore, the proposed project would delay emission reductions expected from the ATCM in the 2011 through 2020 timeframe. Table VI-1 illustrates the difference between emission reductions under the ATCM and proposed Regulation 11-17 from 2011 through 2020 assuming immediate compliance with the ATCM.

**TABLE VI-1
Estimated Emission Reductions Foregone During Early Years Associated with
Implementation of Regulation 11, Rule 17 (tons/yr)**

Pollutant	Emission Reductions foregone⁽¹⁾ (tons/yr)	CEQA Significance Thresholds (tons/yr)	Potentially Significant?
VOC	1.12 - 1.68	10	NO
NOx	17.04 - 25.56	10	YES
PM	0.82 - 1.23	15	NO

(1) Emission reductions that would not occur in early years if Regulation 11, Rule 17 was implemented.

When the emissions reductions associated with proposed Regulation 11, Rule 17 are compared to the emission reductions expected as part of the currently approved ATCM, emissions would be higher in the 2011 to 2020 timeframe. An estimate of the magnitude of those increases, which assumes that there are two to three times the inventory of registered engines in August, 2010 in the Bay Area and that all of the eligible engines will participate in the ACP, has been compared to the Bay Area's recently adopted CEQA significance threshold. The emissions of VOC and PM relative to the ATCM in the interim years are less than the applicable CEQA significance threshold and, therefore, less than significant. However, the emissions of NOx relative to the ATCM could exceed the 10 tons per year CEQA threshold and are potentially significant.

Minor amounts of emissions of CO and SO₂ will also be reduced under Regulation 11, Rule 17, although the District is in attainment for State and federal standards for these pollutants. CO levels will not increase during the interim 2011 – 2020 time period under proposed Regulation 11, Rule 17, and will be lower after 2020. The CEQA threshold of significance for local CO is a concentration that is equivalent to the state standard, and that standard is not exceeded under current conditions. There is no CEQA threshold of significance for SO₂, nor would the proposed rule increase emissions of this pollutant.

Implementation of Regulation 11, Rule 17 would result in additional VOC, NOx, and PM emission reductions in the long-term (after 2020) and provide additional long-term air quality and related health benefits compared to the ATCM.

Toxic Air Contaminant Impacts

The long-term reduction in TAC emissions achieved by the proposed rule at full implementation will reduce health risk from current conditions. Therefore, the proposed rule, when fully implemented, does not cause significant health impacts.

TAC emissions associated with diesel engines include acetaldehyde, acrolein, ammonia, benzene, 1,3-butadiene, ethyl benzene, formaldehyde, hexane, hydrogen chloride, toluene, xylenes, metals, polycyclic aromatic hydrocarbons, and diesel particulate matter. While the toxic effects of these compounds are quantifiable, diesel particulate matter is the predominant health risk driver in diesel engine emissions (representing more than 90% of the total health risk) due to the greater emission rate and associated cancer potency factor compared to the other compounds. Therefore, diesel particulate is the representative TAC considered in this analysis.

The significance criteria for TACs are three fold: (1) an incremental increase in cancer risk; (2) an increase in chronic or acute non-cancer risk; or (3) an increase in the ambient PM_{2.5} ground level concentration.

With regard to non-cancer risk, there is no acute health risk Reference Exposure Level (REL) for diesel particulate matter and the chronic non-cancer health risk REL is 5.0 micrograms per cubic meter (µg/m³). Since the CEQA threshold of significance for

ground level concentrations of particulate matter is an increase of less than $0.3 \mu\text{g}/\text{m}^3$, this document first analyzes whether the $\text{PM}_{2.5}$ threshold is exceeded. If that threshold is not exceeded, chronic non-cancer health risk limit would not be exceeded and need not be evaluated. Therefore, this analysis has been conducted on both cancer risk and ambient $\text{PM}_{2.5}$ concentration. In addition, impacts at both the project level and cumulative impacts have been considered.

During the nine year period from 2011 - 2020, some of the current inventory of agricultural engines could continue to operate, rather than be replaced with Tier 3 engines. During these early years, the health benefits will be delayed. To assess the impact of the delay, the cancer risk is calculated to reflect the additional years of foregone emission reductions from the delay. Cancer risks are based on a 70-year exposure, so nine years of exposure are assumed to be to emissions associated with Tier 0 engines and 61 years are assumed to be to emissions associated with Tier 4 engines. The resulting cancer risks for the 100 hp, 175 hp and 500 hp engines are 0.065, 0.100, and 0.181 in one million, respectively. These risk levels are well below the threshold of significance. Therefore, the delay in the replacing engines allowed by the proposed rule does not cause significant health impacts. During the 2020 – 2025 timeframe, criteria pollutant emissions will be lower than under CARB's ATCM because under the proposed rule all existing Tier 0 and Tier 1 engines (more than 92% of the current engines) will be replaced with Tier 4 engines, whereas under the ATCM these engines would have been replaced with higher emitting Tier 3 engines.

During this period from 2011 to 2020, cancer risk from the worst case 500 hp Tier 0 engine is also calculated for only the nine year period, rather than amortizing the risk of nine years of a Tier 0 engine with 61 years of risk from a Tier 4 engine to find the 70 year (lifetime) risk. During the nine year period from 2011 – 2020, cancer risk for the worst case 500 hp Tier 0 engine is 0.188 per million, and the cancer risk for a 500 hp Tier 3 engine is 0.033 per million. The difference is 0.155 per million, so the increase is well below the significance threshold of 10 in a million. The proposed rule does not exceed the threshold of significance identified for this impact.

$\text{PM}_{2.5}$ ground level concentrations are determined using the CARB HARP model. The proposed rule would not cause a significant increase in the ambient $\text{PM}_{2.5}$ concentration because during the delay the $\text{PM}_{2.5}$ concentration would remain the same as the baseline of the current inventory of engine emissions and, following full implementation, the $\text{PM}_{2.5}$ concentrations would be reduced by 99 percent from existing levels. The comparison of the proposed rule to the fully implemented ATCM during the delay (i.e., replacement of a Tier 0 engine with a Tier 3 engine) would result in an increase of 0.0012, 0.0019, and $0.0035 \mu\text{g}/\text{m}^3$ for the 100 hp, 175 hp, and 500 hp engines, respectively, which does not exceed the significance standard of $0.3 \mu\text{g}/\text{m}^3$. Therefore, the increase in $\text{PM}_{2.5}$ during the delay when compared to implementation of the ATCM would not be above the identified significance threshold for this impact.

In performing a cumulative impact analysis on the proposed rule, areas within the District where agricultural property is adjacent to major roadways were identified. The six major roadways with adjacent agricultural land identified are highways 29, 37, and 101 and interstates 80, 280 and 680. While some of the major highways current risk values are high, the proposed rule will reduce the risk from agricultural engines which may be adjacent to major roadways, thereby lowering the cumulative risk to receptors. The incremental risk associated with the engines affected by this proposed rule will not increase cumulative risks to nearby sensitive receptors due to the provision of the rule that requires engines within 1,000 feet of sensitive receptors to complete a site-specific health risk analysis and demonstrate a cancer risk of less than 10 in a million, and PM_{2.5} ground level concentration of less than 0.3 µg/m³. In addition, the proposed rule will require a site-specific cumulative analysis as part of the ACP for engines within 1,000 feet of a sensitive receptor to demonstrate a cumulative cancer risk of less than 100 in a million, and a cumulative PM_{2.5} ground level concentration of less than 0.8 µg/m³. These provisions of the rule will minimize potential health risks to less than significant. Therefore, no significant adverse cumulative toxic air contaminant impacts are expected.

B. Greenhouse Gas Emissions

Global climate change refers to changes in average climatic conditions on the earth as a whole, including temperature, wind patterns, precipitation and storms. One identified cause of global warming is an increase of greenhouse gases (GHGs) in the atmosphere. Proposed Regulation 11, Rule 17 would replace existing low-use agricultural engines with new agricultural engines. In many cases, new engines (Tier 3 engines for example) are more energy efficient than older engines (e.g., Tier 0 engines). In this example, the use of a newer engine would generally require less fuel (energy) to accomplish the same amount of work.

Engines that meet the Tier 4 emission standards are not currently available on the market. Tier 4 engines will likely require some form of additional air pollution control (e.g., diesel particulate filters) to comply with the Tier 4 emission standards. Air pollution control equipment, such as particulate filters, can add back pressure onto engines, thus slightly reducing engine efficiency and requiring additional energy (fuel) to accomplish the same level of output. In order to provide a conservative evaluation of potential GHG emissions, it is assumed that some form of additional air pollution control equipment will be required on the engines to achieve Tier 4 emission standards, creating a decrease in energy efficiency. The GHG emissions were calculated for the existing engines affected by proposed Regulation 11, Rule 17, based on registration information provided to the BAAQMD. The available data indicate that the installation of a filter system may cause a slight fuel penalty on the order of one percent or less. The impact of Regulation 11, Rule 17 is that there will be more Tier 4 engines in use than under the Tier 3 engines required by the ATCM, which translates to a potential increase in fuel use and a related increase in GHG emissions. However, Tier 4 engines will be more fuel-efficient than Tier 0 engines in current use, resulting in a net decrease in GHG emissions.

The one percent decrease in fuel economy translates to an increase of 729 to 2,186 metric tons per year of GHG emissions (as CO₂ equivalent (CO₂eq) emissions) for registered low use agricultural engines, which is well below the BAAQMD significance criteria of 10,000 metric tons per year. Therefore, the potential increase in GHG emissions associated with implementation of Regulation 11, Rule 17 would be less than significant.

C. Mitigation Measures

Adoption of the proposed rule will result in a delay in the reduction of NO_x emissions expected from the ATCM's implementation schedule. These delayed NO_x reductions may be above the District's NO_x significance threshold and therefore are a potentially significant cumulative air quality impact. In order to mitigate this potential short term interim significant impact, the District will use District grants and incentives to achieve NO_x reductions from other sources. The District has identified specific strategic incentive funding from the Transportation Fund for Clean Air and other grant programs that will be used to fund NO_x reduction projects anticipated to reduce NO_x emissions by up to 25 tons per year between 2011 and 2020. These projects will mitigate the delayed NO_x reductions from the proposed rule, resulting in less than significant NO_x impacts. Over the long term, implementation of the proposed rule is expected to result in greater overall emission reductions due to the conversion of affected engines to Tier 4 engines, which will result in lower overall emissions.

NO_x emission reductions will be monitored to ensure the proposed mitigation measures meet expectations during the years 2011 through 2020, the period when implementation of the ATCM will be delayed and when there is the potential for foregone NO_x emission reductions from the ATCM. The total NO_x emissions associated with the delay will be calculated during each year (2011 through 2020). The BAAQMD will fund projects to reduce NO_x emissions equal to the amount of NO_x emissions associated with the delay in implementing the ATCM. The BAAQMD will maintain records that show the NO_x emissions associated with the delay, and the NO_x emission reductions that sufficiently offset the delayed emission reductions on an annual basis.

D. Conclusion

The conclusion of the final EIR is that implementation of Regulation 11, Rule 17 would result in additional VOC, NO_x, and PM emission reductions in the long-term (after 2020) and provide additional long-term air quality and related health benefits compared to the ATCM.

VII. REGULATORY IMPACTS

Section 40727.2 of the Health and Safety Code requires an air district, in adopting, amending, or repealing an air district regulation, to identify existing federal and district

air pollution control requirements for the equipment or source type affected by the proposed change in air district rules. The air district must then note any difference between these existing requirements and the requirements imposed by the proposed change.

Proposed Regulation 11, Rule 17 is specifically designed to provide compliance flexibility to the Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition Engines (Sections 93115 through 93115.15, Title 17 of the California Code of Regulations, effective October 17, 2007). Other California air districts (e.g. Northern Sonoma APCD, Lake County AQMD, and Yolo-Solano County AQMD) have adopted rules similar to proposed 11-17. CARB has found each to be equivalent to the ATCM. Staff has been in contact with and developed the rule consistent with guidance provided by CARB, contacted CARB to provide draft copies of the proposed rule, and is confident that CARB will also find proposed 11-17 to be equivalent to the ATCM.

VIII. DISTRICT STAFF IMPACTS

Agricultural diesel engines must be registered with the BAAQMD if the engine is 50 hp or larger. The District has developed an on-line engine registration system that is easy to use, efficient, and accommodates credit card payment for the initial registration and annual renewal fees. Proposed rule 11-17 will not require any changes to this existing registration system or to the annual renewal process. A new software modification has been integrated into the registration program to allow registered diesel engine owners/operators to apply for either the exemption for less than 20 hours per year operation, or the Alternate Compliance Plan. This software modification is a significant project, and is expected to be available for use July 1, 2011. An application fee of \$129 will be assessed for each applicant to the Alternate Compliance Plan to cover these development and administrative costs. No application fee will be charged for the application for exemption. The existing registration annual renewal fee is expected to cover any minor costs required to develop the Exemption / Alternate Compliance Plan annual renewal process, including updating actual use hours for each engine that has qualified for either the exemption or the Alternate Compliance Plan.

District staff may also be impacted two ways:

1. Staff may need to evaluate engines that are used less than 100 hours per year, but are located within 1000 feet of sensitive receptors. These engines may apply for the exemption or Alternate Compliance Plan, but will need staff help to conduct a site-specific Health Risk Screening Analysis to demonstrate their specific situation does not create a health hazard. Staff estimates that as many as 300 engines may qualify for the Alternate Compliance Plan, and less than 10% of them will be located less than 1000 feet from housing, schools or a health care facility. Staff may have to help conduct ~30 site-specific Health Risk Screening Analyses.

2. Staff will be required to track the foregone NOx emission reductions from engines that participate in the Alternate Compliance Program from 2011 to 2020, and to fund additional NOx reduction projects to mitigate these foregone reductions.

Regulation 11, Rule 17 is not expected to have any other adverse impact on the staff and resources of the District. The increased costs for Enforcement and Engineering staff will be partially offset by the fees from registration and Alternate Compliance Plans.

IX. RULE DEVELOPMENT PROCESS

District staff conducted extensive outreach to the agricultural community through contact with each of the Bay Area county agricultural departments, and trade organizations such as each county's Farm Bureaus, grape and flower growers associations, the California Poultry Association and Western United Dairymen's Association. Staff met or contacted each county agricultural commissioner and solicited their points of contact in the agricultural community to ensure all agricultural interests were aware that agricultural diesel engines needed to be registered with the District, and to seek involvement in the proposed 11-17 rule development process.

Staff met with three county Farm Bureaus and the Suisun Valley Grape Growers Association, spoke at four county agricultural continuing education meetings, and provided a booth at the Napa Valley Viticulture Fair. Staff provided handouts regarding the requirement for agricultural engine registration with the District and the 11-17 proposal, as well as supplemental information about strategic incentive funding available to help replace existing diesel engines. This information was also provided in electronic format for inclusion in each group's e-mail distributions, electronic newsletters and electronic bulletin board postings.

Staff developed a draft rule and documented rationale for these proposals in a workshop report. These proposals were based on guidance from CARB, on an existing regulation in Northern Sonoma County, and on proposals in both Lake County and Yolo-Solano County. These proposals were based on the current stationary diesel engine ACTM that applies to agricultural engines, and the significant number of low-use agriculture diesel engines registered within the District. Potential impact on the agricultural industry was assessed through e-mail information exchange; discussions with farmers and dairymen, representatives from the Farm Bureau, and vineyard consultants; and town hall meetings in Napa, Sonoma and Santa Clara counties. Staff has contacted each county's agricultural commissioner, each county's farm bureau, the California Poultry Federation, the Livermore Valley Wine Growers Association, the Napa Grape Growers Association, the Suisun Valley Grape Growers Association, and the Western United Dairymen Association. With each contact, staff reiterated the requirement that each stationary agricultural diesel engine over 50 HP must be registered with the District, discussed the best ways to involve all affected parties in the

rule development process, and sought their input to identify the best locations and times to schedule rule development workshops.

Nine public workshops were held during January, 2011 in each county of the Bay Area, except San Francisco County which has very little agriculture. One additional meeting was held with the Western United Dairyman's Association during January as well. Attendance at these workshops totaled approximately 100 people. Several people provided suggestions and comments at the workshop, and five people provided written comments.

Workshop comments focused on three issues:

- Requests for exclusion of the operating hours diesel engines need for maintenance and testing, and exclusion for the operating hours needed if there is an emergency that forces the engine's use.
- Requests to average the annual operating hours over a period of three years or five years. Farmers pointed out that use of these engines is highly dependent on weather. Since the weather can vary considerably, average use better represents the norm rather than having a 100 hour limit for any specific year.
- Requests to exempt specific geographical areas from both the proposed rule and from the CARB ATCM. These requests were based on the belief that these engines were isolated, both geographically and from people, so the engine emissions had no effect on anyone or on the overall air quality of the Bay Area air basin.

The suggestions for exclusion of maintenance and reliability testing hours, and exclusion of emergency use hours have not been included in the draft rule. Exclusions create potential for excessive use and difficulty in enforcement, and are inconsistent with the overall approach and intent of the ATCM. However, based on the facts the District currently has, the two specific examples given at the workshop are accommodated by limited exemptions in the ATCM. The request for exclusion of maintenance and testing hours came from individuals with fire protection pumps that are only used for fire protection and that are required to be tested at least 30 minutes each week, totaling 26 hours per year. The ATCM provides a limited exemption for stationary diesel fueled CI engines only operated the number of hours necessary to comply with the testing requirements of National Fire Protection Association (NFPA) 25 "Standards for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems," 2002 edition. The request for exclusion of emergency use hours came from dairymen who use diesel driven emergency generators only to provide power in the event of an emergency for dairy farm milking machines. Again, the ATCM provides a limited exemption for these engines.

The suggestion for averaging has been incorporated into the draft rule. The use limit to be eligible for the Alternate Compliance Plan is less than 100 hours averaged over three consecutive years.

The suggestion to exempt specific geographical areas has not been included in the proposed rule. The ATCM is intended to apply to all areas of the state. Further, the proposed rule sets consistent and equitable requirements for all affected parties across the District.

The impact on emissions from the proposed delay in engine replacement created a potential for a significant impact, so a Notice of Preparation and Initial Study were developed and submitted for public comment. No comments were received on the Notice of Preparation / Initial Study. No comments have been received on the draft EIR. A final EIR has been completed for review and consideration at the Public Hearing.

X. CONCLUSIONS

Pursuant to the California Health and Safety Code Section 40727, before adopting, amending, or repealing a rule the Board of Directors must make findings of necessity, authority, clarity, consistency, non-duplication and reference. The proposal is:

- Necessary to provide compliance flexibility to the agricultural community and supplement the District's ability to attain the State one-hour and eight-hour ozone standards, and implement the Airborne Toxic Control Measure affecting stationary agricultural diesel;
- Authorized by California Health and Safety Code Sections 39666, 40000, 40001 and 40702;
- Clear, in that the new regulation specifically delineates the affected industry, compliance options and administrative and monitoring requirements for the industry subject to this rule;
- Consistent with other District rules, and not in conflict with state or federal law;
- Non-duplicative of other statutes, rules or regulations; and
- Implementing, interpreting or making specific the provisions of the California Health and Safety Code Sections 39666, 40000 and 40702.

A socioeconomic analysis prepared by Applied Development Economics has found that the proposed rule does not have a significant economic impact, and compliance costs can be mitigated by availability of the District's Agricultural Assistance Program funding to help with the cost of engine replacement. District staff have reviewed and accepted this analysis. No comments on this socioeconomic analysis were received.

A California Environmental Quality Act final Environmental Impact Report prepared by Environmental Audit, Inc., concludes that the proposed rule, when mitigated as proposed, would not result in any significant adverse environmental impacts. District staff have reviewed and accepted this analysis. The CEQA EIR documents were available for public comment for 45 days. No comments on the draft EIR were received. A final EIR has been prepared for consideration by the Board of Directors.

No comments were received on the proposed rule. Staff recommends the Board of Directors adopt proposed Regulation 11, Rule 17: Limited Use Stationary Compression Ignition (Diesel) Engines in Agricultural Use; and certify the CEQA Environmental Impact Report for this rule.

References

1. AMENDMENTS TO THE AIRBORNE TOXIC CONTROL MEASURE FOR STATIONARY COPRESSION IGNITION ENGINES, Effective October 18, 2007, California Air Resources Board.
2. Regulation 3 – Rule 8: Airborne Toxic Control Measure for Stationary Compression Ignition (CI) Engines, Northern Sonoma County Air Pollution Control District, September 7, 2009.
3. Proposed Regulation 3.9: Airborne Toxic Control Measure for Stationary Diesel Engines, Mendocino County Air Quality Management District, April 2010.
4. Proposed Section 470: Air Toxics Control Measure for Emissions of Toxic Particulate Matter from IN-Use Agricultural Compression Ignition Engines, Lake County Air Quality Management District, September, 2010.
5. Draft Environmental Impact Report, BAAQMD Regulation 11, Hazardous Pollutants, Rule 17: Limited Use Stationary Compression Ignition (Diesel) Engines in Agricultural Use, Environmental Audit, Inc, March 18, 2011.
6. Socio-Economic Analysis; BAAQMD Regulation 11, Hazardous Pollutants, Rule 17: Limited Use Stationary Compression Ignition (Diesel) Engines in Agricultural Use, Applied Development Economics, March 28, 2011.
7. Ken Lippman, Vineyard Equipment Consulting, 707-953-8960
<http://www.vineyardequipmentconsulting.com>

APPENDIX 1

SOCIOECONOMIC ANALYSIS

SOCIOECONOMIC ANALYSIS OF PROPOSED RULE 11-17: LIMITED USE STATIONARY COMPRESSION IGNITION ENGINES IN AGRICULTURAL USE

MARCH 31, 2011

Prepared for
Bay Area Air Quality Management District

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SECTION ONE: INTRODUCTION

The Bay Area Air Quality Management District (“BAAQMD” or the “Air District”) seeks to adopt Rule 11-17, on low-use agricultural engines. After this introduction, this report discusses in greater detail Regulation 11-17 (Section Two). After that discussion, the report summarizes the economic impact analyses conducted by the California Air Resources Board in adoption of the Air Toxic Control Measure (ATCM) for Stationary Compression Ignition Engines adopted by the California Air Resources Board (CARB) for these sources (Section Three). Then, the report describes the socioeconomic impact analysis methodology and data sources (Section Four). The report describes population and economic trends in the nine-county San Francisco Bay Area (Section Five), which serves as a backdrop against which the District is contemplating proposed Rule 11-17. Finally, Section Six of the report analyzes the economic benefits, detriments and the socioeconomic impacts stemming from the proposed rule's option to extend the ATCM's compliance deadline.

The report is prepared pursuant to the provisions of AB2051 (Section 40728.5 of the California Health and Safety Code), which requires an assessment of socioeconomic impacts of proposed air quality rules. The findings in this report can assist District staff in understanding the socioeconomic impacts of the proposed requirements, and can assist staff in preparing a refined version of the rule for consideration by the District’s Board of Directors. Figure 1 is a map of the nine-county region that comprises the San Francisco Bay Area Air Basin.

Figure 1. Map of San Francisco Bay Area Region



SECTION TWO: RULE 11-17 BACKGROUND

The Bay Area Air Quality Management District (District) is proposing Regulation 11, Rule 17: Limited Use Stationary Compression Ignition Engines in Agricultural Service as a local regulation that is equivalent to the Air Toxic Control Measure (ATCM) for Stationary Compression Ignition (CI – also known as diesel) Engines adopted by the California Air Resources Board (CARB) for the same category of sources. The intent of this regulation is to adopt CARB requirements for stationary engines in agricultural operations, but to also make some changes to better address local needs. The proposed Rule is specifically intended to address local compliance issues faced by a sub-group of affected sources, low-use stationary agricultural diesel engines primarily used by vineyard owners and operators to pump water to protect vines from frost on cold winter nights.

Proposed Regulation 11, Rule 17 (Rule 11-17) would exempt from emissions control requirements any agricultural engine that operates fewer than 20 hours per year, and is located more than 1000 feet from a residential area, school, or health facility. The owner or operator of the exempt engine is required to maintain records of use to substantiate the exempt status.

Under the proposed Regulation 11, Rule 17, the owner or operator of an agricultural diesel engine must comply with the provisions of the ATCM or may apply for alternate compliance by petitioning for approval of an Alternative Compliance Plan (ACP). Approval of an ACP enables an owner or operator to extend the compliance date for the ATCM through December 31, 2020 or December 31, 2025, depending on the “tier” of the engine currently in use. Engine tiers refer to compression ignition (diesel) engines that are certified to meet the progressively more stringent Tier 1, Tier 2, Tier 3, or Tier 4 Off-Road Compression Ignition Certification Standards for diesel particulate emissions specified in Title 13, California Code of Regulations, Section 2423. Any engine not certified to meet any of these standards is defined as a Tier 0 engine.

There are six criteria for an agricultural engine to be eligible for an ACP:

- The engine must be used exclusively for an agricultural operation;
- The engine must be equipped with a non-resettable hour meter;
- The engine must be registered with the District’s Agricultural Engine Registration Program;
- The engine must be located more than 1000 feet from a residential area, school or health facility; or if the engine is located 1000 feet or less from a residential area, school or health facility the owner/operator must conduct a Health Risk Screening Analysis for that engine to demonstrate that the health risks from the engine, at the location of the residential area, school or health facility, are less than 10 in a million and PM_{2.5} ground level concentration is less than 0.3 micrograms per cubic meter (µg/m³), and that the

cumulative risk from all sources within 1000 feet is less than 100 in a million and cumulative PM_{2.5} ground level concentration is less than 0.8 µg/m³;

- The engine must operate fewer than 100 hours per year averaged over three years and operate fewer than 150 hours per year during any year.
- The owner or operator of the engine is required to maintain records of use to substantiate compliance with the provisions of the ACP.

If the ACP is approved by the APCO, the engine may continue to operate until the time that proposed District Regulation 11, Rule 17 requires compliance with the emissions standards of the ATCM. The proposed alternate deadlines for ATCM compliance are based on the engine Tier of the currently operating engine, as follows:

- Tier 0 engines and Tier 1 engines may continue to operate through December 31, 2020.
- Tier 2 engines may continue to operate through December 31, 2025.

Each engine must be replaced with an electric motor, or a Tier 4 engine, or the highest tier (lowest emissions) engine available for purchase at the time of replacement. The ACP deadlines are designed to enable replacement of existing engines with Tier 4 engines. Tier 4 engines are not yet available, but will emit less than the Tier 3 engines available to currently comply with the ATCM. Consequently, although proposed Regulation 11, Rule 17 provides an option to comply at a later date, those engine owners and operators who choose to do so will ultimately reduce their emissions to a greater extent than they would through compliance with the ATCM.

Strategic Incentive Funding is available to help owner/operators replace agricultural engines through two grant programs administered by the District. Incentive funding is available from the Agricultural Assistance Program for early compliance, or greater emission reductions than are required. These funds have been used to fund up to 85% (more typically 60 – 75%) of the cost of a replacement engine. The proposed rule defers the deadlines for replacement, and may allow continued availability of incentive funds for replacement of these agricultural diesel engines. Incentive funding can be an important aspect of easing the economic burden of engine replacement.

SECTION THREE: CARB ECONOMIC IMPACT ANALYSIS

In September 2006, California Air Resources Board staff analyzed economic impacts stemming from their proposed requirements for stationary diesel in-use agricultural engines. At the time, CARB staff estimated that the total cost of the proposed amendments to affected businesses would range from \$34 million to \$42 million over a 22-year period. The state agency concluded that approximately 3,900 businesses directly affected by the proposed amendments would be farms and ranches using CI (diesel) powered engines (of greater than or equal to 50 HP) for purposes of raising crops and/or animals.

Directly-affected businesses would either absorb or pass on their compliance costs, according to CARB. Those businesses that have a majority of the share of the market for their products (walnuts, for example) will be able to pass on their costs, since they are able to set the market price, to a degree. California businesses selling products that are produced in other states and for which California businesses do not have a majority of the market share (oranges, for example) will have to absorb the compliance costs, as reported by CARB in its September 2006 report. Due to the long lead time given for compliance and a range of compliance options, CARB staff reported that most businesses will be able to meet the compliance costs. However, it is possible that a small number of businesses (those with marginal profitability) may have difficulty in complying with CARB's rule. CARB staff concluded that the ATCM for agricultural in-use diesel engines would result in little to no significant changes in the total number of businesses or jobs.

The CARB analysis was based on diesel engine driven water pumps operating 1000 hours per year, with an expected 20 year life. Engines used for frost protection and other infrequent uses averaging less than 100 hours per year have a much longer useful life. Replacement of low-use engines to comply with the ATCM will have a greater economic impact on affected agricultural operations than indicated by the CARB economic analysis.

SECTION FOUR: METHODOLOGY

Applied Development Economics (ADE) began the analysis by preparing a statistical description of the industry groups of which the affected sources are a part, analyzing data on the number of establishments, jobs, and payroll. We also estimated sales generated by impacted industries, as well as net profits for each affected industry.

This report relies heavily on the most current data available from a variety of sources, particularly the State of California's Employment Development Department (EDD) Labor Market Information Division. In addition, this report relied on data from the State of California's Annual Agricultural Commissioners' Reports., as well as the 2007 Agricultural Census. For purposes of estimating profits, ADE reviewed industry-specific financial ratios issued by the US Internal Revenue Service.

With the above information, ADE was able to estimate net after tax profit ratios for sources affected by the proposed rule. ADE calculated ratios of profit per dollar of revenue for affected industries. The result of the socioeconomic analysis shows what proportion of profits the compliance costs represent. Based on assumed thresholds of significance, ADE discusses in the report whether the affected sources are likely to reduce jobs as a means of recouping the cost of rule compliance or as a result of reducing business operations. To the extent that such job losses appear likely, the indirect multiplier effects of the jobs losses are estimated using a regional IMPLAN input-output model. In some instances, particularly where consumers are the ultimately end-users of goods and services subject to the proposed rule, we also analyzed whether costs could be passed to households in the region.

When analyzing the socioeconomic impacts of proposed new rules and amendments, ADE attempts to work closely within the parameters of accepted methodologies discussed in a 1995 California Air Resources Board report called "Development of a Methodology to Assess the Economic Impact Required by SB513/AB969" (by Peter Berck, PhD, UC Berkeley Department of Agricultural and Resources Economics, Contract No. 93-314, August, 1995). The author of this report reviewed a methodology to assess the impact that California Environmental Protection Agency proposed regulations would have on the ability of California businesses to compete. The California Air Resources Board (ARB) has incorporated the methodologies described in this report in its own assessment of socioeconomic impacts of rules generated by ARB. One methodology relates to determining a level above or below which a rule and its associated costs is deemed to have significant impacts. When analyzing the degree to which its rules are significant or insignificant, ARB employs a threshold of significance that ADE follows. Berck reviewed the threshold in his analysis and wrote, "The Air Resources Board's (ARB) use of a 10 percent change in [Return on Equity] ROE (i.e. a change in ROE from 10 percent to a ROE of 9 percent) as a threshold for a finding of no significant, adverse impact on either competitiveness or jobs seems reasonable or even conservative."

SECTION FIVE: REGIONAL DEMOGRAPHIC AND ECONOMIC TRENDS

This section of the report tracks economic and demographic contexts within which District staff and officials are contemplating Rule 11-17. Table 1 tracks population growth in the nine-county San Francisco Bay Area between 1999 and 2009, including data for the year 2004. Between 1999 and 2004, the region grew by less than one percent a year, at 0.6 percent. Between 2004 and 2009, the region grew annually by slightly over one percent, at 1.1 percent a year. Overall, there are 7,459,858 people in the region. At 1,880,876, Santa Clara County has the most people, while Napa has the least, at 138,917.

**TABLE 1
REGIONAL DEMOGRAPHIC TRENDS: 1999-2009
POPULATION GROWTH: SAN FRANCISCO BAY AREA**

	Population			Percent Change		
	1999	2004	2009	99-04	04-09	99-09
California	34,336,091	36,676,931	38,648,090	1.3%	1.1%	1.2%
Bay Area	6,878,214	7,073,168	7,459,858	0.6%	1.1%	0.8%
Alameda County	1,454,302	1,498,967	1,574,857	0.6%	1.0%	0.8%
Contra Costa County	930,025	1,016,407	1,073,055	1.8%	1.1%	1.4%
Marin County	249,671	251,586	260,651	0.2%	0.7%	0.4%
Napa County	127,005	132,280	138,917	0.8%	1.0%	0.9%
San Francisco County	801,377	806,433	856,095	0.1%	1.2%	0.7%
San Mateo County	730,029	720,042	754,285	-	0.9%	0.3%
Santa Clara County	1,736,722	1,753,041	1,880,876	0.3%	1.4%	0.8%
Solano County	399,026	418,876	427,837	0.2%	1.4%	0.8%
Sonoma County	450,057	475,536	493,285	1.0%	0.4%	0.7%

Source: Applied Development Economics, based on total population estimates from The California Department of Finance (E-5 Report)

Data in Table 2 describe the larger economic context within which officials are contemplating the proposed Rule 11-17. Businesses in the region employ over three million workers, or 3,193,427. The number of jobs in the region grew annually by 1.2 percent between 2004 and 2009, after having declined dramatically between 1999 and 2004 by 2.4 percent a year. Of the 3,193,427 positions, almost 14 percent are in the public sector. In the state, slightly over 16 percent of all jobs are in the public sector. Relative to the state as a whole, manufacturing, professional/business services, and education/health service sectors comprise a greater proportion of the employment base. In the region, these sectors comprise 10.1 percent (manufacturing), 17.4 percent (professional/business services), and 12.1 percent

(private education/health services) respectively of total employment. In the state, these sectors comprise 8.8 percent, 14.1 percent, and 11.5 percent of the statewide job base. In other words, as a percent of total workforce, the region employs more people in sectors with occupations that presumptively require more skills and are higher-paying.

**TABLE 2
SAN FRANCISCO BAY AREA EMPLOYMENT TRENDS, 1999-2009**

	SF Bay Area Employment			Distribution		1999-2004		2004-2009	
	1999	2004	2009	SFBA 2009	California '09	Change	CAGR	Change	CAGR
Private and Public	3,391,178	3,009,512	3,193,427	100.00%	100.0%	381,666	2.4%	183,915	1.2%
Total, all industries (private sector)	2,960,921	2,594,905	2,748,225	86.10%	83.6%	-366,016	-2.6%	153,320	1.2%
Goods-Producing	662,086	521,729	493,895	15.50%	16.0%	-140,357	-4.7%	-27,834	1.1%
Natural Resources and Mining	29,454	23,678	21,799	0.70%	2.7%	-5,776	-4.3%	-1,879	1.6%
Construction	171,832	169,409	150,514	4.70%	4.4%	-2,423	-0.3%	-18,895	2.3%
Manufacturing	460,800	328,642	321,582	10.10%	8.8%	-132,158	-6.5%	-7,060	0.4%
Service-Providing	2,298,835	2,073,176	2,254,329	70.60%	67.6%	-225,659	-2.0%	181,153	1.7%
Trade, Transportation, and Utilities	602,544	521,223	526,983	16.50%	18.0%	-81,321	-2.9%	5,760	0.2%
Information	121,893	110,639	112,229	3.50%	3.0%	-11,254	-1.9%	1,590	0.3%
Financial Activities	198,588	197,996	183,446	5.70%	5.4%	-592	-0.1%	-14,550	1.5%
Professional and Business Services	629,658	502,453	556,256	17.40%	14.1%	-127,205	-4.4%	53,803	2.1%
Education and Health Services	326,645	323,039	385,503	12.10%	11.5%	-3,606	-0.2%	62,464	3.6%
Leisure and Hospitality	290,783	284,461	324,850	10.20%	10.2%	-6,322	-0.4%	40,389	2.7%
Other Services	128,724	133,027	157,909	4.90%	5.0%	4,303	0.7%	24,882	3.5%
Unclassified	0	338	7,155	0.20%	0.4%				
Government Ownership:	430,257	414,607	445,202	13.90%	16.4%	-15,650	-0.7%	30,595	1.4%
Federal Government	60,971	52,493	51,320	1.60%	1.7%	-8,478	-2.9%	-1,173	0.5%
State Government	77,744	81,082	86,757	2.70%	3.1%	3,338	0.8%	5,675	1.4%
Local Government	291,542	281,032	307,125	9.60%	11.6%	-10,510	-0.7%	26,093	1.8%

Source: Applied Development Economics, Inc., based on California EDD LMID

Table 2 also shows precipitous decline in employment in industries most-affected by the downturn in the economy that began in late 2007, namely housing. Construction employment declined by 2.3 percent per year between 2004 and 2009, with financial activities (which includes real estate) declining by 1.5 percent annually over the same period.

While Table 2 shows the larger context within which the District is contemplating Rule 11-17, Table 3 tracks trends for specific industries potentially affected by the proposed rule. Table 3 includes agricultural trends in the last five years between 2004 and 2009. Agricultural employment declined by eight percent per year, although employment in fruit and tree nuts increased by four percent annually over the same period. Dairy employment dropped by 17 percent annually between 2004 and 2009.

TABLE 3
AGRICULTURAL TRENDS: SAN FRANCISCO BAY AREA, 2004-2009

NAICS	Industry	2004			2009			04-09	
		Estab.	Emp	Avg Wages	Estab.	Emp	Avg Wages	Emp Chg	Emp Per Chg
11	Agriculture	1,991	21,787	\$24,463	1,628	20,058	\$29,136	-1,729	-8%
111	Crop Production	1,261	14,949	\$25,274	1,004	12,796	\$29,747	-2,153	-14%
1111	Oilseed and Grain Farming	31	86	\$21,473	32	61	\$26,717	-25	-29%
1112	Vegetable and Melon Farming	92	2,222	\$21,469	88	1,505	\$25,496	-717	-32%
1113	Fruit and Tree Nut Farming (including grapes)	796	6,639	\$24,250	651	6,908	\$29,283	269	4%
1114	Greenhouse and Nursery Production	217	4,754	\$28,864	160	3,217	\$33,126	-1,537	-32%
1119	Other Crop Farming	127	1,248	\$27,701	73	1,105	\$27,410	-143	-11%
112	Animal Production	324	1,718	\$24,720	252	1,469	\$31,304	-249	-14%
1121	Cattle Ranching and Farming	224	1,070	\$24,469	177	894	\$30,411	-176	-16%
11212	Dairy Cattle and Milk Production	115	728	\$23,431	95	604	\$27,257	-124	-17%
1122	Hog and Pig Farming				1	6	\$25,723	6	
1123	Poultry and Egg Production	37	461	\$27,328	15	324	\$34,514	-137	-30%
1125	Animal Aquaculture	4	12	\$19,723	18	114	\$34,057	102	
1129	Other Animal Production	59	175	\$19,723	41	131	\$27,326	-44	-25%
113	Forestry and Logging	9	56	\$27,424	9	44	\$24,035	-12	-21%
114	Fishing, Hunting and Trapping	28	54	\$27,424	22	58	\$19,392	4	7%
115	Agriculture & Forestry Support Activity	369	5,010	\$24,474	341	5,691	\$29,350	681	14%

Source: ADE, Inc., based on US BLS / CA EDD LMID

TABLE 4
SAN FRANCISCO BAY AREA: AGRICULTURAL TRENDS: AGGREGATE VALUE

	2004	2005	2006	2007	2008	04-08 Chg.	04-08 CAGR
Crop Production	\$1,848,466,116	\$2,110,311,771	\$1,909,135,828	\$1,967,516,400	\$1,734,893,700	-\$113,572,416	-1.6%
Oilseed and Grain Farming	\$1,528,193,213	\$1,810,375,632	\$1,662,292,325	\$1,658,167,200	\$1,483,747,800	-\$44,445,413	-0.7%
Cash grains	\$152,516,832	\$139,724,233	\$149,260,524	\$145,720,600	\$197,710,000	\$45,193,168	6.7%
Field crops	\$21,873,717	\$14,075,277	\$25,057,079	\$21,699,700	\$45,988,900	\$24,115,183	20.4%
Vegetable and Melon Farming	\$130,643,116	\$125,648,956	\$124,203,445	\$124,020,900	\$151,721,100	\$21,077,984	3.8%
Fruit and Tree Nut Farming (incl. grapes)	\$167,613,408	\$160,238,124	\$139,932,641	\$173,005,900	\$120,138,800	-\$47,474,608	-8.0%
Greenhouse and Nursery Production	\$803,476,473	\$1,123,184,305	\$1,015,924,550	\$979,977,100	\$876,458,600	\$72,982,127	2.2%
Animal Production	\$404,586,499	\$387,228,970	\$357,174,610	\$359,463,600	\$289,440,400	-\$115,146,099	-8.0%
Cattle Ranching and Farming	\$320,272,903	\$299,936,139	\$246,843,503	\$309,349,200	\$251,145,900	-\$69,127,003	-5.9%
Other cattle	\$159,648,984	\$155,669,032	\$138,231,260	\$154,567,400	\$103,327,800	-\$56,321,184	-10.3%
Dairy Cattle and Milk Production	\$160,623,919	\$144,267,107	\$108,612,244	\$154,781,800	\$147,818,100	-\$12,805,819	-2.1%

Source: ADE, Inc., based on California Agricultural Commissioners

Table 4 provides additional information on agriculture in the region. The most up-to-date data shows that this sector in the Bay Area generates over \$1.7 billion in revenues, with a high of \$2.1 billion in 2005. Between 2004 and 2008, aggregate revenue declined by over \$113 million, for an annual decline of 1.6 percent. Grape vineyards in the northern section of the Bay Area, with pumped water frost protection, are the sector of the agricultural industry most likely to be affected by Regulation 11, Rule 17.

SECTION SIX: SOCIOECONOMIC IMPACT ANALYSIS

This section of the report analyzes socioeconomic impacts stemming from proposed Rule 11-17. The impacts of this proposal are less than the threshold of significance for both small and large agricultural operations, primarily because this proposal provides compliance flexibility. Although the proposed rule provides a deferred compliance option, the alternative compliance plan is not a requirement, so any incremental costs do not have to be incurred by engine operators. The benefit of this proposal is that, providing it is found to be equivalent to the CARB ATCM, the deferred replacement deadlines will allow further recovery of useful engine life, and will allow Agricultural Assistance Program funding to remain available until the proposed compliance dates (providing funds continue to be available). These funds can provide funding to offset up to 85% (typically 60 – 75%) of the cost of a replacement engine. The following summarizes the options available to each engine operator:

- individual farmers are allowed to proceed with replacing their engine - immediately.
- individual farmers with Tier 0 engines are allowed to wait until 2020 to replace their engines, but they will need to replace with a Tier 4 engine at that time. Tier 4 engines may cost significantly more than Tier 3 engines.
- individual farmers with Tier 1 engines are allowed to wait until 2020 to replace their engines. The ATCM requires Tier 1 engines to be replaced with Tier 4 engines by the end of 2015, or 12 years after their initial installation.
- individual farmers with Tier 2 engines are allowed to wait until 2025 to replace their engines. The ATCM requires Tier 2 engines to be replaced with Tier 4 engines by the end of 2015, or 12 years after their initial installation.

There are currently 335 engines in the District's databases that are potentially affected by the proposed rule. Of the 335, information on 279 engines was available in August, 2010 and serves as the basis for this analysis, particularly with respect to whether these engines operate below twenty hours, between 20 and 100 hours, and more than 100 hours but less than 200 hours. Based on information on the 279 engines, the District estimates how many are exempt from the proposed rule, how many are not exempt, and how many are possibly eligible for the Alternate Compliance Plan, as shown in Table 5.

**TABLE 5
PROFILE OF LOW USE AGRICULTURAL ENGINES:
SAN FRANCISCO BAY AREA**

	Aug, 2010
	279
<20 hours potentially exempt	64
<i>propane (exempt)</i>	4
<i>proximity to residential (not exempt)</i>	12
<i>possibly eligible for exemption</i>	49
>20 and < 100 hours: potential ACPs	90
<i>Tier 3 standard (exempt)</i>	3
<i>propane (exempt)</i>	3
<i>proximity to residential (not exempt)</i>	5
<i>possibly eligible for exemption</i>	79
>100 and < 200 hours: potential ACPs	38
<i>proximity to residential (not exempt)</i>	3
<i>possibly eligible for exemption</i>	35
Others	87

Source: BAAQMD

Feedback from farmers, cattlemen, dairymen and agricultural equipment suppliers indicate there may be significantly more diesel engines in the field that have not yet been registered. There may be up to two or three times as many engines in the field affected by this proposed rule. However, this analysis is based on an individual engine replacement, and its business and economic impact on the owner/operator.

Table 6 includes cost data for new compliant engines as indicated in the District workshop report for the January 2010 workshops. It is important to note that, as indicated by the District, costs for Tier 4 engines when available in 2015 are not known at this time, as most engine manufacturers have not yet determined the technology that will be necessary to meet the stringent emissions standards required for Tier 4 engines. Interim Tier 4 engines are just now becoming commercially available, so a range of costs are shown. Table 7 compares the annualized costs of Tier 3 and Tier 4 engines.

**TABLE 6
TOTAL COST OF COMPLIANT LOW-USE AG ENGINES**

Engine Size	Tier 3 Cost	Interim Tier 4 Cost	Estimated Final Tier 4 Cost
▪ 50 HP	\$10,577	\$15,000 – 20,000	\$21,000
▪ 100 HP	\$13,887	\$20,000 – 26,000	\$28,000
▪ 200 HP	\$20,507	\$28,000 – 38,000	\$41,000
▪ 300 HP	\$27,126	\$38,000 – 51,000	\$54,000
▪ 400 HP	\$33,746	\$47,000 – 63,000	\$67,000
▪ 500 HP	\$40,365	\$56,000 – 75,000	\$81,000

Source: BAAQMD

**TABLE 7
ANNUALIZED COST OF COMPLIANT LOW-USE
AG ENGINES**

<u>Engine Size</u>	<u>Tier 3 Cost</u>	<u>Est. Final Tier 4 Cost</u>
50 HP	\$1,269	\$2,538
100 HP	\$1,666	\$3,333
200 HP	\$2,461	\$4,922
300 HP	\$3,255	\$6,510
400 HP	\$4,050	\$8,099
500 HP	\$4,844	\$9,688

Source: BAAQMD

PROFILE OF SOURCES AFFECTED BY PROPOSED RULE 11-17

In January, 2011 the District held nine workshops to discuss and obtain stakeholder input on the proposed Rule 11-17. Of the stakeholders who participated in the workshop, a number were operators of vineyards, orchards and/or crop farms larger than 100 acres. Of these farms, 75.8 percent were larger than 100 acres, suggesting that potentially impacted sources are larger-sized farms. Farms larger than 100 acres are, on average, 888 acres, whereas farms smaller than 100 acres are 36 acres. Likewise, dairies with at least 100 cows represented almost 82 percent of all operators of contained animal facilities (CAFs) who attended the workshop, underscoring types of businesses possibly most affected by the proposed rule. Dairies with more than 100 cows contain, on average, almost 500 cows. Profiles of potentially affected sources are summarized in Table 8.

**TABLE 8
PROFILE OF AFFECTED SOURCES: PROPOSED RULE 11-17**

	<u>Crops</u>			<u>Livestock</u>	
	<u>Vineyards (N = 26)</u>	<u>Other crops (N = 7)</u>	<u>All Crops</u>	<u>Distribution</u>	<u>Dairies, etc. (N = 11)</u>
<u>Distribution</u>					
less than 100 acres	23.1%	28.6%	24.2%	less than 100 units	18.2%
more than 100 acres	76.9%	71.4%	75.8%	more than 100 units	81.8%
<u>Average Size (acres)</u>			<u>All Crops</u>	<u>Average Size (units)</u>	<u>Dairies, etc.</u>
less than 100 acres	36	80	47	less than 100 units	30
more than 100 acres	888	230	850	more than 100 units	494

Source: ADE, Inc., based on BAAQMD

While data for dairies are included in Tables 4, 8 and 9, it is important to note that the District does not believe dairies are affected because they mostly use diesel engines for backup emergency generators (for their milking machines) which are exempt from the ATCM.

Table 9 presents estimates on revenues and net profits generated by average size farms and confined animal facilities potentially subject to the proposed rule. On average, vineyards smaller than 100 acres generate \$209,150 in annual revenues and \$12,340 in after tax net profits. In comparison, the average size vineyard larger than 100 acres generates \$5.9 million in revenues and \$347,400 in annual net profits. The table also shows revenue and net profit estimates for other crops and dairies.

**TABLE 9
ECONOMIC PROFILE OF AFFECTED SOURCES: PROPOSED RULE 11-17**

		Crops			Livestock	
Average Size (acres)	Vineyards	Other crops	All Crops	Average Size (nos. of units)	Dairies, etc.	
Less than 100 acres	36	80	47	less than 100 units	30	
more than 100 acres	888	230	850	more than 100 units	494	
		Other crops	All Crops			
Revenues Per Farm By Size	Vineyards	Other crops	All Crops	Revenues Per Contained Animal Facility	Dairies, etc.	
Less than 100 acres	\$209,147	\$207,159	\$416,306	less than 100 units	\$148,473	
more than 100 acres	\$5,888,305	\$1,015,688	\$6,903,993	more than 100 units	\$1,401,224	
		Other crops	All Crops			
Est. Net Profits Per Farm By Size	Vineyards	Other crops	All Crops	Est. Net Profits Per CAF	Dairies, etc.	
Less than 100 acres	\$12,340	\$10,565	\$22,905	less than 100 units	\$5,627	
more than 100 acres	\$347,410	\$51,800	\$399,210	more than 100 units	\$64,022	
		Other crops	All Crops			
Est. Incremental Cost Threshold	Vineyards	Other crops	All Crops	Est. Incremental Cost Threshold	Dairies, etc.	
Less than 100 acres	\$1,234	\$1,057	\$2,290	less than 100 units	\$563	
more than 100 acres	\$34,741	\$5,180	\$39,921	more than 100 units	\$6,402	

Source: ADE, Inc., based on BAAQMD, US Agricultural Census, and California Agricultural Commissioners

Table 9 also provides information that can be used to determine whether the cost of technology required for compliance with Rule 11-17 is less than significant or not. These estimates are based on the ten percent of net profit threshold of significance. For example, a small farm (average 47 acres) would need a 200 HP diesel engine pump for frost protection, and generates \$22,905 in after tax net profits. The threshold of significance for any proposal's cost is ten percent of net profit. In this case, the threshold of significance is \$2,290. Annualized capital cost for a replacement 200 HP Tier 3 diesel engine (estimated at 12% of total capital) is \$2,461. The annualized capital cost for a replacement 200 HP Tier 4 engine in 2020 is \$4,922. It is important to remember that, for purposes of comparing the incremental cost stemming from replacement with a Tier 4 engine in 2020 versus a Tier 3 engine in 2011, we must perform a net present value calculation of the annualized \$4,922 cost in 2020 for the year 2011. The net present value of \$4,922 in 2020 is \$3,180 in 2011, assuming the money is alternately invested in a 30 Year Treasury Bond from 2011 through 2020. The difference in these costs is $\$3,181 - \$2,461 = \$720$. Thus, the incremental impact attributable to BAAQMD's proposed rule, in the event an owner/operator replaces their non-compliant 200 HP Tier 0 engine with compliant Tier 4 engine is \$720.

Similarly, for farms larger than 100 acres, the cost associated with the ten percent threshold is \$39,921. Capital costs for replacement engines are typically 20 – 40% less on a per acre basis because large farms can take advantage of economies of scale. Table 10 shows that impacts are less than significant, when annual costs borne by average size farms of all varieties less than one hundred acres, and those greater than one hundred acres are compared against estimated annual net profits generated by affected sources.

In addition, proposed Rule 11-17 has the added benefit of resetting the compliance deadlines, allowing further recovery of useful engine life, and potentially allowing Agricultural Assistance Program funding to remain available until the proposed compliance dates (providing funds continue to be available). These funds can provide funding to offset up to 85% (typically 60 – 75%) of the cost of a replacement engine.

**TABLE 10: SOCIOECONOMIC IMPACT ANALYSIS:
PROPOSED RULE 11-17:
INCREMENTAL DIFFERENCE BETWEEN
CARB TIER 0-TO-TIER 3 [2011] ANNUAL COST VS.
DISTRICT TIER 0-TO-TIER 4 [2020] ANNUAL COST**

Average Size (acres)	Crops		
	Vineyards	Other crops	All Crops
Less than 100 acres	36 acres	80 acres	47 acres
More than 100 acres	888 acres	230 acres	850 acres
Est. Net Profits Per Farm By Size	Vineyards	Other crops	All Crops
Less than 100 acres	\$12,340	\$10,565	\$22,905
More than 100 acres	\$347,410	\$51,800	\$399,210
Est. Incremental Cost Per Farm By Size: CARB Tier 0-Tier 3 [2011] vs. District Tier 0-Tier 4 [2020]	Vineyards	Other crops	All Crops
Less than 100 acres	\$720	\$720	\$720
More than 100 acres	\$16,730	\$2,007	\$12,045
Incremental Cost to Annual Net Profit	Vineyards	Other crops	All Crops
Less than 100 acres	5.8%	6.8%	3.1%
More than 100 acres	4.8%	3.9%	3.0%

Source: ADE, Inc., based on Ca. Ag Commissioners, USDA Ag Census, BAAQMD, and US IRS

SOCIOECONOMIC IMPACT ANALYSIS CONCLUSION: LESS THAN SIGNIFICANT

As stated above, proposed Rule 11-17 has no significant impact on required replacement of Tier 0 engines. If engines are replaced now with Tier 3 engines, the impact is equal to that of the ATCM. If the owner/operator chooses to delay replacement until 2020, the impacts are below the threshold of significance.

Proposed Rule 11-17 also requires sources with Tier 1 engines to replace these engines in one of two ways. Owner/operators of Tier 1 engines can abide by CARB ATCM, in which case the Tier 1 engines must be replaced by 2015 (or 12 years after initial installation) with Tier 4 engines. The District's proposed rule also allows the option to replace their Tier 1 engines with Tier 4 engines by 2020. There is no incremental cost impact stemming from the District's proposal to extend the deadline for Tier 1 engines through 2020.

The proposed rule also requires Tier 2 engines to be replaced in one of two ways. Owner/operators of Tier 2 engines can abide by CARB ATCM, in which case the Tier 2 engines must be replaced by 2015 (or 12 years after initial installation) with Tier 4 engines. The District's proposed rule also allows the option to replace their Tier 2 engines with Tier 4 engines by 2025. There is no incremental cost impact stemming from the District's proposal to extend the deadline for Tier 2 engines through 2025.

CONSUMER IMPACTS

Consumers indirectly purchase most wine and agricultural products through supermarkets and other retail outlets. Economic impacts of the proposed rule are less than significant, so producers can typically absorb these costs without hardship. Most agricultural operations' products are typically considered commodities at the wholesale level, so it is unlikely that they will be able to pass on any additional costs. This is especially true if alternate products are imported from foreign sources. Since there are products on the market that come from outside the Bay Area, farmers would likely need to absorb most of these costs.

AFFECTED INDUSTRY AND REGIONAL EMPLOYMENT IMPACTS

Since on average, the proposed Rule amendment would not result in significant economic impacts to both small and large agricultural operations, and consumers may bear some portion of the compliance cost burden, the proposed Rule will not impact the affected industry 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 amendment to the Rule is not expected to result in significant direct impacts, its adoption would not result in any indirect or induced impacts either.

APPENDIX 2

Final Environmental Impact Report for the Bay Area Air Quality Management District's Regulation 11, Rule 17: Limited Use Stationary Compression Ignition (Diesel) Engines in Agricultural Use

May, 2011

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BAY AREA AIR QUALITY MANAGEMENT DISTRICT

FINAL ENVIRONMENT IMPACT REPORT

**LIMITED USE STATIONARY COMPRESSION IGNITION (DIESEL) ENGINES
IN AGRICULTURAL USE**

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CHAPTER 1

INTRODUCTION

Introduction

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- Intended Uses of this Document
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Executive Summary of Final EIR

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1.1 INTRODUCTION

The Bay Area Air Quality Management District (BAAQMD or District) was established in 1955 by the California Legislature to control air pollution in the counties around San Francisco Bay and to attain federal air quality standards by the dates specified in federal law. The BAAQMD is also required to meet state standards by the earliest date achievable. There have been significant improvements in air quality in the Bay Area over the last several decades.

The BAAQMD or District is proposing Regulation 11, Hazardous Pollutants, Rule 17: Limited Use Stationary Compression Ignition (Diesel) Engines in Agricultural Use as a local regulation that is equivalent to the Air Toxic Control Measure (ATCM) for Stationary Compression Ignition (CI – also known as diesel) Engines adopted by the California Air Resources Board (CARB) for the same category of sources. The intent of this regulation is to adopt CARB requirements for stationary engines in agricultural operations, but to also make some changes to better address local needs. The proposed Rule is specifically intended to address local compliance issues associated with low-use stationary agricultural diesel engines.

The purpose of this rule is to reduce public exposure to air toxics from stationary compression ignition (diesel) engines used in agricultural operations within the District. This rule is adopted pursuant to Section 39666 of the California Health and Safety Code, to implement the provisions of the ATCM for Stationary CI Engines adopted by CARB (Sections 93115 through 93115.15, Title 17, of the California Code of Regulations) that apply to stationary diesel engines used in agricultural operations, effective October 18, 2007. In addition, this rule provides an exemption for very low-use stationary agricultural diesel engines, and an alternate compliance schedule for low-use stationary agricultural diesel engines.

The District has been implementing CARB's ATCM since it was first approved in 2004. As required by the amendments effective October 2007, all stationary agricultural diesel engines over 50 HP must be registered with the District. The District has registered approximately 335 agricultural diesel engines to date. Over the three years since CARB's ATCM became effective for agricultural engines, affected farmers and District staff have commented to CARB staff that an exemption was needed for low-use agricultural diesel engines. The BAAQMD is proposing a combination of approaches to compliance with the ATCM, including a very limited exemption for the least used engines, a compliance extension for low-use engines that would allow their replacement with Tier 4 engines, and shorter time periods for certain engines to come into compliance.

This EIR addresses the impacts due to implementation of the BAAQMD's Regulation 11, Rule 17, Limited Use Stationary Compression Ignition (Diesel) Engines in Agricultural Use.

1.1.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT

The California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq., requires that the potential environmental impacts of proposed projects be evaluated and that feasible methods to reduce or avoid identified significant adverse environmental impacts of these projects be identified.

To fulfill the purpose and intent of CEQA, the BAAQMD has prepared this Environmental Impact Report (EIR) under the requirements of CEQA Guidelines §15187 to address the potential environmental impacts associated with the proposed Regulation 11, Rule 17. Prior to making a decision on the adoption of the new low-use agricultural diesel engine rule, the BAAQMD Governing Board must review and certify the EIR as providing adequate information on the potential adverse environmental impacts of implementing the proposed Rule.

1.1.2 NOTICE OF PREPARATION AND INITIAL STUDY

A Notice of Preparation and Initial Study (NOP/IS) for the adoption of District Regulation 11, Rule 17 (included as Appendix A of this EIR) was distributed to responsible agencies and interested parties for a 30-day review on December 20, 2010. A copy of the NOP/IS was received by the State Clearinghouse on January 12, 2011. A notice of the availability of this document was distributed to other agencies and organizations and was placed on the BAAQMD's web site, and was also published in newspapers throughout the area of the BAAQMD's jurisdiction. The comment period was open until February 11, 2011. No comment letters were received on the NOP/IS.

The NOP/IS identified the following environmental resources as being potentially significant, requiring further analysis in the EIR: air quality and potential greenhouse gas emissions. The following environmental resources were considered to be less than significant in the NOP/IS: aesthetics, agricultural resources, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation and traffic, and utilities service systems (see Appendix A).

1.1.3 TYPE OF EIR

In accordance with §15121(a) of the State CEQA Guidelines (California Administrative Code, Title 14, Division 6, Chapter 3), the purpose of an EIR is to serve as an informational document that: “will inform public agency decision-makers and the public generally of the significant environmental effect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project.”

The EIR is an informational document for use by decision-makers, public agencies and the general public. The proposed project requires discretionary approval and, therefore, it is subject to the requirements of CEQA (Public Resources Code, §21000 et seq.).

The focus of this EIR is to address the environmental impacts of the proposed project as identified in the NOP/IS (included as Appendix A of this EIR). The degree of specificity required in an EIR corresponds to the degree of specificity involved in the underlying activity described in the EIR (CEQA Guidelines §15146).

1.1.4 INTENDED USES OF THIS DOCUMENT

In general, a CEQA document is an informational document that informs a public agency's decision-makers, and the public generally, of potentially significant adverse environmental effects of a project, identifies possible ways to avoid or minimize the significant effects, and describes reasonable alternatives to the project (CEQA Guidelines §15121). A public agency's decision-makers must consider the information in a CEQA document prior to making a decision on the project. Accordingly, this EIR is intended to: (a) provide the BAAQMD Governing Board and the public with information on the environmental effects of the proposed project; and, (b) be used as a tool by the BAAQMD Governing Board to facilitate decision making on the proposed project.

Additionally, CEQA Guidelines §15124(d)(1) require a public agency to identify the following specific types of intended uses of a CEQA document:

1. A list of the agencies that are expected to use the EIR in their decision-making;
2. A list of permits and other approvals required to implement the project; and
3. A list of related environmental review and consultation requirements required by federal, state, or local laws, regulations, or policies.

Other local public agencies, such as cities, county planning commissions, etc., may use the EIR for the purpose of developing projects consistent with Regulation 11, Rule 17 if local building permits are required. No other permits will be required by single purpose public agencies.

1.1.5 AREAS OF CONTROVERSY

In accordance to CEQA Guidelines §15123(b)(2), the areas of controversy known to the lead agency including issues raised by agencies and the public shall be identified in the EIR. Areas of controversy have been expressed during public workshops throughout the ATCM and rulemaking process. When the ATCM was amended in 2006 to include stationary agricultural engines, agricultural interests raised concern about replacement of low-use diesel engines. CARB staff and staff from several air quality management districts in the state have been working together to identify acceptable equivalent local rules that resolve the concerns regarding these low-use agricultural diesel engines.

CARB based its ATCM on “irrigation pumps” like those in the central valley, and did not consider “minor supplemental irrigation” or “frost protection” pumps. CARB staff assumed that most of these engines operated 1,000+ hours per year (which is normal for irrigation pumps). Engines that operate 1,000 hours per year, and are over 20 years old are near their end of useful life and would need to be replaced (assuming a typical ~20,000 hour life). However the lower usage (under 100 hours per year) supplemental irrigation and frost protection diesel engines do not wear out as quickly. Low-use agricultural diesel engines can have significant remaining life, and this loss of remaining life was not included in CARB’s economic evaluation. In addition, emissions were over estimated based on assuming 1,000 hours of operation per year. The cost of reducing emissions (calculated as dollars per ton of emissions reduced) by replacing low-use agricultural pumps is much higher than estimated by CARB.

1.1.6 PROJECT OBJECTIVES

The objective of Regulation 11, Rule 17 is to reduce overall diesel particulate matter emissions and public exposure to toxic air contaminants associated with low-use stationary CI engines used in agricultural operations within the District, while allowing additional recovery of useful life from these low-use CI engines. The objective of Regulation 11, Rule 17 is also to create a regulation for low-use stationary CI engines that is consistent with the goals of CARB’s ATCM. The Bay Area is not in attainment with the State particulate matter standards, so further reductions in emissions of particulate matter are needed to comply with State ambient air quality standards for particulate matter, as well.

1.1.7 DOCUMENT FORMAT

State CEQA Guidelines outline the information required in an EIR, but allow the format of the document to vary [CEQA Guidelines §15120(a)]. The information in the EIR complies with CEQA Guidelines §15122 through §15131 and consists of the following:

Chapter 1: Introduction

Chapter 2: Project Description

Chapter 3: Environmental Setting, Impacts and Mitigation Measures

Chapter 4: Alternatives

Chapter 5: Other CEQA Topics

Chapter 6: References

Appendix A: Notice of Preparation/Initial Study

Appendix B: Air Quality Analysis

1.2 EXECUTIVE SUMMARY OF FINAL EIR

1.2.1 EXECUTIVE SUMMARY – CHAPTER 2: PROJECT DESCRIPTION

Regulation 11, Hazardous Pollutants, Rule 17: Limited Use Stationary Compression Ignition (Diesel) Engines in Agricultural Use, is a proposed new rule intended to reduce public exposure to toxic air contaminants from stationary compression ignition (diesel) engines used in agricultural operations within the District, and to adopt CARB requirements for stationary engines in agricultural operations, but to also make some changes to better address local needs. The proposed Rule is specifically intended to address local compliance issues faced by low-use stationary agricultural diesel engines.

The District has been implementing CARB's ATCM since it was first approved in 2004. As required by the amendments effective October, 2007, all stationary agricultural diesel engines over 50 HP must be registered with the District. The District has registered approximately 395 agricultural diesel engines to date. The BAAQMD is proposing a combination of strategies including a very limited exemption for the least used engines, a compliance extension for low-use engines that would allow their replacement with Tier 4 engines, and shorter time periods for engines that no longer meet criteria for certain limited exemptions to come into compliance.

Exemption for Very Low-Use Engines: Proposed Regulation 11, Rule 17 would exempt from emissions control requirements any agricultural engine that operates less than 20 hours per year and is located more than 1,000 feet from a residential area, school, or health facility, or conducts a Health Risk Screening Analysis demonstrating that the health risks to the residential area, school and/or health facility are within acceptable levels as outlined in the proposed rule.

Alternative Compliance Plan for Low-Use Engines: Owners or operators of an agricultural diesel engine may apply for alternate compliance by petitioning for approval of a low-use Alternative Compliance Plan (low-use ACP), provided that applicable criteria are met (e.g., engine operates on average less than 100 hours per year, and is located more than 1,000 feet from a residential area, school or health facility). If the low-use ACP is approved by the APCO, the engine may continue to operate for an extended period until the time it is required by District Regulation 11, Rule 17 to comply with the emissions standards of the ATCM.

Each engine must be replaced with an electric motor, a certified Tier 4 engine or an engine meeting Tier 4 emission standards, or the highest tier (lowest emissions) engine available for purchase at the time of replacement. The ACP deadlines are designed to enable replacement of existing engines (mostly Tier 0) with Tier 4 engines. In addition, the owner or operator of each engine must record its use and report it to the District each year at the time of registration or permit renewal.

Shortened Compliance Term for Engines No Longer Eligible for an Exemption or Low-Use ACP: CARB’s ATCM provides a period of up to eighteen months for an agricultural engine that loses its exempt status to come into compliance with the otherwise applicable emissions standards. Proposed Regulation 11, Rule 17 reduces the period to six months to remove the engine from service or replace it with an engine that complies with the otherwise applicable standards.

Sources Affected by Proposed Regulation 11, Rule 17: On February 1, 2011 three hundred and thirty five (335) agricultural engines are registered with the District. While there may be additional engines registered in the future, the existing inventory of registered engines that may be affected were as follows:

- 64 engines operate fewer than 20 hours per year and are potentially eligible to be exempted from control requirements.
- 125 engines operate fewer than 100 hours per year, and may qualify for a low-use Alternate Compliance Plan.
- 42 engines are used up to 200 hours per year, and may be able to qualify for the Alternate Compliance Plan if they can reduce usage to less than 100 hours through disciplined control of engine use.

The remaining engines are considered “prime” engines since they are used regularly.

Feedback from farmers, cattlemen, dairymen and agricultural equipment suppliers indicate there may be significantly more diesel engines in the field that have not yet been registered. The analysis for this proposed regulation is based on the existing inventory of registered engines, but a range of emissions estimates are given to accommodate the range of uncertainty regarding the number of potential agricultural diesel engines affected by the proposed rule. Additional agricultural engines may be registered as this rulemaking process moves forward, and the deadline for engine upgrade or replacement approaches.

1.2.2 EXECUTIVE SUMMARY – CHAPTER 3: ENVIRONMENTAL SETTINGS, IMPACTS AND MITIGATION MEASURES

1.2.2.1 Air Quality

Environmental Setting

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 (NO₂), particulate matter 10 microns or smaller in diameter (PM₁₀),

particulate matter 2.5 microns or smaller in diameter (PM_{2.5}), sulfur dioxide (SO₂) 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.

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. The District is in attainment of the State and federal ambient air quality standards for CO, nitrogen dioxide (NO₂), and sulfur dioxides (SO₂). The District is not considered to be in attainment with the State PM₁₀ and PM_{2.5} standards. The Bay Area is designated as a marginal non-attainment area for the federal 8-hour ozone standard and as a serious non-attainment area for the California 1-hour ozone standard. The District has been designated as non-attainment for the new State 8-hour ozone standard.

Environmental Impacts

Proposed Regulation 11, Rule 17 would not generate any new construction or result in any increase in construction emissions.

Operational Emission Impacts: The existing emissions associated with low-use CI engines were developed using data from engines that were registered with the BAAQMD in August, 2010, which includes about 280 agricultural diesel engines, 82% of which were engines installed before 1996, also known as Tier 0 engines because they don't meet any emissions standards. The emissions for these low use agricultural engines following implementation of Regulation 11, Rule 17 were also estimated, assuming the same engine operating parameters (e.g., hours per year) and that Tier 4 compliant engines would be installed. Feedback from farmers, cattlemen, dairymen and agricultural equipment suppliers indicate there may be significantly more diesel engines in the field that have not yet been registered. A range of emissions estimates are given to accommodate the range of uncertainty regarding the number of potential low-use agricultural diesel engines.

The base case or "baseline" for EIR consideration is normally the physical conditions as they exist at the time the notice of preparation (NOP) is published (CEQA Guidelines §15125(a)). In this case, the CARB ATCM is only partially implemented, so most current agricultural diesel engines are Tier 0. Full implementation through replacement of existing low-use engines with Tier 3 engines is anticipated to take an additional year or two. To most conservatively analyze any potential impacts from the proposed rule, three scenarios have been presented:

- (1) the existing baseline (population of current engines) is compared to the predicted engine inventory at full implementation of the proposed rule;
- (2) the existing baseline (population of current engines) is compared to the predicted engine inventory at full implementation of the ATCM, especially during the early years (2011 through 2020); and

- (3) the impact of the inventory of engines associated with the proposed rule at full implementation is compared to the inventory of engines associated with the ATCM at full implementation.

Scenario (3) considers the delay in emissions reductions that would occur from implementation of the proposed rule rather than the ATCM.

Criteria Pollutant Impacts: Implementation of Regulation 11, Rule 17 is expected to result in emissions reductions of VOC (1.78-2.67 tons/year), NOx (22.70 – 34.05 tons/year), and PM (1.24 to 1.86 tons/year) following full implementation.

However, the proposed rule will delay implementation of engine replacement that is currently required under CARB’s ATCM. The emissions associated with the use of low-use agricultural engines will be higher in the 2011 to 2020 timeframe under Regulation 11, Rule 17 as the proposed regulation would delay implementation of portions of the ATCM until after 2020. Under the ATCM, some Tier 0 engines would be required to convert to Tier 3 engines sooner and these engines are assumed to remain Tier 3 engines into the future. Under the proposed Regulation 11, Rule 17, all existing Tier 0, Tier 1 and Tier 2 engines would be replaced with Tier 4 engines by the end of the 2020 – 2025 timeframe. Therefore, the proposed project would delay emission reductions due to the ATCM in the 2011 through 2020 timeframe. During the 2020 – 2025 timeframe, criteria pollutant emissions will be lower than under CARB’s ATCM because under the proposed rule all existing Tier 0 and Tier 1 engines (more than 92% of the current engines) will be replaced with Tier 4 engines, whereas under the ATCM these engines would have been replaced with higher emitting Tier 3 engines.

TABLE 1-1

Estimated Emission Reductions Foregone During Early Years Associated with Implementation of Regulation 11, Rule 17 (tons/yr)

Pollutant	Emission Reductions foregone⁽¹⁾ (tons/yr)	CEQA Significance Thresholds (tons/yr)	Potentially Significant?
VOC	1.12 - 1.68	10	NO
NOx	17.04 - 25.56	10	YES
PM	0.82 - 1.23	15	NO

(1) Emission reductions that would not occur in early years if Regulation 11, Rule 17 was implemented.

When the emissions reductions associated with proposed Regulation 11, Rule 17 are compared to the emission reductions expected as part of the currently approved ATCM, emissions would be higher in the 2011 to 2020 timeframe. An estimate of the magnitude of those increases, which conservatively assumes that there are two to three times the inventory of registered engines in the Bay Area in August 2010 and that all of the eligible

engines will participate in the ACP, is shown in Table 1-1 and compared to the CEQA significance threshold. As shown in Table 1-1, the emissions of VOC and PM relative to the ATCM in the interim years are less than the applicable CEQA significance threshold and, therefore, less than significant. However, the emissions of NO_x relative to the ATCM could exceed the 10 tons per year CEQA threshold and are potentially significant.

Implementation of Regulation 11, Rule 17 would result in additional VOC, NO_x, and PM emission reductions in the long-term (after 2020) and provide additional long-term beneficial air quality and related health impacts than the ATCM. Greater VOC, NO_x, and PM emission reductions are expected under the proposed rule than under CARB's ATCM providing long-term air quality and related health benefits.

Minor amounts of emissions of CO and SO₂ will also be reduced under Regulation 11, Rule 17, although the District is in attainment for State and federal standards for these pollutants. CO levels will not increase during the interim 2011 – 2020 time period under proposed Regulation 11, Rule 17, and will be lower after 2020. The CEQA threshold of significance for local CO is a concentration that is equivalent to the state standard, and that standard is not exceeded under current conditions. There is no CEQA threshold of significance for SO₂, nor would the proposed rule increase emissions of this pollutant.

Toxic Air Contaminant Impacts: The health risk from the proposed rule at full implementation is expected to be a reduction in TAC emissions. Therefore, the proposed rule, when fully implemented, does not cause significant health impacts.

TAC emissions associated with diesel engines include acetaldehyde, acrolein, ammonia, benzene, 1,3-butadiene, ethyl benzene, formaldehyde, hexane, hydrogen chloride, toluene, xylenes, metals, polycyclic aromatic hydrocarbons, and diesel particulate matter. While the toxic effects of these compounds are quantifiable, diesel particulate matter is the predominant health risk driver in diesel engine emissions (representing more than 90% of the total health risk) due to the greater emission rate and associated cancer potency factor compared to the other compounds. Therefore, diesel particulate is the representative TAC considered in this analysis.

The significance criteria for TACs include incremental increase in cancer risk; increase in chronic or acute non-cancer risk; or increase in the ambient PM_{2.5} ground level concentration. With regard to non-cancer risk, there is no acute health risk Reference Exposure Level (REL) for diesel particulate matter and the chronic non-cancer health risk REL is 5.0 µg/m³. Since the CEQA threshold of significance for ground level concentrations of particulate matter is an increase of less than 0.3 µg/m³, this document first analyzes whether the PM_{2.5} threshold is exceeded. If that threshold is not exceeded, chronic non-cancer health risk limit would not be exceeded and need not be evaluated. Therefore, this analysis has been conducted on both cancer risk and ambient PM_{2.5} concentration. In addition, impacts at both the project level and cumulative impacts have been considered.

During the early years of the proposed rule, the health risk benefits will be delayed. To assess the impact of the delay, the ground level concentration was time-weighted to reflect the additional years of increased emissions from the delay. Cancer risks are based on a 70-year exposure, so nine years of exposure are assumed to be to emissions associated with Tier 0 engines and 61 years are assumed to be to emissions associated with Tier 4 engines. The resulting cancer risks for the 100 hp, 175 hp and 500 hp engines are 0.065, 0.100, and 0.181 in one million, respectively. The threshold of significance for cancer risk is ten in one million, therefore, the delay in the proposed rule does not cause significant health impacts.

During the nine year exposure period from 2011 - 2020, the current inventory of engines could continue to operate, rather than be replaced with Tier 3 engines. During this period, cancer risk is calculated for only the nine year period, rather than for 70-year exposure. Nine year cancer risk for the worst case 500 hp Tier 0 engine is 0.188 per million, where the cancer risk for the 500 hp Tier 3 engine is 0.033 per million. The difference is an increase of 0.155 per million but well below the significance threshold of 10 in a million. The proposed rule does not exceed the threshold of significance identified for this impact.

PM_{2.5} ground level concentrations are determined using the CARB HARP model. Under the first scenario, the proposed rule would not cause a significant increase in the ambient PM_{2.5} concentration because during the delay the PM_{2.5} concentration would remain the same as the baseline of the current inventory of engines and, following full implementation, the PM_{2.5} concentrations would be reduced by 99 percent from existing levels. The comparison of the proposed rule to the fully implemented ATCM during the delay (i.e., replacement of a Tier 0 engine with a Tier 3 engine) would result in an increase of 0.0012, 0.0019, and 0.0035 µg/m³ for the 100 hp, 175 hp, and 500 hp engines (see Table 3-13), respectively, which does not exceed the significance standard of an increase of 0.3 µg/m³. Therefore, the increase in PM_{2.5} during the delay when compared to implementation of the ATCM would not be above the identified significance threshold for this impact.

In performing a cumulative impact analysis of toxic air contaminant impacts from the proposed rule, areas within the District where agricultural property is adjacent to major roadways were identified. The six major roadways with adjacent agricultural land identified are highways 29, 37, and 101 and interstates 80, 280 and 680. While some of the major highways' current risk values are high, the proposed rule will reduce the risk from agricultural engines which may be adjacent to major roadways, thereby lowering the cumulative risk to receptors. The incremental risk associated with the engines affected by this proposed rule will not increase cumulative risks to nearby sensitive receptors due to the provision of the rule that requires engines within 1,000 feet of sensitive receptors to complete a site-specific health risk analysis and demonstrate a cancer risk of less than 10 in a million, and PM_{2.5} ground level concentration of less than 0.3 µg/m³. In addition, the proposed rule will require a site-specific cumulative analysis as part of the ACP for engines within 1,000 feet of a sensitive receptor to demonstrate a

cumulative cancer risk of less than 100 in a million, and a cumulative PM_{2.5} ground level concentration of less than 0.8 µg/m³. These provisions of the rule will minimize potential health risks to less than significant. Therefore, no significant adverse cumulative TAC impacts are expected.

Greenhouse Gases: Global climate change refers to changes in average climatic conditions on the earth as a whole, including temperature, wind patterns, precipitation and storms. One identified cause of global warming is an increase of Greenhouse Gases (GHGs) in the atmosphere. Proposed Regulation 11, Rule 17 would replace existing low-use agricultural engines with new agricultural engines. In many cases, new engines (Tier 3 engines for example) are more energy efficient than older engines (e.g., Tier 0 engines). In this example, the use of a newer engine would generally require less fuel (energy) to accomplish the same amount of work.

Engines that meet the Tier 4 emission standards are not currently available on the market. Tier 4 engines will likely require some form of additional air pollution control (e.g., diesel particulate filters) to comply with the Tier 4 emission standards. Air pollution control equipment, such as particulate filters, can add back pressure onto engines, thus reducing engine efficiency and requiring additional energy (fuel) to accomplish the same level of output. In order to provide a conservative evaluation of potential GHG emissions, it is assumed that some form of additional air pollution control equipment will be required on the CI engines to achieve Tier 4 emission standards, creating a decrease in energy efficiency. The GHG emissions were calculated for the existing CI engines affected by proposed Regulation 11, Rule 17, based on the inventory of registered diesel engines in August, 2010. The available data indicate that the installation of a filter system may cause a slight fuel penalty on the order of one percent or less. The impact of Regulation 11, Rule 17 is that there will be more Tier 4 engines than under the ATCM, which translates to a potential increase in fuel use and a related increase in GHG emissions.

The one percent decrease in fuel economy translates to an increase of 729 to 2,186 metric tons per year of GHG emissions (as CO₂ equivalent (CO₂eq) emissions) for registered low use agricultural engines, which is well below the BAAQMD significance criteria of 10,000 metric tons per year. Therefore, the potential increase in GHG emissions would be less than significant associated with implementation of Regulation 11, Rule 17.

Mitigation Measures

Adoption of the proposed rule will result in a delay in the reduction of NO_x emissions based on the ATCM's implementation schedule. These delayed NO_x reductions may be above the District's NO_x significance threshold and therefore are a potentially significant cumulative air quality impact. In order to mitigate this potential short term interim significant impact, the District will use District grants and incentives to fund NO_x reduction projects from other sources. The District has identified specific strategic incentive funding from the Transportation Fund for Clean Air and other grant programs

that will be used to fund NO_x reduction projects anticipated to reduce NO_x emissions by up to 25 tons per year between 2011 and 2020. These projects will mitigate the delayed NO_x reductions from the proposed rule, resulting in less than significant NO_x impacts. Over the long term, implementation of the proposed rule is expected to result in greater overall emission reductions due to the conversion of affected engines to Tier 4 engines, which will result in lower overall emissions.

NO_x emission reductions will be monitored to ensure the proposed mitigation measures meet expectations during the years 2011 through 2020, the period when implementation of the ATCM will be delayed and when there is the potential for foregone NO_x emission reductions from the ATCM. The total NO_x emissions associated with the delay will be calculated during each year (2011 through 2020). The BAAQMD will fund projects to reduce NO_x emissions equal to the amount of NO_x emissions associated with the delay in implementing the ATCM. The BAAQMD will maintain records that show the NO_x emissions associated with the delay, and the NO_x emission reductions that sufficiently offset the delayed emission reductions on an annual basis.

1.2.3 EXECUTIVE SUMMARY – CHAPTER 4: ALTERNATIVES

An EIR is required to describe a reasonable range of feasible alternatives to the proposed project that could feasibly attain most of the basic project objectives and would avoid or substantially lessen any of the significant environmental impacts of the proposed project (CEQA Guidelines §15126.6(a)).

As discussed in Chapter 3 of this EIR and the Initial Study (see Appendix A), the proposed new Regulation 11, Rule 17 could result in significant adverse impacts to air quality due to delayed NO_x emission reductions in interim years associated with the delayed compliance with the ATCM. The proposed rule is not expected to result in significant impacts to other environmental resources including aesthetics, agriculture and forestry resources, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation and traffic, and utilities and service systems.

CEQA Guidelines §15126.6 (e) requires evaluation of a “No Project Alternative”. Under the “No Project Alternative,” no modifications to the CARB ATCM for stationary CI engines would occur and the ATCM would continue to be implemented and enforced as it currently exists.

The ATCM requires replacement of most of these low-use agricultural engines by December 31, 2010 or December 31, 2011, depending on their size. Therefore, the No Project alternative would result in VOC, NO_x, and PM emission reductions during the period from 2011 through 2020.

The proposed project is the preferred alternative because the long-term emission reductions of VOC, NOx and PM are expected to be greater than the No Project Alternative, providing larger air quality improvements, reducing public exposure to VOC, NOx and PM, and subsequently improving public health benefits. In addition, the No Project Alternative does not achieve the project's purposes of retaining the remaining useful life of low use agricultural engines.

The impacts of the No Project Alternative on air toxic emissions would also be less than significant as there would be greater emission reductions than the proposed project during the interim years, but less emission reductions than the proposed project in the long term.

The impacts of the No Project Alternative on GHG emissions are expected to be the same (or similar) to the proposed project in the interim years, but slightly less than the proposed project in the long-term, since the proposed project would result in the operation of more Tier 4 engines, which could be slightly less energy efficient (about one percent) due to the use of additional air pollution control equipment expected to be used on Tier 4 engines. GHG emissions would be less than significant under both the proposed project and No Project Alternative.

An alternative project considered is one that implements the provisions of Regulation 11, Rule 17 with earlier compliance dates of 2016 for Tier 0 engines, 2018 for Tier 1 engines, and 2020 for Tier 2 engines (the "Earlier Implementation Alternative"). This alternative has the advantage of reducing NOx and PM emissions earlier, such that there would be significant impacts from NOx emissions for a shorter interim time period than the proposed project. However, this alternative has the disadvantages of reducing the useful life obtained from the existing population of low-use engines. This alternative has the additional disadvantage of putting implementation at risk if Tier 4 engine development falls behind schedule. If Tier 4 engines are not commercially available by the 2014/2015 timeframe as currently anticipated, implementation of this alternative would not be feasible. Finally, this alternative has the disadvantage of setting replacement deadlines that are inconsistent with those established in surrounding air quality management districts, creating un-even regulatory requirements for the agricultural community. This alternative is not preferred due to the above-stated disadvantages and the fact that the potentially significant NOx impacts during the interim period are fully mitigated under the preferred alternative.

1.2.4 EXECUTIVE SUMMARY – CHAPTER 5: OTHER CEQA TOPICS

1.2.4.1 Relationship Between Short-term Uses and Long-Term Productivity

An important consideration when analyzing the effects of a proposed project is whether it will result in short-term environmental benefits to the detriment of achieving long-term goals or maximizing productivity of these resources. Implementing Regulation 11, Rule 17 is not expected to achieve short-term goals at the expense of long-term environmental productivity or goal achievement. The purpose of the proposed rule is to reduce public

exposure to air toxic emissions from low use CI engines in agricultural operations. In the short-term, the proposed rule would delay the implementation of portions of CARBs ATCM for low-use stationary CI engines in agricultural uses, thus delaying some of the emission benefits. However, in the long-term, Regulation 11, Rule 17 would reduce overall diesel particulate emissions from low-use agricultural CI engines. By reducing particulate matter emissions, human exposure to air pollutants would also be reduced, providing long-term health benefits.

1.2.4.2 Significant Irreversible Environmental Changes

CEQA requires an EIR to discuss significant irreversible environmental changes which would result from a proposed action should it be implemented. Irreversible changes include a large commitment of nonrenewable resources, committing future generations to specific uses of the environment (e.g., converting undeveloped land to urban uses), or enduring environmental damage due to an accident.

Implementation of the proposed rule is not expected to result in significant irreversible adverse environmental changes. The proposed project is expected to result in reduced emissions of criteria pollutants and TACs in the long-term, thereby improving air quality and related public health.

1.2.4.3 Growth-Inducing Impacts

A growth-inducing impact is defined as the “ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.” Growth-inducing impacts can generally be characterized in three ways: (1) a project includes sufficient urban infrastructure to result in development pressure being placed on less developed adjacent areas; (2) a large project affects the surrounding community by producing a “multiplier effect,” which results in additional community growth; and (3) a new type of development is allowed in an area, which subsequently establishes a precedent for additional development of a similar character. None of the above scenarios characterize the project evaluated in the EIR since it will control emissions from low use agricultural CI engines and no new development would be required as part of the proposed new rule.

1.2.5 EXECUTIVE SUMMARY – CHAPTERS 6: REFERENCES

Information on references cited (including organizations and persons consulted) are presented in Chapter 6.

CHAPTER 2

PROJECT DESCRIPTION

Introduction
Project Location
Background
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Proposed Project Description

2.0 PROJECT DESCRIPTION

2.1 INTRODUCTION

The Bay Area Air Quality Management District (BAAQMD or District) is proposing Regulation 11, Hazardous Pollutants, Rule 17: Limited Use Stationary Compression Ignition (Diesel) Engines in Agricultural Use as a local regulation that is equivalent to the Air Toxic Control Measure (ATCM) for Stationary Compression Ignition (CI – also known as diesel) Engines adopted by the California Air Resources Board (CARB) for the same category of sources. The intent of this regulation is to adopt CARB requirements for stationary engines in agricultural operations, but to also make some changes to better address local needs. The proposed Rule is specifically intended to address local compliance issues faced by a sub-group of affected sources, namely: low-use stationary agricultural diesel engines.

The purpose of this rule is to reduce public exposure to air toxics from stationary compression ignition (diesel) engines used in agricultural operations within the District. This rule is adopted pursuant to Section 39666 of the California Health and Safety Code, to implement the provisions of the ATCM for Stationary CI Engines adopted by CARB (Sections 93115 through 93115.15, Title 17, of the California Code of Regulations) that apply to stationary diesel engines used in agricultural operations, effective October 18, 2007. In addition, this rule provides an exemption for very low-use stationary agricultural diesel engines, and an alternate compliance schedule for low-use stationary agricultural diesel engines.

ATCMs are designed to reduce Toxic Air Contaminants (TACs), and to establish risk reduction plans and regulations to reduce public exposure to TACs. The particulate fraction of diesel exhaust was identified by CARB as a TAC in 1998, and CARB adopted a Risk Reduction Plan in 2000 that identified the main sources of diesel particulate matter and set out a schedule for regulating them. Particulate matter consists of very small liquid and solid particles suspended in the air, and includes particulate matter 10 microns or smaller in diameter (PM₁₀) as well as finer particulate matter 2.5 microns or smaller equivalent aerodynamic diameter (PM_{2.5}). Particulate matter is of concern because it can cause serious health effects. People with respiratory illnesses, children, and the elderly are more sensitive to the effects of particulate matter, but it can affect everyone.

The only option currently available for agricultural diesel engines in the District is to replace their Tier 0 diesel engines by the end of 2010 or 2011 (depending on their size), or fall out of compliance with the ATCM. This will mean replacement of most low-use agricultural diesel engines by the end of 2010, or 2011. This rule is proposed as an additional compliance option that is proposed to be equivalent to the ATCM. Specific elements of the proposed rule are discussed below.

The District has been implementing CARB's ATCM since it was first approved in 2004. As required by the amendments effective October, 2007, all stationary agricultural diesel

engines over 50 HP must be registered with the District. The District has registered approximately 395 agricultural diesel engines to date. Over the three years since CARB's ATCM became effective for agricultural engines, affected farmers and District staff have commented to CARB staff that an exemption was needed for low-use agricultural diesel engines. The best way to address these local concerns is to adopt a local rule that is equivalent to the ATCM. The BAAQMD is proposing a combination of approaches to comply with the ATCM, including a very limited exemption for the least used engines, a compliance extension for low-use engines that would allow their replacement with Tier 4 engines, and shorter time periods for engines that no longer meet criteria for certain limited exemptions to come into compliance. These provisions are embodied in the proposed Regulation 11, Rule 17, which are intended to be equivalent to the ATCM requirements.

2.2 PROJECT LOCATION

The BAAQMD has jurisdiction over an area encompassing 5,600 square miles. The Air District 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. 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 2-1). Proposed Regulation 11, Rule 17 would affect low use stationary CI engines in agricultural service within the Bay Area.

2.3 BACKGROUND

The ATCM for Stationary CI Engines (Sections 93115 through 93115.15, Title 17 of the California Code of Regulations, effective October 17, 2007) was originally adopted by CARB pursuant to Section 39650, et seq., of the California Health and Safety Code (H&SC). Section 39650 establishes a program for CARB, along with the Office of Environmental Health Hazard Assessment (OEHHA), to review the health effects of pollutants emitted into the air, to identify those that are most harmful as Toxic Air Contaminants (TACs), and to establish risk reduction plans and regulations to reduce public exposure to TACs. The particulate fraction of diesel exhaust was identified by CARB as a TAC in 1998, and CARB adopted a Risk Reduction Plan in 2000 that identified the main sources of diesel particulate matter and set out a schedule for regulating them.

CARB adopted the ATCM for stationary CI engines in 2004, affecting diesel engines driving a wide variety of machinery including electrical generators, conveyors, pumps and compressors. The ATCM required all applicable sources of TACs to hold valid operating permits or be registered with the local air district, unless the source is covered by a specific exemption. The registration or permit review is the gateway to implementation of the regulatory program, however the regulations apply whether or not a source is registered or has a valid permit. In 2006, CARB determined that both emergency standby engines and agricultural engines were potentially significant sources of air pollution, so both categories of engines were included in the ATCM and brought into the registration or permit program.

Under Section 39666 of the H&SC, local air districts are charged with implementing and enforcing ATCMs that affect stationary sources. The District has enforced the ATCM for stationary CI engines since it became effective. Section 39666 of the H&SC also allows districts to adopt equivalent or more stringent local rules for the same sources. When the ATCM was amended in 2006 to include stationary agricultural engines, agricultural interests raised concern about replacement of low-use diesel engines. CARB staff and staff from several air quality management districts in the state have been working together to identify acceptable equivalent local rules that resolve the concerns regarding these low-use agricultural diesel engines. The proposed Regulation 11, Rule 17: Limited Use Stationary Compressions Ignition (Diesel) Engines in Agricultural Use is the result of that effort in the Bay Area.

The CARB ATCM specifically exempted diesel engines in agricultural use when approved in 2004. However, further study indicated the emissions from agricultural diesel engines were significant, and agricultural engines needed to be controlled or replaced. When the ATCM was updated in 2006, agricultural diesel engines were no longer exempt. CARB included exemptions for diesel driven air movement fans used for frost protection in orchards and vineyards, and for agricultural standby emergency generators. However, CARB failed to include exemptions for other low-use diesel engines and water pumps used to spray water as an alternate method of frost protection. The ATCM requires that Tier 0 diesel engines larger than 100 horsepower (hp) meet new emissions standards by December 31, 2010, and Tier 0 diesel engines from 50 – 100 hp meet the new standards by December 31, 2011. Most engines must be replaced to meet the new standards. Regulation 11, Rule 17 is designed to provide a deferred timetable for replacement of limited use diesel engines because: (1) Most low-use agricultural diesel engines are no where near their end of useful life, so early replacement imposes an economic cost that was not adequately considered in CARB's ATCM economic analysis; and (2) Tier 4 engines are scheduled to be available in the 2014/2015 timeframe. Replacing current low-use agricultural diesel engines with Tier 4 engines will substantially reduce long-term emissions.

In addition, orchards and vineyards occasionally need to use diesel driven water pumps to protect crops if they suffer from lack of water during excessive heat in summer or from

freezing in winter. These orchards and vineyards are equipped with sprinkler systems used to provide supplemental water when needed during extremely hot and dry summer days (usually in August and September), and to provide frost protection during the coldest parts of the spring (February to April). Water for supplemental irrigation is very seldom used because most fruit trees and grape vines have deep roots, and quality of the fruit is degraded with excess water. Similarly, frost protection is seldom needed and the number of days and hours of potential frost are highly variable each year, averaging about 80 hours per year. These pumps provide water to frost protection sprinklers, generally during the early morning hours.

CARB based its cost effectiveness analysis of the ATCM on “irrigation pumps” like those in the central valley, and did not consider “minor supplemental irrigation” or “frost protection” pumps. CARB staff assumed that most of these engines operated more than 1000 hours per year (which is normal for irrigation pumps). Engines that operate 1000 hours per year and are over 20 years old are typically near their end of useful life and would need to be rebuilt or replaced (assuming a typical ~20,000 hour life). However the lower usage (under 100 hours per year) supplemental irrigation and frost protection diesel engines do not wear out as quickly. Low-use agricultural diesel engines can have significant remaining life, and this loss of remaining life was not included in CARB’s economic evaluation. In addition, emissions were overestimated based on assuming 1000 hours of operation per year. The cost of reducing emissions by replacing low-use agricultural pumps under the schedule in the ATCM is much higher than estimated by CARB.

2.4 PROJECT OBJECTIVES

The objective of Regulation 11, Rule 17 is to reduce overall diesel particulate matter emissions and public exposure to toxic air contaminants associated with low-use stationary CI engines used in agricultural operations within the District, while allowing additional recovery of useful life from these low-use CI engines. The objective of Regulation 11, Rule 17 is also to create a regulation for low-use stationary CI engines that is consistent with the goals of CARB’s ATCM. The Bay Area is not in attainment with the State particulate matter standards, so further reductions in emissions of particulate matter are needed to comply with State ambient air quality standards for particulate matter, as well.

2.5 PROPOSED PROJECT DESCRIPTION

The District has been implementing CARB’s ATCM since it was first approved in 2004. As required by the amendments effective October, 2007, all stationary agricultural diesel engines over 50 HP must be registered with the District. The District has registered approximately 395 agricultural diesel engines to date. Over the three years since CARB’s ATCM became effective for agricultural engines, affected farmers and District staff have commented to CARB staff that an exemption was needed for low-use agricultural diesel engines. The best way to address these local concerns is to adopt a

local rule that is equivalent to the ATCM. The BAAQMD is proposing a combination of strategies including a very limited exemption for the least used engines, a compliance extension for low-use engines that would allow their replacement with Tier 4 engines, and shorter time periods for engines that no longer meet criteria for certain limited exemptions to come into compliance. These provisions are embodied in the proposed Regulation 11, Rule 17.

Exemption for Very Low-Use Engines

Proposed Regulation 11, Rule 17 would exempt from emissions control requirements any agricultural engine that operates fewer than 20 operating hours per year and is located more than 1000 feet from a residential area, school, or health facility, or conducts a Health Risk Screening Analysis demonstrating that the health risks to the residential area, school and/or health facility are within acceptable levels as outlined in the proposed rule. The owner or operator of the exempt engine is required to maintain records of use to substantiate the exempt status.

Alternative Compliance Plan for Low-Use Engines

Under the proposed Regulation 11, Rule 17, the owner or operator of an agricultural diesel engine may apply for alternate compliance by petitioning for approval of a low-use Alternative Compliance Plan (low-use ACP). The Air Pollution Control Officer (APCO) may approve or deny the request. There are five criteria for an agricultural engine to be eligible for the low-use ACP:

- The engine must be used exclusively for an agricultural operation;
- The engine must be equipped with a non-resettable hour meter;
- The engine must be registered with the District’s Agricultural Engine Registration Program;
- The engine must average fewer than 100 operating hours per year, averaged over three years;
- The engine must be located more than 1,000 feet from a residential area, school, or health facility. If the engine is located 1,000 feet or less from a residential area, school, or health facility, a site specific Health Risk Screening Analysis approved by the District must document the cancer risk from the engine is less than 10 in a million and PM_{2.5} ground level concentration of less than 0.3 µg/m³; and that the cumulative cancer risks are less than 100 per million and cumulative PM_{2.5} ground level concentration is less than 0.8 µg/m³.

If the low-use ACP is approved by the APCO, the engine may continue to operate for an extended period until the time it is required by District Regulation 11, Rule 17 to comply

with the emissions standards of the ATCM. The proposed alternate deadlines for ATCM compliance are based on the engine Tier, as follows:

- * Tier 0 and Tier 1 engines may continue to operate for an average of up to 100 hours per year until December 31, 2020.
- * Tier 2 engines may continue to operate for an average of up to 100 hours per year until December 31, 2025.

Each engine must be replaced with an electric motor, a certified Tier 4 engine or an engine meeting Tier 4 emission standards, or the cleanest burning highest tier (lowest emissions) engine available for purchase at the time of replacement. The ACP deadlines are designed to enable replacement of existing engines (mostly Tier 0) with Tier 4 engines. In addition, the owner or operator of each engine must record its use and report it to the District each year at the time of registration or permit renewal. Table 2-1 provides a comparison of the current requirements under the ATCM with the proposed requirements under Regulation 11, Rule 17 related to low-use agricultural engines. Table 2-1 provides a simplified comparison of the compliance schedule under CARB’s current ATCM requirements with the compliance schedule under proposed Regulation 11, Rule 17.

TABLE 2-1

Comparison of Proposed Regulation 11, Rule 17 Compliance Schedule with Current CARB ACTM Compliance Schedule

Type of Engine	Current CARB ATCM Requirements	Proposed Regulation 11, Rule 17 Requirements
Tier 0 Engines	December 31, 2010 or December 31, 2011	December 31, 2020
Tier 1 Engines	December 31, 2014* or December 31, 2015*	December 31, 2020
Tier 2 Engines	December 31, 2014* or December 31, 2015*	December 31, 2025

* or twelve years after initial installation, whichever is later

Shortened Compliance Term for Engines No Longer Eligible for an Exemption or Low-Use ACP

CARB’s ATCM provides a period of up to eighteen months for an agricultural engine that loses its exempt status to come into compliance with the otherwise applicable emissions standards. Proposed Regulation 11, Rule 17 reduces that period for engines that can no longer meet the requirement for an exemption or the terms of their approved low-use ACP. The proposed rule allows six months to remove the engine from service or replace it with an engine that complies with the otherwise applicable standards.

Sources Affected by Proposed Regulation 11, Rule 17

On February 1, 2011, three hundred and thirty five (335) agricultural engines were registered with the District. While there may be additional engines registered in the future, the existing inventory of registered engines that may be affected were as follows:

- 64 engines operate fewer than 20 hours per year and are potentially eligible to be exempted from control requirements. Four (4) of these engines are fueled by propane, so are already exempt. In addition, 12 of these appear to be located close to housing, a school or a health facility, so they may not qualify for the proposed exemption. Thus, approximately 48 engines are expected to be exempt.
- 125 engines operate fewer than 100 hours per year, and may qualify for a low-use Alternate Compliance Plan. Three (3) of these engines are Tier 3 engines that meet the emissions standards, and 3 more of these engines are fueled by propane so are already exempt. Five (5) appear to be proximate to housing, schools or health facility so may not be eligible for the ACP. Therefore, 114 engines may be eligible for the ACP.
- 42 engines are used up to 200 hours per year, and may be able to qualify for the Alternate Compliance Plan if they can reduce usage to less than 100 hours through disciplined control of engine use. Three of these may be located close to housing, schools or a health facility.

The remaining engines are considered “prime” engines since they are used regularly.

Some of the registered agricultural diesel engines are new, or have already been replaced with newer low emissions diesel engines. Registration data indicated that approximately 10 percent of the diesel engines are Tier 1, 5 percent are Tier 2, and 3 percent of the current engines are Tier 3. Most of these have been replaced by taking advantage of the grants and incentives available through the District’s Strategic Incentives Division that administers the CARB Carl Moyer Program and the District’s Agricultural Assistance Program. The remaining 82 percent of the diesel engines do not meet any Tier emissions standards, and are therefore considered Tier 0.

Feedback from farmers, cattlemen, dairymen and agricultural equipment suppliers indicate there may be significantly more diesel engines in the field that have not yet been registered. The analysis for this proposed regulation is based on the existing inventory of registered engines, but a range of emissions estimates are given to accommodate the range of uncertainty regarding the number of potential agricultural diesel engines. Additional agricultural engines may be registered as this rulemaking process moves forward, and the deadline for engine upgrade or replacement approaches.

CHAPTER 3

ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

Introduction
Air Quality

3.0 ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

3.1 INTRODUCTION

A NOP/IS was prepared for Regulation 11, Rule 17: Limited Use Stationary Compression Ignition (Diesel) Engines in Agricultural Use and was released for public review and comment on December 20, 2010. A copy of the NOP/IS was received by the State Clearinghouse on January 12, 2011 (see Appendix A). The NOP/IS identified air quality and greenhouse gas emissions as the environmental resources that could have potentially significant impacts if Regulation 11, Rule 17 were implemented. Therefore, air quality and greenhouse gas emissions require further analysis in this EIR. The following environmental resources were considered to be less than significant and will not be further evaluated in the EIR: aesthetics, agricultural and forestry resources, biological resources, cultural resources, geology and soil, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation and traffic, and utilities and service systems.

The environmental resource section is organized into the following subsections: (1) Environmental Setting; (2) Thresholds of Significance; (3) Environmental Impacts; and (4) Mitigation Measures. A description of each subsection follows.

3.1.1 Environmental Setting

CEQA Guidelines §15125 requires that an EIR include a description of the physical environmental conditions in the vicinity of the proposed project as they exist at the time the NOP/IS is published, or if no NOP/IS is published, at the time the environmental analysis is commenced, from both a local and regional perspective. This Chapter describes the existing environment in the Bay Area as it existed at the time the NOP/IS was prepared (December 2010). The environmental topics discussed in this Chapter include both a regional and local setting. The analyses included in this chapter focus on those aspects of the environmental resource areas that could be adversely affected by the implementation of the proposed project (implementation of Regulation 11, Rule 17) as determined in the NOP/IS (see Appendix A), and not those environmental resource areas determined to have no potential adverse impact from the proposed project.

3.1.2 Thresholds of Significance

This section identifies the criteria used to determine when physical changes to the environment created as a result of the proposed project approval would be considered significant. The levels of significance for each environmental resource were established by identifying significance criteria. These criteria are based upon those presented in the California Environmental Quality Act (CEQA) environmental checklist and the BAAQMD's CEQA Air Quality Guidelines (BAAQMD, 2010).

The significance determination under each impact analysis is made by comparing the proposed project impacts with the conditions in the environmental setting and comparing the difference to the significance criteria.

3.1.3 Environmental Impacts

The potential impacts associated with each discipline are either quantitatively analyzed where possible or qualitatively analyzed where data are insufficient to quantify impacts. The impacts are compared to the significance criteria to determine the level of significance.

The impact sections of this chapter focus on those impacts that are considered potentially significant per the requirements of the California Environmental Quality Act. An impact is considered significant if it leads to a "substantial, or potentially substantial, adverse change in the environment." Impacts from the project fall within one of the following categories:

Beneficial – Impacts will have a positive effect on the resource.

No Impact: There would be no impact to the identified resource as a result of the project.

Less than Significant: Some impacts may result from the project; however, they are judged to be less than significant. 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. A “less than significant impact” applies where the environmental impact does not exceed the significance threshold.

Potentially Significant But Mitigation Measures Can Reduce Impacts to Less Than Significant: Significant adverse impacts may occur; however, with proper mitigation, the impacts can be reduced to less than significant.

Potentially Significant or Significant Impacts: Adverse impacts may occur that would be significant even after mitigation measures have been applied to minimize their severity. A “potentially significant or significant impacts” applies where the environmental impact exceeds the significance threshold, or information was lacking to make a finding of insignificance.

3.1.4 Mitigation Measures

This section describes feasible mitigation measures that could minimize potentially significant or significant impacts that may result from project approval. CEQA Guidelines (§15370) defines mitigation to include:

- Avoiding the impact altogether by not taking a certain action or parts of an action.
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- Rectifying the impact by repairing, rehabilitating or restoring the impacted environment.
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- Compensating for the impact by replacing or providing substitute resources or environments.

In accordance with CEQA statutes (§21081.6), a mitigation and monitoring program would be required to be adopted to demonstrate and monitor compliance with any mitigation measures identified in this EIR. The program would identify specific mitigation measures to be undertaken, when the measure would be implemented, and the agency responsible for oversight, implementation and enforcement.

3.2 AIR QUALITY

3.2.1 ENVIRONMENTAL SETTING

The NOP/IS (see Appendix A) determined the air quality and greenhouse gas impacts of proposed Regulation 11, Rule 17 as having the potential for significant adverse impacts. Project-specific and cumulative adverse air quality impacts associated with increased emissions of air contaminants (including criteria air pollutants, toxic air contaminants (TACs), and greenhouse gas emissions) during implementation of the proposed project have been evaluated in this EIR.

3.2.1.1 Criteria Air Pollutants

Ambient Air Quality Standards

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 (NO₂), particulate matter 10 microns or smaller in diameter (PM₁₀), particulate matter 2.5 microns or smaller in diameter (PM_{2.5}), sulfur dioxide (SO₂) and lead. These standards were established to protect sensitive receptors with a margin of safety from adverse health impacts due to exposure to air pollution. The California standards are more stringent than the federal standards, and in the cases of PM₁₀ and SO₂, far more stringent. California has also established standards for sulfate, visibility, hydrogen sulfide, and vinyl chloride.

The state and National Ambient Air Quality Standards (NAAQS) for each of these pollutants and their effects on health are summarized in Table 3-1. CO, NO₂, PM₁₀, PM_{2.5}, and SO₂ are directly emitted from stationary and mobile sources. Ozone is not emitted directly from pollution sources. Instead ozone is formed in the atmosphere through complex chemical reactions between hydrocarbons or reactive organic hydrocarbons (ROG, also commonly referred to as volatile organic compounds or VOCs).

U.S. EPA requires CARB and BAAQMD to measure the ambient levels of air pollution to determine compliance with the NAAQS. To comply with this mandate, the BAAQMD monitors levels of various criteria pollutants at 23 monitoring stations. The 2009 air quality data from the BAAQMD monitoring stations are presented in Table 3-2.

Air quality conditions in the San Francisco Bay Area have improved since the Air 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 Air District is in attainment of the State and federal ambient air quality standards for CO, NO₂, and SO₂. The Air District is not considered to be in attainment with state and national ozone standards and national particulate matter ambient air quality standards.

The 2009 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, NO₂, and SO₂. The federal 8-hour ozone standard was exceeded 8 days in the District in 2009, while the state standard was exceeded on 13 days. The Bay Area is designated as a non-attainment area for the state 1-hour ozone standard. The state 1-hour ozone standard was exceeded on 11 days in 2009 in the District, most frequently in the Eastern District (Livermore) (see Table 3-2).

TABLE 3-1

Federal and State Ambient Air Quality Standards

AIR POLLUTANT	STATE STANDARD CONCENTRATION/ AVERAGING TIME	FEDERAL PRIMARY STANDARD CONCENTRATION/ AVERAGING TIME	MOST RELEVANT EFFECTS
Ozone	0.09 ppm, 1-hr. avg. > 0.070 ppm, 8-hr	0.075 ppm, 8-hr avg. >	(a) Short-term exposures: (1) Pulmonary function decrements and localized lung edema in humans and animals (2) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (b) Long-term exposures: Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (c) Vegetation damage; (d) Property damage
Carbon Monoxide	9.0 ppm, 8-hr avg. > 20 ppm, 1-hr avg. >	9 ppm, 8-hr avg.> 35 ppm, 1-hr avg.>	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; (d) Possible increased risk to fetuses
Nitrogen Dioxide	0.03 ppm, annual avg.> 0.18 ppm, 1-hr avg. >	0.053 ppm, ann. avg.> 0.10 ppm, 1-hr 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. >	0.5 ppm, 3-hr. avg.> 0.075 ppm, 1-hr avg.>	(a) Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma
Suspended Particulate Matter (PM ₁₀)	20 µg/m ³ , annual arithmetic mean > 50 µg/m ³ , 24-hr average>	150 µg/m ³ , 24-hr avg.>	(a) Excess deaths from short-term exposures and exacerbation of symptoms in sensitive patients with respiratory disease; (b) Excess seasonal declines in pulmonary function, especially in children
Suspended Particulate Matter (PM _{2.5})	12 µg/m ³ , annual arithmetic mean>	15 µg/m ³ , annual arithmetic mean> 35 µg/m ³ , 24-hour average>	Decreased lung function from exposures and exacerbation of symptoms in sensitive patients with respiratory disease; elderly; children.
Sulfates	25 µg/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 µg/m ³ , 30-day avg. >=	1.5 µg/m ³ , calendar quarter> 0.15 µg/m ³ , 3-mo. 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 - 2009**

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 24-hr	Ann Avg	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	100	1	77	1	3	61	2.4	1.4	0	41	9.6	0	-	-	-	18.5	55	0	1	-	-	-	-	-	-
San Rafael*	75	0	59	0	0	52	2.2	1.2	0	52	12.2	0	-	-	-	16.2	38	0	0	-	-	*	*	*	
Santa Rosa	86	0	65	0	0	52	3.5	1.3	0	45	9.3	0	-	-	-	-	-	-	-	29.0	0	28	8.4	8.2	
Vallejo	104	2	73	0	1	61	2.8	2.2	0	49	9.7	0	3	1.2	0	-	-	-	-	38.9	5	36	9.7	9.8	
Coast/Central Bay																									
Berkeley*	63	0	54	0	0	*	2.8	2.0	0	50	12.9	0	4	1.3	0	18.4	34	0	0	-	-	-	-	-	
Oakland*	92	0	62	0	0	*	4.6	2.0	0	62	14.2	0	-	-	-	-	-	-	-	36.3	1	*	9.3	*	
Oakland West*	-	-	-	-	-	-	2.8	2.0	0	57	15.7	0	5	1.6	0										
Richmond	-	-	-	-	-	-	-	-	-	-	-	-	6	1.4	0	-	-	-	-	-	-	-	-	-	
San Francisco*	72	0	56	0	0	48	4.3	2.9	0	59	15.1	0	-	-	-	18.7	36	0	0	35.6	1	27	9.7	9.4	
San Pablo*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	-	-	-	-	-	
Eastern District																									
Bethel Island	109	2	94	3	6	74	1.3	0.9	0	33	6.3	0	3	1.3	0	17.3	39	0	0	-	-	-	-	-	
Concord	106	2	88	2	5	74	1.8	1.1	0	40	9.3	0	2	1.1	0	14.7	33	0	0	39.0	1	33	8.4	8.7	
Crockett	-	-	-	-	-	-	-	-	-	-	-	-	7	1.7	0	-	-	-	-	-	-	-	-	-	
Fairfield	104	2	85	2	5	67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Livermore*	113	8	86	6	8	78	*	*	0	52	11.9	0	-	-	-	-	-	-	-	45.7	4	34	9.2	9.4	
Martinez	-	-	-	-	-	-	-	-	-	-	-	-	4	1.4	0	-	-	-	-	-	-	-	-	-	
South Central Bay																									
Fremont	99	4	75	0	2	61	2.0	1.2	0	51	13.0	0	-	-	-	-	-	-	-	39.3	1	27	9.4	9.2	
Hayward	107	4	80	3	4	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Redwood City*	87	0	63	0	0	56	3.5	1.8	0	56	12.3	0	-	-	-	-	-	-	-	31.7	0	28	8.7	8.7	
Santa Clara Valley																									
Gilroy*	98	1	78	2	4	70	-	-	-	-	-	-	-	-	-	-	-	-	-	36.6	1	*	9.4	9.2	
Los Gatos	102	3	82	4	8	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
San Jose Central*	88	0	68	0	0	62	3.4	2.5	0	69	14.8	0	1	0.4*	0	20.4	43	0	0	35.0	0	34	10.1	10.8	
San Martin	107	4	81	5	6	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total Days over Standard		11		8	13				0			0			0			0	1		11				

*PM_{2.5} monitoring at Gilroy began Mar. 1, 2007. Therefore, three-year average PM_{2.5} statistics are not available. The Berkeley site opened December 13, 2007. Therefore, three-year average ozone statistics are not available. The Oakland site opened Nov. 1, 2007. Therefore, three-year average statistics for ozone and PM_{2.5} are not available. The Oakland West site opened on February 26, 2009. Sulfur dioxide monitoring began at San Jose in February 2009. PM_{2.5} monitoring began at San Rafael in October 2009. Due to the brief periods of monitoring, no statistics are available for PM_{2.5}. The San Pablo site was temporarily closed in March 2009 with no statistics available for 2009. The site reopened in May 2010. Carbon monoxide monitoring was discontinued at Livermore in May 2009.

(ppb) = parts per billion (ppm) = parts per million, (µg/m³) = micrograms per cubic meter.

All monitoring stations were in compliance with the federal PM₁₀ standards. The California PM₁₀ standards were exceeded on 1 day in 2009 at the Napa monitoring station. The Air District exceeded the federal PM_{2.5} standard on 11 days, most frequently at the Vallejo monitoring station in 2009 (see Table 3-2).

3.2.1.2 Health Effects

Ozone

Ozone (O₃), a colorless gas with a sharp odor, is a highly reactive form of oxygen. High ozone concentrations exist naturally in the stratosphere. Some mixing of stratospheric ozone downward through the troposphere to the earth's surface does occur; however, the extent of ozone transport is limited. At the earth's surface in sites remote from urban areas ozone concentrations are normally very low (0.03-0.05 ppm).

While ozone is beneficial in the stratosphere because it filters out skin cancer-causing ultraviolet radiation, it is a highly reactive oxidant. It is this reactivity which accounts for its damaging effects on materials, plants, and human health at the earth's surface.

The BAAQMD began ozone monitoring in a few places in 1959. A large ozone monitoring network was established in 1965. The monitoring data in Table 3-3 illustrates the number of days per year that the Bay Area exceeded the State and federal ozone standards through much of the first decade of the 21st century. Figure 3-1 shows the Bay Area ozone trends from 1988 through 2008. Ozone concentrations in the BAAQMD still exceed the federal and State 8-hour ozone standards on occasion and the Bay Area is therefore designated as non-attainment for the State 8-hour ozone standard.

The propensity of ozone to react with organic materials causes it to be damaging to living cells, and ambient ozone concentrations in the Bay Area are occasionally sufficient to cause health effects. Ozone enters the human body primarily through the respiratory tract and causes respiratory irritation and discomfort, makes breathing more difficult during exercise, and reduces the respiratory system's ability to remove inhaled particles and fight infection. People with respiratory diseases, children, the elderly, and people who exercise heavily are more susceptible to the effects of ozone.

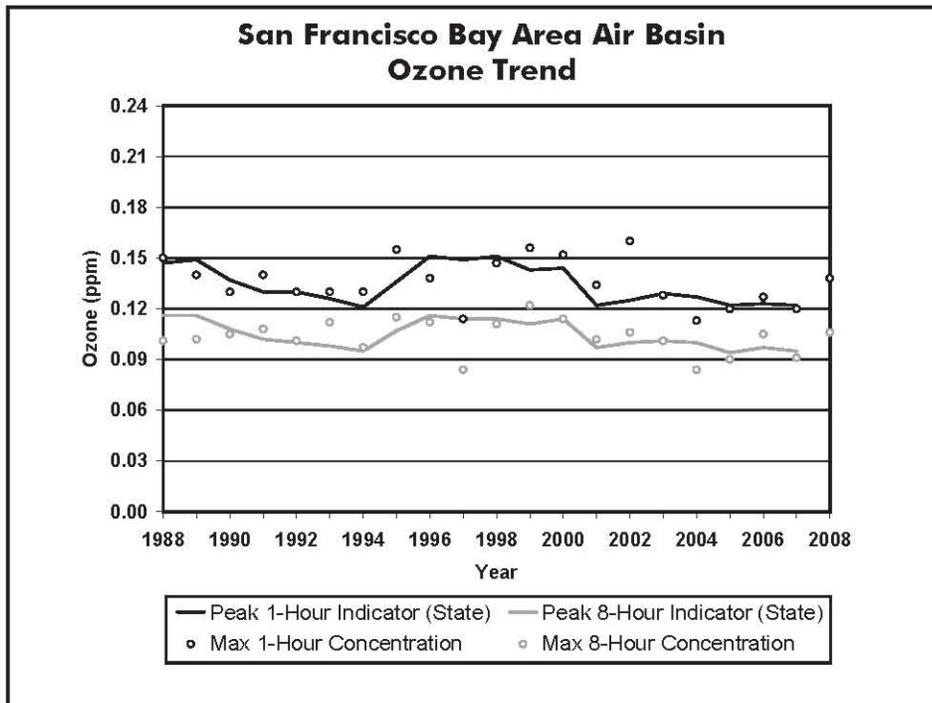
Plants are sensitive to ozone at concentrations well below the health-based standards and ozone is responsible for significant crop damage. Ozone is also responsible for damage to forests and other ecosystems.

**TABLE 3-3
Bay Area Air Quality Summary (Days Over Standard)**

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
2000	12	-	4	0	0	0	0	0	0	0	0	7	1
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

* On May 17, 2008, U.S. EPA implemented a more stringent national 8-hour ozone standard from 0.08 to 0.075 ppm. Ozone exceedance days for 2008 reflect the new standard.

** On December 17, 2006, U.S. EPA implemented a more stringent national 24-hour PM_{2.5} standard from 65 to 35 µg/m³. Beginning in 2006, PM_{2.5} exceedance days reflect the new standard.



Source: CARB, 2011.

**FIGURE 3-1
San Francisco Bay Area Ozone Trend**

Volatile Organic Compounds (VOCs)

It should be noted that there are no state or national ambient air quality standards for VOCs because they are not classified as criteria pollutants. VOCs are regulated, however, because VOC emissions contribute to the formation of ozone. They are also transformed into organic aerosols in the atmosphere, contributing to higher PM₁₀ and lower visibility levels.

Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations of VOCs because of interference with oxygen uptake. In general, ambient VOC concentrations in the atmosphere are suspected to cause coughing, sneezing, headaches, weakness, laryngitis, and bronchitis, even at low concentrations. Some hydrocarbon components classified as VOC emissions are thought or known to be hazardous. Benzene, for example, one hydrocarbon component of VOC emissions, is known to be a human carcinogen.

VOC emissions result primarily from incomplete fuel combustion and the evaporation of paints, solvents and fuels. Mobile sources are the largest contributors to VOC emissions. Stationary sources include processes that use solvents (such as manufacturing, degreasing, and coating operations) and petroleum refining, and marketing. Area-wide VOC sources include consumer products, pesticides, aerosol and architectural coatings, asphalt paving and roofing, and other evaporative emissions.

Carbon Monoxide (CO)

CO is a colorless, odorless, relatively inert gas. It is a trace constituent in the unpolluted troposphere, and is produced by both natural processes and human activities. In remote areas far from human habitation, carbon monoxide occurs in the atmosphere at an average background concentration of 0.04 ppm, primarily as a result of natural processes such as forest fires and the oxidation of methane. Global atmospheric mixing of CO from urban and industrial sources creates higher background concentrations (up to 0.20 ppm) near urban areas. The major source of CO in urban areas is incomplete combustion of carbon-containing fuels, mainly gasoline. In 1997, 97 percent of the CO emitted into the District's atmosphere was from mobile sources. Consequently, CO concentrations are generally highest in the vicinity of major concentrations of vehicular traffic.

CO is a primary pollutant, meaning that it is directly emitted into the air, not formed in the atmosphere by chemical reaction of precursors, as is the case with ozone and other secondary pollutants. Ambient concentrations of CO in the District exhibit large spatial and temporal variations, due to variations in the rate at which CO is emitted, and in the meteorological conditions that govern transport and dilution. Unlike ozone, CO tends to reach high concentrations in the fall and winter months. The highest concentrations frequently occur on weekdays at times consistent with rush hour traffic and late night during the coolest, most stable atmospheric portion of the day.

When CO is inhaled in sufficient concentration, it can displace oxygen and bind with the hemoglobin in the blood, reducing the capacity of the blood to carry oxygen. Individuals most at risk from the effects of CO include heart patients, fetuses (unborn babies), smokers, and people who exercise heavily. Normal healthy individuals are affected at higher concentrations, which may cause impairment of manual dexterity, vision, learning ability, and performance of work. The results of studies concerning the combined effects of CO and other pollutants in animals have shown a synergistic effect after exposure to CO and ozone.

Particulate Matter (PM₁₀ & PM_{2.5})

Of serious concern to public health are the particles small enough to be inhaled into the deepest parts of the lung. Respirable particles (particulate matter less than about 10 micrometers in diameter) can accumulate in the respiratory system and aggravate health problems such as asthma, bronchitis and other lung diseases. Children, the elderly, exercising adults, and those suffering from asthma are especially vulnerable to adverse health effects of PM₁₀ and PM_{2.5}.

A consistent correlation between elevated ambient fine particulate matter (PM₁₀ and PM_{2.5}) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. Studies have reported an association between long-term exposure to air pollution dominated by fine particles (PM_{2.5}) and increased mortality, reduction in life-span, and an increased mortality from lung cancer.

PM₁₀ and PM_{2.5} particles are both directly emitted or formed from diverse emission sources. Major sources of directly emitted (primary) PM₁₀ include re-suspended road dust or soil entrained into the atmosphere by wind or activities such as construction and agriculture. Other components of PM_{2.5} form in the atmosphere (secondary PM_{2.5}) from precursor emissions of the gaseous pollutants.

Nitrogen Dioxide (NO₂)

NO₂ is a reddish-brown gas with a bleach-like odor. Nitric oxide (NO) is a colorless gas, formed from the nitrogen (N₂) and oxygen (O₂) in air under conditions of high temperature and pressure which are generally present during combustion of fuels. NO reacts rapidly with the oxygen in air to form NO₂. NO₂ is responsible for the brownish tinge of polluted air. The two gases, NO and NO₂, are referred to collectively as NO_x. In the presence of sunlight, NO₂ reacts to form nitric oxide and an oxygen atom. The oxygen atom can react further to form ozone, via a complex series of chemical reactions involving hydrocarbons. Nitrogen dioxide may also react to form nitric acid (HNO₃) which reacts further to form nitrates, which are a component of PM₁₀.

NO₂ is a respiratory irritant and reduces resistance to respiratory infection. Children and people with respiratory disease are most susceptible to its effects.

Sulfur Dioxide (SO₂)

SO₂ is a colorless gas with a sharp odor. It reacts in the air to form sulfuric acid (H₂SO₄), which contributes to acid precipitation, and sulfates, which are a component of PM₁₀ and PM_{2.5}. Most of the SO₂ emitted into the atmosphere is produced by the burning of sulfur-containing fuels.

At sufficiently high concentrations, SO₂ affects breathing and the lungs' defenses, and can aggravate respiratory and cardiovascular diseases. Asthmatics and people with chronic lung disease or cardiovascular disease are most sensitive to its effects. SO₂ also causes plant damage, damage to materials, and acidification of lakes and streams.

3.2.1.3 Current Emissions Sources

The two broad categories of emission sources include stationary and mobile sources.

Stationary Sources

Stationary sources can be further divided between point and area sources.

Point Sources: Point sources are those that are identified on an individual facility or source basis, such as refineries and manufacturing plants. BAAQMD maintains a computer data bank with detailed information on operations and emissions characteristics for nearly 4,000 facilities, with roughly 20,000 different sources, throughout the Bay Area. CI engines are considered to be point source of emissions.

Area Sources: Area sources are stationary sources that are individually very small, but that collectively make a large contribution to the inventory. Many area sources do not require permits from the BAAQMD, such as residential heating, and the wide range of consumer products such as paints, solvents, and cleaners. Some facilities considered to be area sources do require permits from the BAAQMD, such as gas stations and dry cleaners.

Mobile Sources

Mobile sources include on-road motor vehicles such as automobiles, trucks, and buses, as well as off-road sources such as construction equipment, boats, trains, and aircraft. Estimates of on-road motor vehicle emissions include consideration of the fleet mix (vehicle type, model year, and accumulated mileage), miles traveled, ambient temperatures, vehicle speeds, and vehicle emission factors, as developed from comprehensive CARB testing programs.

3.2.1.4 Emissions from Agricultural Diesel Engines

The proposed rule would alter the implementation schedule for low-use agricultural diesel engines. Emissions estimates are based on the inventory of diesel engines registered with the District in August, 2010. At that time, there were 147 registered diesel engines in the

District that are operated less than 100 hours per year that would be affected by the proposed rule. Some of the registered agricultural diesel engines are new, or have already been replaced with newer, low-emissions diesel engines. Current registration data indicates that ten, five, and three percent of the diesel engines are Tier 1, Tier 2, and Tier 3, respectively. The remaining 82 percent of the diesel engines do not meet any Tier emissions standards, and are therefore considered Tier 0. This population of engines provides the basis for the emission estimates that follow.

There are currently 395 diesel engines registered with the District. Feedback from farmers, cattlemen, dairymen and agricultural equipment suppliers indicate there may be significantly more diesel engines in the field that have not yet been registered. This existing emissions analysis is based on data provided from the BAAQMD registration program, which provides information such as size of engine, hours of operation, location, etc. In order to provide a conservative estimate, it was assumed that the actual number of engines is two to three times the number of registered engines in August, 2010. This range of emissions estimates are given to accommodate the range of uncertainty regarding the number of potential agricultural diesel engines. The current emissions for the registered and estimated unregistered engines are presented in Table 3-4.

TABLE 3-4

Emissions Inventory for Low-Use Agricultural Diesel Engines (tons/year)

Pollutant	Existing Emissions - Registered Engines ⁽¹⁾	Existing Emissions - Unregistered Engines	Total Estimated Range of Existing Emissions ⁽²⁾
VOC	1.05	1.05 - 2.10	2.10 - 3.15
NOx	11.77	11.77 - 23.54	23.54 - 35.31
PM	0.64	0.64 - 1.28	1.28 - 1.92

(1) Based on August, 2010 inventory of agricultural diesel engines registered with the District.

(2) Assumes 2 to 3 times the number of registered CI engines in August, 2010.

3.2.1.5 Non-Criteria Pollutants

Although the primary mandate of the BAAQMD is attaining and maintaining the national and state Ambient Air Quality Standards for criteria pollutants within the BAAQMD jurisdiction, the BAAQMD also has a general responsibility to control, and where possible, reduce public exposure to airborne toxic compounds. TACs are a defined set of airborne pollutants that may pose a present or potential hazard to human health. TACs can be emitted directly and can also be formed in the atmosphere through reactions among different pollutants. The health effects associated with TACs are quite diverse and generally are assessed locally, rather than regionally. TACs can cause long-term health effects such as cancer, birth defects, neurological damage, asthma, bronchitis or genetic damage; or short-term acute effects such as eye watering, respiratory irritation, running nose, throat pain, and headaches. TACs are separated into carcinogens and non-carcinogens based on the nature

of the pollutant. Carcinogens are assumed to have no safe threshold below which health impacts would not occur. Non-carcinogenic substances differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is expected to occur. The state and federal governments have set health-based ambient air quality standards for criteria pollutants. These levels are determined on a pollutant-by-pollutant basis. The air toxics program was established as a separate and complementary program designed to evaluate and reduce adverse health effects resulting from exposure to TACs.

The major elements of the District's air toxics program are outlined below.

- Preconstruction review of new and modified sources for potential health impacts, and the requirement for new/modified sources with non-trivial TAC emissions to use the Best Available Control Technology.
- The Community Air Risk Evaluation (CARE) Program is designed to identify industrial and commercial facilities, as well as on-road and off-road mobile sources that may result in locally elevated ambient concentrations of TACs, to report significant emissions to the affected public, and to reduce unacceptable health risks. The CARE program is a major program for the District, providing the basis for identifying impacted communities which set priorities for many District actions. The CARE program has directly influenced the development of the 2010 CEQA Guidelines, especially the Risk and Hazards thresholds. The CARE program includes developing a gridded TAC emission inventory, regional modeling of TAC concentrations, mapping of vulnerable communities, and identifying risk reduction measures.
- Control measures designed to reduce emissions from source categories of TACs, including rules originating from the state Toxic Air Contaminant Act and the federal Clean Air Act.
- The TAC emissions inventory, a database that contains information concerning routine and predictable emissions of TACs from permitted stationary sources.
- Ambient monitoring of TAC concentrations at a number of sites throughout the Bay Area.

Historically, the BAAQMD has regulated criteria air pollutants using either a technology-based or an emissions-limit approach. The technology-based approach defines specific control technologies that may be installed to reduce pollutant emissions. The emission limit approach establishes an emission limit, and allows industry to use any emission control equipment, as long as the emission requirements are met. The regulation of TACs requires a different regulatory approach as explained in the following subsections.

Air Toxics New Source Review

New and modified source permit applications have been reviewed for air toxics concerns since 1987, in accordance with the Risk Management Policy (RMP) established at the request of the District's Board of Directors. A large increase in risk screening analyses has occurred in recent years due primarily to the removal of permit exemptions in District regulations for standby engines. Prior to 2000, the District completed screening risk analyses for an average of about 175 permit applications per year. This number increased to 255 in 2000, to 440 in 2001, reached a peak of 602 in 2002, and declined to 430 in 2003. The District has replaced the RMP with Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants, which was adopted by the District Board of Directors on June 15, 2005.

The Air Toxics Hot Spots (ATHS) Program involves the evaluation of health risks due to routine and predictable TAC emissions from industrial and commercial facilities. The District has established specific public notification measures for various levels of risk identified under the program (Levels 1, 2, and 3). In 1991, the first year of the risk assessment phase of the program, 30 facilities were identified with Level 1 health risks (cancer risk of 10 in a million or greater) that triggered public notification requirements. The number of facilities requiring public notification had steadily decreased over the first decade of the program as industries reduced toxic emissions and refined estimates of risk. There are currently no major facilities in the Bay Area that require public notification under the ATHS Program. In addition to public notification requirements, the ATHS Program requires facilities to reduce their health risks below levels determined by the District to be significant within a certain timeframe. The District requires mandatory risk reduction measures for those facilities with health risks of Level 2 or greater (cancer risks of 100 in one million or greater). There are currently no facilities in the Bay Area that have risks identified as Level 2 or greater.

Control Measures for Categories of Sources

The California Air Resources Board (CARB) has adopted seventeen Airborne Toxic Control Measures (ATCMs) for stationary sources which the District implements in the Bay Area. More recent ATCMs include residential waste burning (2003), stationary diesel engines (2004), portable diesel engines (2004), thermal metal spraying (2005), and formaldehyde from composite wood products (2007). CARB revised existing ATCMs for chrome plating and chromic acid anodizing operations and perchloroethylene dry cleaners (included phase-out of perchloroethylene by 2023).

National Emission Standards for Hazardous Air Pollutants (NESHAPs), developed by U.S. EPA in accordance with Title III of the 1990 federal Clean Air Act Amendments, have also become an important source of air toxics control measures in California. These rules generally focus on larger “major source” facilities, and require that emissions be reduced using the Maximum Achievable Control Technology (MACT). Under State law, the District must implement and enforce all MACT Standards, or rules that are at least as stringent. U.S. EPA has already adopted a significant number of new MACT Standards. The focus of future NESHAP development under Title III has shifted to rules that apply to

smaller “area source” facilities, e.g., U.S. EPA revised the Perchloroethylene Dry Cleaning MACT in July 2006.

Air Toxics Emission Inventory

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 emissions inventory is reported in the BAAQMD, Toxic Air Contaminant Control Program, 2008 Annual Report (BAAQMD, 2011). The 2008 emissions inventory continues to show decreasing emissions 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, perchloroethylene, and trichloroethylene.

Ambient Monitoring Network

Table 3-5 contains a summary of average ambient concentrations of TACs measured at monitoring stations in the Bay Area by the District in 2008.

TABLE 3-5

Summary of BAAQMD Ambient Air Toxics Monitoring Data⁽¹⁾

Pollutant	Units	Average MDL ⁽¹⁾	% less than MDL	Max Sample Value	Min Sample Value	Average Sample Value ^{(2) (3)}
1,3-Butadiene	ppb	5.00E-02	87%	2.60E-01	0.00E+00	3.51E-02
Acetaldehyde	ppb	1.00E-01	1%	2.66E+00	1.00E-01	6.47E-01
Acetone	ppb	3.00E-01	0%	4.30E+01	4.00E-01	2.53E+00
Acetonitrile	ppb	3.00E-01	29%	1.25E+00	0.00E+00	3.88E-01
Antimony	ng/m ³	3.00E+00	98%	3.10E+00	1.50E+00	1.53E+00
Arsenic	ng/m ³	1.50E+00	98%	9.30E+00	7.50E-01	8.70E-01
Benzene	ppb	5.00E-02	1%	1.11E+00	0.00E+00	2.04E-01
Bromomethane	ppb	3.00E-02	92%	7.00E-02	1.50E-02	1.79E-02
Cadmium	ng/m ³	1.50E+00	96%	2.80E+00	7.50E-01	8.14E-01
Carbon Tetrachloride	ppb	1.00E-02	0%	1.50E-01	1.00E-02	9.81E-02
Chlorine	µg/m ³	7.18E-03	12%	1.87E+00	0.00E+00	2.54E-01
Chloroform	ppb	2.00E-02	66%	5.90E-01	0.00E+00	1.71E-02
Chromium	ng/m ³	3.00E+00	54%	8.50E+01	1.50E+00	4.76E+00
Cis-1,3-Dichloropropylene	ppb	1.00E-01	100%	5.00E-02	5.00E-02	5.00E-02
Cobalt	ng/m ³	1.50E+00	98%	4.10E+00	7.50E-01	7.90E-01
Copper	ng/m ³	1.50E+00	0%	4.00E+01	3.00E+00	1.38E+01
Dichloromethane	ppb	1.00E-01	48%	8.67E+00	0.00E+00	1.65E-01
Ethyl Alcohol	ppb	6.60E-01	4%	9.00E+01	0.00E+00	2.48E+01
Ethylbenzene	ppb	2.00E-01	48%	1.01E+00	0.00E+00	9.66E-02
Ethylene Dibromide	ppb	1.00E-02	100%	0.00E+00	0.00E+00	5.00E-03
Ethylene Dichloride	ppb	1.00E-01	100%	0.00E+00	0.00E+00	5.00E-02
Formaldehyde	ppb	1.00E-01	0%	4.60E+00	2.72E-01	1.07E+00
Lead	ng/m ³	1.50E+00	4%	2.50E+01	7.50E-01	5.94E+00
M/P Xylene	ppb	2.00E-01	11%	3.31E+00	0.00E+00	3.55E-01
Magnesium	µg/m ³	1.33E-02	47%	2.02E-01	0.00E+00	3.30E-02
Manganese	ng/m ³	1.50E+00	8%	1.70E+02	7.50E-01	1.71E+01
Mercury	µg/m ³	6.08E-03	98%	1.04E-02	0.00E+00	3.12E-03
Methyl Chloroform	ppb	2.00E-02	89%	1.16E+00	0.00E+00	2.60E-02
Methyl Ethyl Ketone	ppb	1.00E-01	31%	1.71E+00	0.00E+00	1.81E-01
Naphthalene	ng/m ³	6.35E-01	0%	2.09E+02	1.74E+01	6.97E+01
Nickel	ng/m ³	9.00E+00	67%	1.00E+02	4.50E+00	1.05E+01
O-Xylene	ppb	1.00E-01	29%	1.14E+00	0.00E+00	1.27E-01

TABLE 3-5 (Concluded)

Pollutant	Units	Average MDL ⁽¹⁾	% less than MDL	Max Sample Value	Min Sample Value	Average Sample Value ^{(2) (3)}
PAHs ⁽⁴⁾	ng/m ³					1.79E-01
Selenium	ng/m ³	1.50E+00	84%	5.40E+01	7.50E-01	1.74E+00
Styrene	ppb	1.00E-01	98%	8.40E-01	5.00E-02	6.01E-02
Tetrachloroethylene	ppb	1.00E-02	29%	2.00E+00	0.00E+00	2.26E-02
Toluene	ppb	2.00E-01	2%	3.38E+00	4.00E-02	6.54E-01
Trans-1,3-Dichloropropylene	ppb	1.00E-01	100%	5.00E-02	5.00E-02	5.00E-02
Trichloroethylene	ppb	2.00E-02	87%	7.70E-01	0.00E+00	1.40E-02
Trichlorofluoromethane	ppb	1.00E-02	0%	7.40E-01	1.60E-01	2.58E-01
Vanadium	ng/m ³	1.50E+00	34%	6.10E+01	7.50E-01	3.79E+00
Vinyl Chloride	ppb	1.00E-01	100%	0.00E+00	0.00E+00	5.00E-02
Zinc	ng/m ³	3.00E+00	0%	5.90E+01	8.00E+00	2.45E+01

(1) Source: BAAQMD 2008 Toxic Air Contaminant Monitoring Data. Data are a summary of data from all monitoring stations within the District.

(2) Some samples (especially metals) have individual MDLs for each sample. An average of these MDLs was used to determine 1/2 MDL for the Average Sample Value.

(3) If an individual sample value was less than the MDL (Method Detection Limit), then 1/2 MDL was used to determine the Average Sample Value.

(4) These substances are PAH-derivatives that have OEHHA-developed Potency Equivalency Factors (PEFs). PAHs should be evaluated as benzo(a)pyrene equivalents. This evaluation process consists of multiplying individual PAH-specific emission levels with their corresponding PEFs listed below. The sum of these products is the benzo(a)pyrene-equivalent level.

TAC Emissions Associated with Agricultural Engines

TAC emissions associated with diesel engines include acetaldehyde, acrolein, ammonia, benzene, 1,3-butadiene, ethyl benzene, formaldehyde, hexane, hydrogen chloride, toluene, xylenes, metals, polycyclic aromatic hydrocarbons, and diesel particulate matter. While the toxic effects of these compounds are quantifiable, diesel particulate matter is the predominant health risk driver in diesel engine emissions (representing more than 90% of the total health risk) due to the greater emission rate and associated cancer potency factor over the other compounds. Therefore, diesel particulate is the representative TAC considered in this analysis.

The health effects impacts are evaluated based on a receptors proximity to a source. As such, the minimum distance specified in the proposed rule of 1,000 feet is the basis for evaluating health effects from the current inventory of agricultural engines. Three Tier 0 engine sizes - 100 horsepower (hp), 175 hp and 500 hp have been evaluated operating at 100 hours per year. The three engine sizes were chosen because the operating parameters (e.g., exhaust temperature and velocity) provide a range for evaluation (small to large) and the 175 hp engine is the average size of the agricultural engines registered. Using the CARB HARP model, the ground level concentration at 1,000 feet for a Tier 0 100 hp engine, a Tier

0 175 hp engine, and a Tier 0 500 hp engine are estimated to be 0.00158, 0.00229, and 0.00414 micrograms/cubic meter ($\mu\text{g}/\text{m}^3$), respectively, and the associated cancer risks are estimated to be 0.502, 0.730, and 1.32 in one million, respectively. These values serve to establish the baseline for comparison of impacts associated with the proposed rule.

3.2.1.6 Greenhouse Gas Emissions

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 GHGs in the atmosphere. The six major GHGs identified by the Kyoto Protocol are CO₂, methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbons (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. As reported by the CEC, California contributes 1.4 percent of the global and 6.2 percent of the national GHG emissions. The GHG inventory for California is presented in Table 3-6 (CARB, 2007 and CARB, 2009). Approximately 80 percent of GHG emissions in California are from fossil fuel combustion.

In response to growing scientific and political concern regarding global climate change, California has recently adopted a series of laws over the last decade 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 2006, Governor Schwarzenegger signed California's Global Warming Solutions Act of 2006 (AB32). AB32 required 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

TABLE 3-6

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.

In December 2010, CARB approved the cap-and-trade regulation, marking a significant milestone toward reducing California's greenhouse gas emissions under its AB 32 law. The

regulation sets a statewide limit on the emissions from sources responsible for 80 percent of California's greenhouse gas emissions. The regulation will cover 360 businesses representing 600 facilities and is divided into two broad phases: an initial phase beginning in 2012 that will include all major industrial sources along with utilities; and, a second phase that starts in 2015 and brings in distributors of transportation fuels, natural gas and other fuels.

Companies are not given a specific limit on their greenhouse gas emissions but must supply a sufficient number of allowances (each covering the equivalent of one ton of carbon dioxide) to cover their annual emissions. Each year, the total number of allowances issued in the state drops, requiring companies to find the most cost-effective and efficient approaches to reducing their emissions. By the end of the program in 2020 there will be a 15 percent reduction in greenhouse gas emissions compared to today, reaching the same level of emissions as the state experienced in 1990, as required under AB 32, although the cap-and-trade program is currently on hold as a result of ongoing litigation.

There has also been activity at the federal level on the regulation of GHGs. On October 30, 2009, the U.S. EPA issued the Final Mandatory Report of Greenhouse Gases Rule. The rule requires reporting of GHG emissions from large sources and suppliers (facilities that emit 25,000 metric tons of GHGs per year or more) in the United States, and is intended to collect accurate and timely emissions data to inform policy decision.

An emissions inventory is a detailed estimate of the amount of air pollutants discharged into the atmosphere of a given area by various emission sources during a specific time period. The emission inventory prepared by the BAAQMD in Table 3-7 focuses on direct greenhouse gas (GHG) emissions due to human activities only, and compiles estimated emissions from industrial, commercial, transportation, domestic, forestry, and agriculture activities in the San Francisco Bay Area region of California. The GHG emission inventory reports direct emissions generated from sources within the Bay Area.

TABLE 3-7

Bay Area Greenhouse Gas Emission Inventory Projections
(Million Metric Tons CO₂-Equivalent)

SOURCE CATEGORY	Year	2005	2009	2012	2015	2020
INDUSTRIAL/COMMERCIAL						
<i>Oil Refineries</i>						
Refining Processes		3.4	3.5	3.6	3.7	3.9
Refinery Make Gas Combustion		4.7	4.9	5.0	5.2	5.4
Natural Gas and Other Gases Combustion		4.8	5.0	5.1	5.3	5.5
Liquid Fuel Combustion		0.1	0.1	0.1	0.1	0.1
Solid Fuel Combustion		1.0	1.0	1.1	1.1	1.1
<i>Waste Management</i>						
Landfill Combustion Sources		0.0	0.0	0.0	0.0	0.0
Landfill Fugitive Sources		1.2	1.2	1.2	1.2	1.2
Composting/POTWs		0.4	0.4	0.4	0.4	0.4
<i>Other Industrial/ Commercial</i>						
Cement Plants		0.9	0.9	0.9	0.9	1.0
Commercial Cooking		0.1	0.1	0.1	0.1	0.2
ODS Substitutes/Nat. Gas Distrib./Other		3.6	5.2	6.3	7.5	9.4
Reciprocating Engines		0.6	0.6	0.6	0.7	0.7
Turbines		0.4	0.4	0.4	0.4	0.4
Natural Gas- Major Combustion Sources		1.6	2.5	2.6	2.7	2.8
Natural Gas- Minor Combustion Sources		8.8	9.2	9.5	9.9	10.4
Coke Coal		1.0	1.0	1.1	1.1	1.2
Other Fuels Combustion		0.3	0.4	0.4	0.4	0.4
Subtotal		32.8	36.3	38.4	40.6	44.2
RESIDENTIAL FUEL USAGE						
Natural Gas		6.4	6.6	6.8	6.9	7.2
LPgas/Liquid Fuel		0.2	0.2	0.2	0.2	0.2
Solid Fuel		0.1	0.2	0.2	0.2	0.2
Subtotal		6.7	6.9	7.1	7.2	7.5
ELECTRICITY/ CO-GENERATION						
Co-Generation		5.5	5.5	5.7	6.0	6.4
Electricity Generation		2.8	3.1	3.2	3.3	3.5
Electricity Imports		6.8	7.3	7.6	7.9	8.3
Subtotal		15.1	15.8	16.5	17.2	18.3
OFF-ROAD EQUIPMENT						
Lawn and Garden Equipment		0.1	0.1	0.1	0.1	0.1
Construction Equipment		1.7	1.9	1.9	2.0	2.2
Industrial Equipment		0.7	0.8	0.8	0.9	1.0
Light Commercial Equipment		0.2	0.2	0.3	0.3	0.3
Subtotal		2.8	3.0	3.2	3.3	3.6
TRANSPORTATION						
<i>Off-Road</i>						
Locomotives		0.1	0.1	0.1	0.1	0.1
Ships		0.7	0.8	0.8	0.9	1.0
Boats		0.6	0.6	0.5	0.5	0.6

TABLE 3-7 (concluded)

Bay Area Greenhouse Gas Emission Inventory Projections
(Million Metric Tons CO₂-Equivalent)

SOURCE CATEGORY	Year	2005	2009	2012	2015	2020
Commercial Aircraft		1.8	2.0	2.1	2.3	2.6
General Aviation		0.2	0.2	0.2	0.3	0.3
Military Aircraft		0.5	0.5	0.5	0.5	0.5
<i>On-Road</i>						
Passenger Cars/Trucks up to 10,000 lbs		26.6	27.1	27.9	29.0	30.9
Medium/Heavy Duty Trucks > 10,000 lbs		3.3	3.3	3.4	3.5	3.7
Urban, School and Other Buses		0.8	0.8	0.8	0.8	0.9
Motor-Homes and Motorcycles		0.2	0.2	0.2	0.2	0.2
Subtotal		34.8	35.6	36.7	38.1	40.7
AGRICULTURE/FARMING						
Agricultural Equipment		0.2	0.2	0.2	0.2	0.2
Animal Waste		0.6	0.6	0.6	0.6	0.6
Soil Management		0.3	0.3	0.3	0.3	0.3
Biomass Burning		0.0	0.0	0.0	0.0	0.0
Subtotal		1.1	1.1	1.1	1.1	1.1
GRAND TOTAL EMISSIONS		93.4	98.7	103.0	107.5	115.4

Source: BAAQMD, 2009

The GHG analysis for the existing low use CI engines in agricultural uses is based on the actual August, 2010 registered agricultural engine database. The sum of the power rating and hours of use for low use agricultural engines was combined to get a total heating value. Low use is defined as any engine that operated fewer than 100 hours during the 2010 calendar year. The total power output of the 2010 registered low use agricultural engines was 70.13 mmBTU/hr. The total usage of the 2010 registered low use agricultural engines was 5,751.8 hours. Therefore, the total heating value output in 2010 from low use agricultural engines was 403,380 mmBTU. A typical diesel engine is assumed to be 40.6 percent efficient (based on Brake specific fuel consumption data ranging from 40 – 47%), the total heating value of diesel required to operate the low use agricultural engines in 2010 was 993,546 mmBTU. Using emission factors for distillate fuels in the Regulation for the Mandatory Reporting of Greenhouse Gases (CARB, 2011a), the baseline GHG emissions (calculated as CO₂ equivalent emissions) for registered low use agricultural engines is 72,876 metric tons. If only one third of the low use agricultural engines are assumed to be registered, the actual GHG emissions could be as high as 218,627 metric tons.

3.2.2 SIGNIFICANCE CRITERIA

To determine whether or not air quality impacts from the proposed project are significant, impacts will be evaluated and compared to the significance criteria in Table 3-8.

The significance criteria for criteria pollutants (except for local CO) and GHGs represent the levels at which a project’s individual emissions of pollutants or precursors would result in a

CHAPTER 3: ENVIRONMENTAL SETTINGS, IMPACTS AND MITIGATION MEASURES

cumulatively considerable contribution to the Bay Area’s existing air quality conditions. This is because no single project could generate enough criteria pollutant or GHG emissions to change the Bay Area’s existing air quality conditions or the global climate.

The significance criteria for risks and hazards are broken down into individual project and cumulative thresholds. This is because individual sources can create significant risks and hazards impacts on their own, or can significantly contribute to a cumulative impact in the project area.

If impacts equal or exceed any of the following criteria, they will be considered significant.

**TABLE 3-8
Air Quality CEQA Thresholds of Significance***

Pollutant	Operational Threshold	
	Average Daily Emissions (lb/day)	Maximum Annual Emissions (tpy)
ROG	54	10
NOx	54	10
PM10	82	15
PM2.5	54	10
PM10/PM2.5 (fugitive dust)	None	
Local CO	9.0 ppm (8-hr avg), 20.0 ppm (1-hr avg)	
GHG – Stationary Sources	10,000 MT/yr	
Risk and Hazards for new sources and receptors (Individual Project)**	Compliance with Qualified Community Risk Reduction Plan OR Increased cancer risk of > 10.0 in a million Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute) Ambient PM _{2.5} increase: > 0.3 µg/m ³ annual average <u>Zone of Influence:</u> 1,000-foot radius from property line of source or receptor	
Risk and Hazards for new sources and receptors (Cumulative Threshold)**	Compliance with Qualified Community Risk Reduction Plan OR Cancer: > 100 in a million (from all local sources) Non-cancer: > 10 Hazard Index (from all local sources)(Chronic) PM _{2.5} : > 0.8 µg/m ³ annual average (from all local sources) <u>Zone of Influence:</u> 1,000-foot radius from property line of source or receptor	
Accidental release of Acutely Hazardous Air Pollutants	Storage or use of acutely hazardous materials locating near receptors or new receptors locating near stored or used acutely hazardous materials considered significant	
Odors	Five confirmed complaints per year averaged over three years	

* Air District policy is such that the adopted thresholds apply to projects for which a NOP is published, or environmental analysis begins, on or after the applicable effective date. The adopted CEQA thresholds – except for the risk and hazards thresholds for new receptors – are effective June 2, 2010.

** Threshold for new receptors effective May 1, 2011

3.2.3 ENVIRONMENTAL IMPACTS

Regulation 11, Rule 17 is a proposed new rule to control emissions of limited use stationary CI engines in agricultural service as a local regulation that is equivalent to CARB's ATCM for these sources. The intent of this regulation is to adopt CARB requirements for stationary engines in agricultural operations, but to also make changes to better address local concerns related to low-use stationary agricultural diesel engines. Overall compliance with the proposed Regulation 11, Rule 17 is expected to result in emissions reductions and be generally beneficial to air quality in the Bay Area on a long-term basis. In an effort to better address local needs, this rule is designed to provide a deferred timetable for replacement of limited-use diesel engines in agricultural uses.

To fully analyze potential impacts from the proposed rule, three scenarios have been presented: (1) the existing baseline (population of current engines) is compared to the predicted engine inventory at full implementation of the proposed rule in the long-term; (2) the existing baseline (population of current engines) is compared to the predicted engine inventory at full implementation of the ATCM, especially during the early years (2011 through 2020) when the delay in implementation of the ATCM occurs; and (3) the impact of the inventory of engines associated with the proposed rule at full implementation is compared to the inventory of engines associated with the ATCM at full implementation.

3.2.3.1 Construction Impacts

Regulation 11, Rule 17 would defer compliance with ATCM requirements for low-use stationary agricultural diesel engines which meet certain requirements. The ATCM generally requires the replacement of diesel engines within a specified timeframe, depending on the age of the engine (see Table 2-1). No construction is required to replace the current engines with new engines meeting more restrictive emission standards. Since the low-use agricultural engines are already in service, the sites which use them have already been developed, cleared, concrete pads installed (if necessary), and connected to the appropriate equipment (e.g., water pumps). Replacement of the engines will not require construction activities. Rather, the existing engines will be disconnected and removed from the site, and the new engine will be installed and connected to the appropriate equipment. Therefore, no construction activities are expected and no significant air quality impacts are expected from construction associated with replacement of CI engines.

3.2.3.2 Operational Criteria Pollutant Air Quality Impacts

The overall objective of the proposed project is to reduce emissions from low-use stationary diesel engines in agricultural uses and be equivalent to the CARB ATCM for CI engines. The use of stationary agricultural engines generates air emissions, including VOCs, NO_x, and particulate matter, associated with the combustion of diesel fuel. Regulation 11, Rule 17 would reduce emissions of VOCs, NO_x and particulate matter by replacing existing stationary diesel engines with newer, cleaner burning engines. New diesel engines

(currently identified as Tier 3 engines because they meet ATCM Tier 3 emission standards) are much cleaner and generate fewer emissions than engines built before emissions performance standards were established (known as Tier 0 engines). Meeting established emissions standards for new diesel engines and more restrictive standards for future diesel engines is achieved by increasing combustion efficiency, which reduces emissions. In addition to advances in engine technology, control equipment can be added on to the engine to remove contaminants from the exhaust. These include passive and active filters, oxidizers, and selective catalytic reduction. In the case of agricultural engines used for pumping water, replacement of the engine is generally needed to comply with applicable standards. Old engines produce characteristic dark smoke (particulate matter), but the new engines do not have any visible exhaust other than the visual distortion from heat. Tier 4 compliant engines are expected to be available in the 2014 to 2015 timeframe, and these engines will generate less emissions than Tier 3 (or other lower tier) engines.

The operational emissions associated with the existing low-use stationary agricultural engines, as well as the predicted reductions of VOCs, NO_x, and particulate matter associated with full implementation of Regulation 11, Rule 17, have been estimated and summarized in Table 3-9 (BAAQMD, 2010).

TABLE 3-9

Estimated Emission Reductions Associated with Implementation of Regulation 11, Rule 17 (tons/yr)

Pollutant	Current Emissions⁽¹⁾ (tons/yr)	Emissions After Replacement (tons/yr)	Emissions Change⁽²⁾ (tons/yr)
VOC	2.10 - 3.15	0.32 - 0.48	-1.78 - -2.67
NO _x	23.54 - 35.31	0.84 - 1.26	-22.70 - -34.05
PM	1.28 - 1.92	0.04 - 0.06	-1.24 - -1.86

(1) Assumes 2 to 3 times the number of registered CI engines in August, 2010.

(2) Emissions changes that are negative values represent emission reductions.

The existing emissions associated with low-use CI engines were developed using data from engines that were registered with the BAAQMD in August, 2010, which includes about 280 agricultural diesel engines. The data provided as part of the registration process includes the size of the engines, engine age, hours of operation, location, etc. In addition to the engines that have been registered, the BAAQMD recognizes that there are a number of agricultural engines within the District that have not been registered, likely owned by small independent farmers in more rural areas of the District. Therefore, the estimated existing emissions have been increased up to 3 times to account for unregistered engines (see Table 3-9, estimated VOC emissions 2.10 to 3.15 tons per year). The emissions for these low use agricultural engines following implementation of Regulation 11, Rule 17 were also estimated, assuming the same engine operating parameters (e.g., hours per year) and that Tier 4 compliant engines would be installed. Based on Table 3-9, implementation of Regulation 11, Rule 17

is expected to result in emissions reductions of VOC, NOx, and PM following full implementation.

However, the proposed rule will delay implementation of engine replacement that is currently required under CARB’s ATCM, which will cause emission reductions in the early years of implementation of Regulation 11, Rule 17 to not occur, referred to as emission reductions foregone. Said another way, the emissions associated with the use of low-use agricultural engines will be higher in the 2011 to 2020 timeframe as the proposed regulation would delay implementation of portions of the ATCM until after 2020. Under the ATCM, some Tier 0 engines would be required to convert to Tier 3 engines sooner and these engines are assumed to remain Tier 3 engines into the future. Under the proposed Regulation 11, Rule 17, all existing low use Tier 0, Tier 1 and Tier 2 engines that choose to participate in the ACP would be replaced with Tier 4 engines after 2016. Conservatively assuming 100% participation in the ACP, the proposed project would generate higher emissions in the 2011 through 2020 timeframe which are estimated in Table 3-10. During the 2020 – 2025 timeframe, criteria pollutant emissions will be lower than under CARB’s ATCM because under the proposed rule all existing Tier 0 and Tier 1 engines (more than 92% of the current engines) will be replaced with Tier 4 engines, whereas under the ATCM these engines would have been replaced with higher emitting Tier 3 engines. The emission estimates in Table 3-10 have also been increased by 2 to 3 times to account for unregistered engines.

TABLE 3-10

Estimated Emission Reductions Foregone During Early Years Associated with Implementation of Regulation 11, Rule 17 (tons/yr)

Pollutant	Emission Reductions foregone⁽¹⁾ (tons/yr)	CEQA Significance Thresholds (tons/yr)	Potentially Significant?
VOC	1.12 - 1.68	10	NO
NOx	17.04 - 25.56	10	YES
PM	0.82 - 1.23	15	NO

(1) Emission reductions that would not occur in early years if Regulation 11, Rule 17 was implemented.

The emission reductions foregone (or emission increases over the existing ATCM) are shown in Table 3-10 and have been compared to the BAAQMD CEQA significance thresholds in order to determine whether the proposed project would have a cumulatively considerable impact on criteria pollutant levels in the Bay Area. When compared to existing baseline emissions, no significant impact in air emissions would be expected as the emissions associated with CI engines in the future (beyond 2020) are expected to be less than emissions from existing CI engines. However, when the emissions reductions associated with proposed Regulation 11, Rule 17 are compared to the emission reductions expected as part of the currently approved ATCM, emissions would be higher in the 2011 to

2020 timeframe. An estimate of the magnitude of those increases is shown in Table 3-10 and compared to the CEQA significance threshold. As shown in Table 3-10, the emission increases of VOC and PM in the interim years are less than the applicable CEQA significance threshold and, therefore, less than significant. However, the emission increases of NOx would exceed the 10 tons per year CEQA threshold and are potentially significant.

Implementation of Regulation 11, Rule 17 would result in additional VOC, NOx, and PM emission reductions in the long-term (after 2020) and provide additional long-term beneficial air quality and related health impacts than the ATCM. Under the ATCM, some Tier 0 engines would be required to convert to Tier 3 engines sooner and these engines are assumed to remain Tier 3 engines into the future. Under the proposed Regulation 11, Rule 17, all existing Tier 0, Tier 1 and Tier 2 engines would be replaced with Tier 4 engines after 2020/2025, leading to greater emission reductions in the future. As shown in Table 3-11, greater VOC, NOx, and PM emission reductions are expected under the proposed rule than under CARB’s ATCM providing long-term air quality and related health benefits.

TABLE 3-11

Comparison of Emission Reductions⁽¹⁾ Under Regulation 11, Rule 17 with Emission Reductions⁽¹⁾ Under CARB’s ATCM

Pollutant	Current CI Engine Emissions (tons/yr)	CI Engine Emissions Reductions After Implementation of Reg 11-17 (tons/yr)	CI Engine Emissions Reductions After Implementation of CARB’s ATCM (tons/yr)
VOC	2.10 - 3.15	1.78 - 2.67	1.12 - 1.68
NOx	23.54 - 35.31	22.70 - 34.05	17.04 - 25.56
PM	1.28 - 1.92	1.24 - 1.86	0.82 - 1.23

(1) Assumes 2 to 3 times the number of registered CI engines in August, 2010.

Minor amounts of emissions of CO and SO₂ will also be reduced under Regulation 11, Rule 17, although the District is in attainment for State and federal standards for these pollutants. CO levels will not increase during the interim 2011 – 2020 time period under proposed Regulation 11, Rule 17, and will be lower after 2020. The CEQA threshold of significance for local CO is a concentration that is equivalent to the state standard, and that standard is not exceeded under current conditions. There is no CEQA threshold of significance for SO₂, nor would the proposed rule increase emissions of this pollutant.

3.2.3.3 Operational Toxic Air Contaminants Impacts

The focus of the proposed rule is diesel particulate reduction. As such, when diesel particulate is reduced, the health risk from diesel particulate is reduced. At full implementation of the proposed rule, Tier 4 engines will be in use, which emit approximately one percent of the diesel particulate that Tier 0 engines emit. To fully

analyze potential impacts from the proposed rule, three scenarios have been presented: (1) the existing baseline (population of current engines) is compared to the predicted engine inventory at full implementation of the proposed rule in the long-term; (2) the existing baseline (population of current engines) is compared to the predicted engine inventory at full implementation of the ATCM, especially during the early years (2011 through 2020) when the delay in implementation of the ATCM occurs; and (3) the impact of the inventory of engines associated with the proposed rule at full implementation is compared to the inventory of engines associated with the ATCM at full implementation.

TAC emissions associated with diesel engines include acetaldehyde, acrolein, ammonia, benzene, 1,3-butadiene, ethyl benzene, formaldehyde, hexane, hydrogen chloride, toluene, xylenes, metals, polycyclic aromatic hydrocarbons, and diesel particulate matter. While the toxic effects of these compounds are quantifiable, diesel particulate matter is the predominant health risk driver in diesel engine emissions (representing more than 90% of the total health risk) due to the greater emission rate and associated cancer potency factor compared to the other compounds. Therefore, diesel particulate is the representative TAC considered in this analysis.

The significance criteria for TACs are three fold: (1) an incremental increase in cancer risk; (2) an increase in chronic or acute non-cancer risk; or (3) an increase in the ambient PM_{2.5} ground level concentration, as outlined above in Table 3-8.

With regard to non-cancer risk, there is no acute health risk Reference Exposure Level (REL) for diesel particulate matter and the chronic non-cancer health risk REL is 5.0 µg/m³. Since the CEQA threshold of significance for ground level concentrations of particulate matter is an increase of less than 0.3 µg/m³, this document first analyzes whether the PM_{2.5} threshold is exceeded. If that threshold is not exceeded, chronic non-cancer health risk limit would not be exceeded and need not be evaluated. Therefore, this analysis has been conducted on both cancer risk and ambient PM_{2.5} concentration. In addition, impacts at both the project level and cumulative impacts have been considered.

Project Level Toxic Air Contaminants Impacts

Table 3-12 presents the HARP model results. Baseline for TAC analysis assumes the use of a Tier 0 engine with a receptor at 1,000 feet, which is a cancer risk of 0.502, 0.730, and 1.32 in one million for 100 hp, 175 hp, and 500 hp engines, respectively. When implemented, the proposed rule will reduce this cancer risk, for 100 hp, 175 hp, and 500 hp engines to 0.005, 0.007, and 0.0132 in one million, respectively (see Table 3-13). Since the cancer risk from the proposed rule at full implementation is a reduction, there is no increased cancer risk which exceeds the 10 in one million significance threshold. The incremental risk associated with the engines affected by this proposed rule will not increase risks to nearby sensitive receptors due to the provision of the rule that requires engines within 1,000 feet of sensitive receptors to complete a site-specific health risk screening analysis and demonstrate a cancer risk of less than 10 in a million, and PM_{2.5} ground level concentration of less than 0.3 µg/m³. These provisions of the rule will minimize potential health risks to less than

significant. Therefore, the proposed rule, when fully implemented, does not cause significant health impacts.

During the first nine years of the proposed rule, the health risk benefits expected when the rule is fully implemented will be delayed. To assess the impact of the delay, the ground level concentration was time-weighted to reflect the additional years of continued emissions during the delay. Cancer risks are based on a 70-year exposure, so nine years of exposure are assumed to be to emissions associated with Tier 0 engines and 61 years of exposure are assumed to be to emissions associated with Tier 4 engines. The resulting cancer risks for the 100 hp, 175 hp, and 500 hp engines are 0.069, 0.100, and 0.181 in one million at 1,000 feet, respectively (see Table 3-12). Since these are comparisons, age sensitivity factors adjust both the baseline and the proposed project so the difference would remain the same. The values presented are for adults. The delayed implementation would still result in a decrease in diesel particulate matter exposure to nearby sensitive receptors over a 70 exposure period, which represents a cancer risk reduction from the existing engines (see Table 3-13). Therefore, the delay in the proposed rule does not cause significant health impacts.

**TABLE 3-12
CARB HARP Model Results⁽¹⁾**

Engine Type	100 hp		175 hp		500 hp	
	Cancer Risk (per million)	PM _{2.5} GLC (µg/m ³)	Cancer Risk (per million)	PM _{2.5} GLC (µg/m ³)	Cancer Risk (per million)	PM _{2.5} GLC (µg/m ³)
Proposed Project (Full Implementation) Tier 4 Engines	0.0050	1.58E-05	0.0073	2.29E-05	0.0132	4.14E-05
ATCM Tier 3 Engines	0.11	3.47E-04	0.109	3.44E-04	0.198	6.21E-04
Proposed Project (Delayed Implementation) ⁽²⁾	0.069		0.100		0.181	

- (1) Using Screen 3 met data file available in the HARP model.
- (2) Assumes exposure to emissions from Tier 0 engines for 9 years and exposure to emissions from Tier 4 engines for 61 years.

TABLE 3-13

Comparison of Health Risks for the Proposed Rule

Negative numbers are reduction in impacts.

Significance Evaluation	100 hp		175 hp		500 hp	
	Cancer Risk (per million)	PM _{2.5} GLC (µg/m ³)	Cancer Risk (per million)	PM _{2.5} GLC (µg/m ³)	Cancer Risk (per million)	PM _{2.5} GLC (µg/m ³)
Baseline (Current Emissions) – Tier 0 Engines	0.502	0.0016	0.730	0.0023	1.3200	0.0041
Proposed Project – Tier 4 Engines	0.0050	<0.0001	0.0073	<0.0001	0.0132	<0.0001
Change(1)	-0.497	-0.0016	-0.7227	-0.0023	-1.3068	-0.0041
ATCM fully implemented – Tier 3 Engines	0.110	0.0003	0.109	0.0003	0.198	0.0006
Proposed Rule (Delayed Implementation)	0.069		0.100		0.181	
Risk During Delay(2)	-0.041		-0.009		-0.017	
PM _{2.5} GLC During Delay(3)		0.0012		0.0019		0.0035
Significance Threshold	10	0.3	10	0.3	10	0.3
Significant?	No	No	No	No	No	No

(1) Baseline compared to full implementation of proposed rule (long term) emissions. See Appendix B.

(2) Comparison of ATCM implementation to delayed full implementation of proposed rule.

(3) Comparison of PM_{2.5} GLC during delay from 2011 – 2020.

The final comparison relating to health impacts is the comparison of the proposed rule (delayed implementation) with full implementation of the ATCM. The ATCM required existing engines to meet Tier 3 standards effective in 2011 for Tier 0 and beginning in 2014 for Tier 1 and 2 engines. Therefore, a Tier 3 engine for a 70 year exposure is compared to the proposed rule. The cancer risk associated with Tier 3 100 hp, 175 hp, and 500 hp engines are 0.110, 0.109, and 0.198 in one million, respectively, which are greater than the proposed rule of 0.069, 0.100, and 0.181 in one million, respectively (see Table 3-12). Therefore, the proposed rule provides a cancer risk reduction when compared to the ATCM (see Table 3-13) and as such the proposed rule does not exceed the thresholds of significance identified for this impact.

In addition, cancer risk is analyzed for the period of 9 years from scheduled ATCM implementation in 2011 until 2020. During this period, the current inventory of agricultural

engines could continue to operate, rather than be replaced with Tier 3 engines. During this period, cancer risk for the worst case 500 hp Tier 0 engine is 0.188 in one million and the cancer risk for the 500 hp Tier 3 engine is 0.033 in one million, the difference being an increase of 0.155 in one million. Therefore, during the interim years the proposed rule would produce an increased cancer risk of 0.155 in one million which is well below the significance threshold of 10 in a million. As such, the proposed rule does not exceed the threshold of significance identified for this impact.

The ground level concentrations were determined using the CARB HARP model. The proposed rule would not cause a significant increase in the ambient PM_{2.5} concentration because during the delay the PM_{2.5} concentration would remain the same as the baseline of the current inventory of engines and, following full implementation, the PM_{2.5} concentrations would be reduced by 99 percent from existing levels. The comparison of the proposed rule to the fully implemented ATCM during the delay (i.e., replacement of a Tier 0 engine with a Tier 3 engine) would result in an increase of 0.0012, 0.0019, and 0.0035 µg/m³ for the 100 hp, 175 hp, and 500 hp engines (see Table 3-13), respectively, which does not exceed the significance standard of an increase of 0.3 µg/m³. Therefore, the increase in PM_{2.5} during the delay when compared to implementation of the ATCM would not be above the identified significance threshold for this impact.

As stated above, the CEQA threshold of significance for ground level concentrations of particulate matter is an increase of less than 0.3 µg/m³, and because the analysis indicates that the PM_{2.5} does not exceed the CEQA threshold, chronic non-cancer health risk limit could not be exceeded and was not evaluated.

Selected results from the HARP modeling are presented in Appendix B.

Cumulative Toxic Air Contaminants Impacts

In performing a cumulative analysis on the proposed rule, areas within the District where agricultural property is adjacent to major roadways were identified. The six major roadways with adjacent agricultural land identified are highways 29, 37, and 101 and interstates 80, 280 and 680. While some of the major highways' current cancer risk values are over 100 in a million (from 417 to 697 at 100 feet depending of the highway), the proposed rule will reduce the risk from agricultural engines which may be adjacent to major roadways, thereby lowering the cumulative risk to sensitive receptors in these areas. The incremental risk associated with the engines affected by this proposed rule will not increase cumulative risks to nearby sensitive receptors within 1000 feet of the engine to a level greater than 100 in a million for cancer risk or 0.8 µg/m³ in ambient PM_{2.5} concentration. This is primarily due to the provision of the rule that requires engines within 1,000 feet of sensitive receptors to complete a site-specific health risk analysis and demonstrate a cancer risk of less than ten in a million, and PM_{2.5} GLC to remain below 0.3 µg/m³ in order to be eligible for the ACP. In addition, the proposed rule will require a site-specific cumulative analysis as part of the ACP for engines within 1,000 feet of a sensitive receptor to demonstrate a cumulative cancer risk of less than 100 in a million, and a cumulative PM_{2.5} GLC to remain below 0.8

$\mu\text{g}/\text{m}^3$. These provisions of the rule will minimize potential health risks to less than significant. Therefore, no significant adverse cumulative TAC impacts are expected.

3.2.3.4 Greenhouse Gases

Fuel combustion generates GHG emissions. Therefore, the agricultural engines affected by the proposed rule generate GHG emissions. Proposed Regulation 11, Rule 17 would replace existing low-use agricultural engines with new agricultural engines. In many cases, new engines (Tier 3 engines for example) are more energy efficient than older engines (e.g., Tier 0 engines). In this example, the use of a newer engine would generally require less fuel (energy) to accomplish the same amount of work.

Engines that meet the Tier 4 emission standards are not currently available on the market. Discussion with industry representatives indicates that Tier 4 engines will likely require some form of additional air pollution control (e.g., diesel particulate filters) to comply with the Tier 4 emission standards. Air pollution control equipment, such as particulate filters, can add back pressure onto engines, thus reducing engine efficiency and requiring additional energy (fuel) to accomplish the same level of output. Therefore, it is possible that Tier 4 engines could increase GHG emissions because of the potential decrease in energy efficiency. It is also possible, that technological advancements will be such that the efficiency of Tier 4 engines will be better than current technology.

In order to provide a conservative evaluation of potential GHG emissions, it is assumed that some form of additional air pollution control equipment will be required on the CI engines to achieve Tier 4 emission standards, creating a decrease in energy efficiency. The GHG emissions were calculated for the existing CI engines affected by proposed Regulation 11, Rule 17, based on registration information provided to the BAAQMD. The energy efficiencies associated with controlling off-road diesel engines were evaluated, based on existing data to determine the potential impact of additional control equipment on engine efficiency. The U.S. EPA evaluated retrofit technologies associated with PM on diesel engines. Successful application of diesel particulate filters on new or existing diesel engines requires a robust filter regeneration scheme that periodically oxidizes the collected soot present on the filter to maintain engine backpressure characteristics within specified limits. The available data indicate that the installation of a filter system may cause a slight fuel penalty on the order of one percent or less. During engine testing based on the required retrofit technology verification protocols established by either the U.S. EPA or CARB, fuel penalties have been documented at about one percent for high efficiency filter systems (MECA, 2005). The impact of Regulation 11, Rule 17 is that there will be more Tier 4 engines than under the ATCM, which translates to a potential increase in fuel use and a related increase in GHG emissions.

The GHG emissions from the existing CI engines were calculated based on registration information provided to the BAAQMD. The impact of the proposed Regulation 11, Rule 17 on GHG emissions was calculated assuming a fuel penalty of one percent. The one percent decrease in fuel economy translates to an increase of 729 to 2,186 metric tons per year of

GHG emissions (as CO₂ equivalent (CO₂eq) emissions) for registered low use agricultural engines (see Table 3-14), which is well below the BAAQMD significance criteria of 10,000 metric tons per year. Therefore, the potential increase in GHG emissions would be less than significant associated with implementation of Regulation 11, Rule 17.

TABLE 3-14

Estimated GHG Emission Increases Associated with Implementation of Regulation 11, Rule 17 (tons/yr)

Pollutant	Existing GHG Emissions (metric tons/yr)	Increase in GHG Emissions Associated with Proposed Rule (metric tons/yr)⁽¹⁾	Significance Criteria (metric tons/yr)	Significant?
CO ₂ eq	72,876 – 218,628	729 – 2,186	10,000	NO

(1) Assumes 1% increase due to increased backpressure on the engine (MECA, 2005).

3.2.3.5 Other Air Quality Issues

The proposed regulation is not expected to change the amount or types of acutely hazardous materials stored near sensitive receptors. The existing agricultural engines currently use diesel fuel and the replaced agricultural engines in the future are expected to continue to use diesel fuel in similar amounts. The proposed regulation is not expected to increase the amount of diesel fuel stored or increase the storage or use of any other acutely hazardous materials. Therefore, no increase in the potential for an accidental release of acutely hazardous air pollutants is expected and no significant impacts are expected.

Likewise, the proposed regulation is not expected to increase the amount of diesel fuel used or use any other substances that generate odors. Therefore, the proposed regulation is not expected to result in an increase in odors and no significant odor impacts are expected.

3.2.4 MITIGATION MEASURES

Adoption of the proposed rule will result in a delay in the reduction of NO_x emissions based on the ATCM's implementation schedule. These delayed NO_x reductions are conservatively estimated to be above the District's significance threshold and therefore are a significant impact. Whether or not the delayed NO_x reductions actually exceed the significance threshold will depend on the number of engines that ultimately apply for, and are approved for the proposed Alternate Compliance Plan. In order to mitigate this potential short term interim significant impact, the District will use District grants and incentives to fund NO_x reduction projects. The District has identified specific strategic incentive funding from the Transportation Fund for Clean Air (TFCA) and other grant programs that will be used to fund NO_x reduction projects anticipated to reduce NO_x emissions by up to 25 tons

per year between 2011 and 2020. On average, the TFCA Regional Fund program receives approximately \$10 million in funding and over the past three fiscal years NOx emission reductions from TFCA Regional Fund awards have averaged 54.8 tons per year. The TFCA Regional Fund is allocated by the District on a competitive basis to projects that reduce criteria pollutant emissions, including NOx, from motor vehicles. These projects will mitigate the delayed NOx reductions from the proposed rule, resulting in less than significant NOx impacts.

Further, in the long-term, the proposed regulation is expected to result in greater emission reductions than the existing ATCM providing long-term air quality and related health benefits. The short-term air quality impact associated with NOx due to the delay of the ATCM requirements is expected to be reduced to less than significant with the implementation of NOx reductions through District grant programs. Over the long term, implementation of the proposed rule is expected to result in greater overall emission reductions due to the conversion of affected engines to Tier 4 engines, which will result in lower overall emissions.

3.2.4.1 Mitigation Monitoring and Reporting

Implementing Agency: The air quality mitigation measure will be implemented by the BAAQMD.

Monitoring Agency: NOx emission reductions will be monitored to ensure the proposed mitigation measures meet expectations during the years 2011 through 2020. This is the period when implementation of the ATCM will be delayed and when there is the potential for foregone NOx emission reductions from the ATCM. The BAAQMD maintains a database of all registered engines within the Air District and that database will continue to be maintained. The BAAQMD will maintain a list of registered engines for which Regulation 11, Rule 17 applies and for which an Alternative Compliance Plan has been approved and for which the emission reductions associated with the ATCM are delayed. The total NOx emissions associated with the delay will be calculated during each year (2011 through 2020). The BAAQMD will fund projects to reduce NOx emissions equal to the amount of NOx emissions associated with the delay in implementing the ATCM. The BAAQMD will maintain records that show the NOx emissions associated with the delay, and the NOx emission reductions that sufficiently offset the delayed emission reductions on an annual basis.

CHAPTER 4

ALTERNATIVES

Discussion
Description of Project Alternatives
Environmental Impacts of Project Alternatives
Conclusion

4.0 ALTERNATIVES

4.1 DISCUSSION

An EIR is required to describe a reasonable range of feasible alternatives to the proposed project that could feasibly attain most of the basic project objectives and would avoid or substantially lessen any of the significant environmental impacts of the proposed project (CEQA Guidelines §15126.6(a)). As discussed in Chapter 3 of this EIR and the Initial Study (see Appendix A), the proposed new Regulation 11, Rule 17 has the potential to result in significant adverse impacts to air quality due to increases in NOx emissions in interim years associated with the delayed compliance with air emission standards for low-use CI engines. The proposed rule is not expected to result in significant impacts to other environmental resources including aesthetics, agriculture and forestry resources, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation and traffic, and utilities and service systems.

Chapter 4 provides a discussion of alternatives to the proposed project as required by CEQA. According to the CEQA guidelines, alternatives should include feasible measures to attain the basic objectives of the proposed project and provide means for evaluating the comparative merits of each alternative. In addition, though the range of alternatives must be sufficient to permit a reasoned choice, they need not include every conceivable project alternative (CEQA Guidelines, §15126.6(a)). The key issue is whether the selection and discussion of alternatives fosters informed decision making and public participation.

4.2 DESCRIPTION OF THE PROJECT ALTERNATIVES

4.2.1 ALTERNATIVE 1 – NO PROJECT ALTERNATIVE

CEQA Guidelines §15126.6 (e) requires evaluation of a “No Project Alternative”. Under the “No Project Alternative,” no modifications to the CARB ATCM for stationary CI engines would occur and the ATCM would continue to be implemented and enforced as it currently exists.

The ATCM for stationary CI engines was adopted in 2004, affecting diesel engines driving a wide variety of machinery including electrical generators, conveyors, pumps and compressors. The ATCM required all applicable sources of TACs to hold valid operating permits or be registered with the local air district, unless the source is covered by a specific exemption. In 2006, CARB determined that both emergency standby engines and agricultural engines were potentially significant sources of air pollution, so both categories of engines were included in the ATCM and brought into the registration / permit program.

4.3 ENVIRONMENTAL IMPACTS OF PROJECT ALTERNATIVES

The ATCM has already had a significant impact on emissions. Mobile and prime use stationary diesel engines are being replaced with new cleaner burning engines. Early replacement of agricultural diesel engines through use of incentives from the Carl Moyer Program and the Agricultural Assistance Program has resulted in the replacement of 65 agricultural diesel engines within the BAAQMD jurisdiction with new cleaner burning diesel engines. Estimated emissions reductions from these 65 replacements engines include: 2.26 tons per year of non-methane hydrocarbons; 23.72 tons per year of NOx; and 0.89 tons per year of particulate matter.

Estimated emissions, and expected emissions reductions from the population of 147 low-use agricultural diesel engines in August, 2010 are shown below. The ATCM requires replacement of the Tier 0 low-use agricultural engines by December 31, 2010 or December 31, 2011, depending on their size. Therefore, the No Project alternative would result in VOC, NOx, and PM emission reductions during the 2010 through 2020.

The proposed rule would alter the implementation schedule for low-use agricultural diesel engines. Emissions estimates are based on the inventory of diesel engines registered with the District in August, 2010. At that time, there were 147 registered diesel engines in the District that are operated less than 100 hours per year that would be affected by the proposed rule. There are currently 335 diesel engines registered with the District. This existing emissions analysis is based on data provided under the BAAQMD registration program, which provides information such as size of engine, hours of operation, location, etc. In order to provide a conservative estimate, it was assumed that the actual number of unregistered engines is two to three times the number of registered engines in August, 2010. This range of emissions estimates are given to accommodate the range of uncertainty regarding the number of potential agricultural diesel engines. The current emissions for the registered and estimated unregistered engines are presented in Table 4-1.

TABLE 4-1

Emissions Inventory for Low-Use Agricultural Diesel Engines (tons/year)

Pollutant	Existing Emissions - Registered Engines ⁽¹⁾	Existing Emissions - Unregistered Engines	Total Estimated Range of Existing Emissions ⁽²⁾
VOC	1.05	1.05 - 2.10	2.10 - 3.15
NOx	11.77	11.77 - 23.54	23.54 - 35.31
PM	0.64	0.64 - 1.28	1.28 - 1.92

(1) Based on August, 2010 inventory of agricultural diesel engines registered with the District.

(2) Assumes 2 to 3 times the number of registered CI engines in August, 2010.

TABLE 4-2
Emission Reductions from ATCM (tons per year)

Pollutant	Current Emissions from Low-Use CI Engines	Emissions after Implementation of ATCM	Emissions Reductions
Non-methane Hydrocarbon (VOC)	2.10 - 3.15	0.98 – 1.47	1.12 – 1.68
Nitrogen Oxides (NOx)	23.54 - 35.31	6.50 – 9.75	17.04 – 25.56
Particulate Matter (PM)	1.28 - 1.92	0.46 – 0.69	0.082 – 0.123

Of the potential environmental impacts discussed in Chapter 3, potentially significant impacts were identified for air quality as overall NOx emissions would be higher under the proposed rule during some interim years, than the existing ATCM. However, mitigation measures would reduce these impacts to less than significant. Further, implementation of the proposed rule is expected to result in additional emissions reductions of VOC, NOx, and PM after 2020 as more low use agricultural engines would be Tier 4 engines in the long-term than under the ATCM requirements alone. Under the ATCM, some Tier 0 engines would be required to convert to Tier 3 engines sooner, and the VOC, NOx, and PM emissions associated with Tier 3 engines are higher than Tier 4 engines. Therefore, as shown in Table 4-2, implementation of Regulation 11, Rule 17 would result in additional VOC, NOx, and PM emission reductions in the long-term and provide additional air quality and public health benefits.

TABLE 4-3
Comparison of Emission Reductions Under Regulation 11, Rule 17 with Emission Reductions Under CARB’s ATCM

Pollutant	Current CI Engine Emissions⁽¹⁾ (tons/yr)	CI Engine Emissions Reductions After Implementation of Reg 11-17 (tons/yr)	CI Engine Emissions Reductions After Implementation of CARB’s ATCM (tons/yr)
VOC	2.10 - 3.15	1.78 - 2.67	1.12 - 1.68
NOx	23.54 - 35.31	22.70 - 34.05	17.04 - 25.56
PM	1.28 - 1.92	1.24 - 1.86	0.82 - 1.23

(1) Assumes 2 to 3 times the number of registered CI engines in August, 2010.

The proposed project is the preferred alternative because the long-term emission reductions of VOC, NOx and PM are expected to be greater than the No Project Alternative, providing larger air quality improvements, reduced public exposure to VOC, NOx, and PM, and subsequent improved public health benefits. The proposed project is

also preferred over the Earlier Implementation Alternative because during the shorter interim period, the emissions are similar because the NO_x reductions will be mitigated, and the long-term emission reductions of VOC, NO_x and PM are expected to be equal to the Earlier Implementation Alternative, with less risk of Tier 4 engine delays causing the proposed replacement deadlines to be infeasible.

The proposed project impacts on air toxic emissions are expected to be less than significant during both the interim years (2011-2020) and the long-term (after 2020). The impacts of the No Project Alternative on air toxic emissions would also be less than significant as there would be greater emission reductions than the proposed project during the interim years, but less emission reductions than the proposed project in the long term. The impacts of the Earlier Implementation Alternative on air toxic emissions would also be achieved earlier than the proposed project, but these emissions are less than significant. Long term, the impacts of the Earlier Implementation Alternative are equivalent to the proposed project.

The proposed project impacts on GHG emissions are expected to be less than significant during both the interim years (2011-2020) and the long-term (after 2020). The impacts of the No Project Alternative on GHG emissions are expected to be the same (or similar) to the proposed project in the interim years, but slightly less than the proposed project in the long-term, since the proposed project would result in the operation of more Tier 4 engines, which could be slightly less energy efficient (about one percent) due to the use of additional air pollution control equipment expected to be used on Tier 4 engines. GHG emissions would be less than significant under both the proposed project and No Project Alternative. The impacts of the Earlier Implementation Alternative on GHG emissions are expected to be similar to the proposed project in the interim years, and in the long-term.

4.4 CONCLUSION

The No Project Alternative would reduce the potentially significant adverse NO_x emission impacts associated with the proposed project in the interim compliance years, and the Earlier Implementation Alternative would reduce the length of the interim compliance years. However, the proposed project is the preferred alternative because short-term delayed emission reductions will be mitigated and the long-term emission reductions of VOC, NO_x and PM are expected to be greater than the No Project Alternative, providing larger air quality improvements, reduce public exposure to VOC, NO_x and PM, and subsequently improving public health benefits. In addition, the proposed project achieves the project goal of utilizing the useful life of the existing population of low-use engines, does not risk a delay in implementation if Tier 4 engine development falls behind schedule, and sets engine replacement deadlines that are consistent with those established in surrounding air quality management districts.

4.5 COMPARISON OF ALTERNATIVES

Pursuant to CEQA Guidelines §15126.6(d), an EIR should include sufficient information about each alternative to allow meaningful comparison with the proposed project. Section 15126.6(d) also recommends the use of a matrix to summarize the comparison. Table 4-1 provides this matrix comparison.

The CEQA document shall include sufficient information about each alternative to all meaningful evaluation, analysis, and comparison with the proposed project (CEQA Guidelines §15126.6(d)). A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. Table 4-4 lists the alternatives considered in this EIR and how they compare to proposed project. Table 4-4 presents a matrix that lists the significant adverse impacts as well as the beneficial impacts associated with the proposed project and the project alternatives for all environmental topics analyzed. The table also ranks each section as to whether the proposed project or a project alternative would result in greater or lesser impacts relative to one another.

**TABLE 4-4
COMPARISON OF ALTERNATIVES**

ENVIRONMENTAL TOPIC	Proposed Project	No Project Alternative	Earlier Implementation Alternative
Air Quality			
Emissions from Construction Activities	NS	NS(=)	NS(=)
NOx Criteria Pollutant Emissions – Interim Years	MNS	NS(-)	NS(-)
VOC and PM Pollutant Emissions – Interim Years	NS	NS(-)	NS(-)
NOx, VOC and PM Emissions – Long Term	B	B ⁽¹⁾	B ⁽²⁾
Toxic Air Contaminant Emissions - Interim Years	NS	NS(-)	NS(-)
Toxic Air Contaminant Emissions – Long Term	B	B ⁽¹⁾	B ⁽²⁾
GHG Emissions	NS	NS(-)	NS(-)

Notes:

- PS = Significant
- NS = Not Significant
- MNS = Mitigated Not Significant
- B = Beneficial
- (-) = Potential impacts are less than the proposed project.
- (+) = Potential impacts are greater than the proposed project.
- (=) = Potential impacts are approximately the same as the proposed project.
- (1) = The long-term benefits of the No Project Alternative are less than for the proposed project.
- (2) = The long-term benefits of the Earlier Implementation Alternative are the same as the proposed project.

CHAPTER 5

OTHER CEQA TOPICS

Relationship Between Short-Term and Long-Term
Productivity
Significant Irreversible Environmental Changes
Growth-Inducing Impacts

5.0 OTHER CEQA TOPICS

5.1 RELATIONSHIP BETWEEN SHORT-TERM AND LONG-TERM PRODUCTIVITY

An important consideration when analyzing the effects of a proposed project is whether it will result in short-term environmental benefits to the detriment of achieving long-term goals or maximizing productivity of these resources. Implementing Regulation 11, Rule 17 is not expected to achieve short-term goals at the expense of long-term environmental productivity or goal achievement. The purpose of the proposed rule is to reduce public exposure to air toxic emissions from low use CI engines in agricultural operations. In the short-term, the proposed rule would delay the implementation of portions of CARBs ATCM for low-use stationary CI engines in agricultural uses, thus delaying some of the emission benefits. The ATCM would replace existing engines with Tier 3, Interim Tier 4, and Tier 4 engines. The higher the engine tier, the lower the emissions of diesel particulates. Tier 4 engines are expected to be available in the 2014/2015 timeframe. Because of the delay in implementation, Regulation 11, Rule 17 would replace all existing low-use agricultural diesel engines with Tier 4 engines. Therefore, in the long-term, Regulation 11, Rule 17 would reduce overall diesel particulate emissions from low-use agricultural CI engines. By reducing particulate matter emissions, human exposure to air pollutants would also be reduced, providing long-term health benefits.

Implementing Regulation 11, Rule 17 would not narrow the range of beneficial uses of the environment but would delay the compliance dates for certain low use agricultural IC engines. Of the potential environmental impacts discussed in Chapter 3, potentially significant impacts were identified for air quality as overall NOx emissions would be higher under the proposed rule during some interim years, than the existing ATCM. The NOx emissions would be mitigated to less than significant. Further, implementation of the proposed rule is expected to result in additional emissions reductions of VOC, NOx, and PM as more low use agricultural engines would be Tier 4 engines in the long-term than under the ATCM requirements alone. Under the ATCM, some Tier 0 engines would be required to convert to Tier 3 engines sooner, and the VOC, NOx, and PM emissions associated with Tier 3 engines are higher than Tier 4 engines. Therefore, implementation of Regulation 11, Rule 17 would result in additional VOC, NOx, and PM emission reductions in the long-term and provide additional long-term beneficial air quality and health impacts than the ATCM. Therefore, the air quality and health impacts associated with implementation of Regulation 11, Rule 17 are expected to outweigh the short-term delay in the emissions reductions from the effected engines. Because no short-term environmental benefits are expected at the expense of long-term environmental goals being achieved, there is no justification for delaying the proposed action. No short-term benefits at the expense of long-term impacts have been identified. In fact, the proposed project is expected to result in long-term emission reductions and long-term public health benefits.

5.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA requires an EIR to discuss significant irreversible environmental changes which would result from a proposed action should it be implemented. Irreversible changes include a large commitment of nonrenewable resources, committing future generations to specific uses of the environment (e.g., converting undeveloped land to urban uses), or enduring environmental damage due to an accident.

Implementation of the proposed rule is not expected to result in significant irreversible adverse environmental changes. Of the potential environmental impacts discussed in Chapter 3, short-term air quality impacts associated with NO_x emissions are potentially significant, but will be mitigated to less than significant. Long term air quality impacts are expected to be beneficial as implementation of proposed rule will result in overall emission reductions of VOC, NO_x, and diesel particulate emissions, including PM₁₀ and PM_{2.5}. The rule would place only an incremental increase on GHG emissions due to the use of Tier 4 engines, which may be slightly less energy efficient because of emission controls.

Proposed Regulation 11, Rule 17 is expected to result in greater emission reductions and long-term benefits associated with improved air quality. The proposed rule would result in reduced emissions of criteria pollutants and TACs in the long-term, thereby improving air quality and related public health.

5.3 GROWTH-INDUCING IMPACTS

A growth-inducing impact is defined as the “ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.” Growth-inducing impacts can generally be characterized in three ways. In the first instance, a project is located in an isolated area and brings with it sufficient urban infrastructure to result in development pressure being placed on the intervening and surrounding land. This type of induced growth leads to conversion of adjacent acreage to higher intensity uses because the adjacent land becomes more conducive to development and, therefore, more valuable because of the availability of the extended infrastructure.

A second type of growth-inducing impact is produced when a large project, relative to the surrounding community or area, affects the surrounding community by facilitating and indirectly promoting further community growth. The additional growth is not necessarily adjacent to the site or of the same land use type as the project itself. A project of sufficient magnitude can initiate a growth cycle in the community that could alter a community’s size and character significantly.

A third and more subtle type of growth-inducing impact occurs when a new type of development is allowed in an area, which then subsequently establishes a precedent for

CHAPTER 5: OTHER CEQA TOPICS

additional development of a similar character (e.g., a new university is developed which leads to additional educational facilities, research facilities and companies, housing, commercial centers, etc.)

None of the above scenarios characterize the project in question. Regulation 11, Rule 17 will control emissions from low use agricultural IC engines and no new development would be required as part of the proposed new rule. The proposed project is part of CARB's ATCM to control diesel particulate matter emissions and reduce public exposure to diesel particulates. The proposed project would not change jurisdictional authority or responsibility concerning land use or property issues (Section 40716 of the California Health and Safety Code) and, therefore, is not considered to be growth-inducing.

CHAPTER 6

REFERENCES

6.1 REFERENCES

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6.2 ORGANIZATIONS AND PERSONS CONSULTED

The CEQA statues and Guidelines require that organizations and persons consulted be provided in the EIR. A number of organizations, state and local agencies, and private industry have been consulted. The following organizations and persons have provided input into this document.

List of Environmental Impact Report Preparers

Bay Area Air Quality Management District
San Francisco, California

Environmental Audit, Inc.
Placentia, California

Appendix A

NOTICE OF PREPARATION AND INITIAL STUDY

California Environmental Quality Act

NOTICE OF PREPARATION OF DRAFT ENVIRONMENTAL IMPACT REPORT FOR ADOPTION OF DISTRICT REGULATION 11: HAZARDOUS POLLUTANTS, RULE 17: LIMITED USE STATIONARY COMPRESSION IGNITION (DIESEL) ENGINES IN AGRICULTURAL USE

TO: «Company»
«Address1»
«Address2»
«City», «State» «PostalCode»

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

Interested Agencies, Organizations and Individuals:

Subject: Notice is hereby given that the Bay Area Air Quality Management District (BAAQMD or District) will be the lead agency and will prepare an Environmental Impact Report (EIR) in connection with the project described in this notice. This Notice of Preparation is being prepared pursuant to California Public Resources Code § 21080.4 and CEQA Guidelines Section 15082.

Project Title: BAAQMD proposed Regulation 11: Particulate Matter, Rule 17: Limited Use Stationary Compression Ignition (Diesel) Engines in Agricultural Use.

Project Location: The rule will apply within the Bay Area AQMD, which includes all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties, and the southern portions of Solano and Sonoma counties.

Project Description: The Bay Area Air Quality Management District is proposing Regulation 11, Rule 17: Limited Use Stationary Compression Ignition Engines in Agricultural Service as a local regulation that is equivalent to the Air Toxic Control Measure (ATCM) for Stationary Compression Ignition (CI – also referred to as diesel) Engines adopted by the California Air Resources Board (CARB) for the same category of sources. The ATCM requires almost all existing stationary diesel engines in agricultural use greater than 100 horse power (hp) to be replaced with a diesel engine that meets Tier 3 emissions requirements by December 31, 2010. The ATCM requires almost all existing stationary diesel engines in agricultural use between 50 and 100 horse power (hp) to be replaced with a diesel engine that meets Tier 3 emissions requirements by December 31, 2011. The intent of this regulation is to adopt CARB requirements for stationary engines in agricultural operations, but to also provide an exemption for engines used less than 20 hours per year, and to provide an Alternate Compliance Schedule for engines used less than 100 hours per year that will extend the compliance deadlines to 2020 for existing Tier 0 and Tier 1 low-use engines, and will extend the compliance deadline to 2025 for existing Tier 2 low-use engines.

Probable Environmental Impacts: The proposed Alternate Compliance Schedule will allow continued operation of low-use stationary agricultural diesel engines from 2010 until December 31, 2020 for most engines, and until December 31, 2025 for existing Tier 2 engines. Continued operation of these existing engines will temporarily result in continued emissions that are higher than those of current technology replacement Tier 3 engines. Estimates of the emissions reductions by replacing existing engines with Tier 3 diesel engines is relatively minor for Volatile Organic Compounds (VOC's), and Particulate Matter (PM), but may be as much as 25 tons per year of Nitrogen Oxide (NOx) compounds – a precursor to ozone formation. The District's current CEQA threshold of significance for NOx emissions impact is 10 tons per year. The proposed Alternate Compliance Schedule is expected to benefit public health and the environment in the longer term because replacement of existing low-use stationary agricultural diesel engines with more advanced Tier 4 technology, available in the 2014 – 2015 timeframe, will result in greater total emissions reductions. However, since these emissions reductions would not occur until the 2020 / 2025 timeframe, there would be an extended period of existing NOx emissions under the proposed regulation. An environmental impact report is needed to evaluate the potential

environmental impacts of the proposed regulation and to address any impacts that the District finds to be significant.

Most, if not all, engines affected by the proposed rule are located in lightly populated areas. Engines eligible for an alternative compliance plan (ACP) under the proposed rule would operate on a very limited basis and would be located at least 200 meters from a residential area, school, or health facility. It is not anticipated that the proposed rule would result in sensitive receptors being exposed to substantial pollutant concentrations. The EIR will examine this potential impact, however, to assure that any such potential impact is considered.

Implementation of the ATCM or the proposed regulation is not expected to result in a significant increase in GHG emissions. The proposed regulation would result in the use of more Tier 4 diesel engines reducing the overall particulate matter emissions. However, additional Tier 4 diesel engines could result in a slight increase in GHG emissions if additional air pollution control equipment and/or engine design resulted in a potential loss of engine efficiency and a potential increase in GHG emissions. The potential GHG impacts will be further evaluated in the EIR.

Attached to this notice is an Initial Study. The Initial Study outlines the areas of potential environmental impact that will be further reviewed in the draft Environmental Impact Report.

Response: This notice provides information on the above project and provides you an opportunity to submit comments on potential environmental effects that should be considered in the EIR. If the proposed project has no bearing on you or your agency, no action on your part is necessary. Due to the time limits mandated by State law, your response must be sent at the earliest possible date but ***not later than 30 days*** after receipt of this notice. If you or your agency wishes to submit comments, they may be sent to Guy Gimlen, via the contact information below.

Guy Gimlen, Senior Air Quality Engineer
Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109
Phone: (415) 749-4734 Fax: (415) 749-4741
Email: ggimlen@baaqmd.gov
Date: December 20, 2010

**SUBJECT: NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL
IMPACT REPORT**

**PROJECT TITLE: BAAQMD Regulation 11, Rule 17: Limited Use Stationary
Compression Ignition (Diesel) Engines in Agricultural Use**

In accordance with the California Environmental Quality Act (CEQA) (California Code of Regulations, Title 14, Sections 15082(a), 15103, and 15375), the Bay Area Air Quality Management District (BAAQMD) will be the Lead Agency for the project identified above and described in the attached Initial Study. Through this Notice of Preparation (NOP) BAAQMD is soliciting information and your views on the scope of the environmental analysis for the proposed project. As detailed in the attached Initial Study, BAAQMD staff has made a preliminary determination that there may be potentially significant impacts to air quality.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice. Comments focusing on your area of expertise, your agency's area of jurisdiction, or issues relative to the environmental analysis should be addressed to Mr. Guy Gimlen at the address shown below, or sent by FAX to (415) 749-4741, or by e-mail to ggimlen@baaqmd.gov. Comments must be received no later than 30 days after receipt of this notice. Please include the name and phone number of the contact person for your agency. Questions relative to the proposed Regulation 11, Rule 17, should be directed to Mr. Guy Gimlen (415) 749-4734, or by email to ggimlen@baaqmd.gov.

The following public workshops and CEQA scoping meetings are scheduled for the proposed Regulation 11-17:

<u>Date</u>	<u>Time</u>	<u>Location</u>
January 10, 2011	1 - 3 pm	Napa County Napa County UC Cooperative Extension Office 1710 Soscol Avenue, Napa, CA 94559
January 11, 2011	6 - 8 pm	Sonoma County Finley Community Center - Cyprus Room 2060 West College Avenue, Santa Rosa, CA 95401
January 12, 2011	1 - 3 pm	Sonoma County Petaluma Community Center - Activity Room 320 North McDowell Blvd., Petaluma, CA 94954
January 18, 2011	3 - 5 pm	Alameda County Martinelli Event Center 3585 Greenville Road, Livermore, CA 94550

January 19, 2011	3 – 5 pm	Contra Costa County Office of Weights & Measures - Conference Room 2366A Stanwell Circle, Concord, CA 94520
January 20, 2011	6 – 8 pm	Santa Clara County Gilroy Senior Center 7371 Hanna Street, Gilroy, CA 95020
January 24, 2011	1 – 3 pm	Marin County Dance Palace Community Center 503 B Street, Point Reyes, CA 94956
January 25, 2011	3 – 5 pm	San Mateo County Ocean Shore Train Depot 110 Higgins Canyon Road, Half Moon Bay, CA 94019
January 26, 2011	2 – 4 pm	Solano County Solano County UC Cooperative Extension Office 501 Texas Street, Fairfield, CA 94533

Date: December 30, 2010

Signature: _____

Guy Gimlen
Senior Air Quality Engineer

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

**Initial Study for
BAAQMD Regulation 11, Rule 17: Limited Use
Stationary Compression Ignition (Diesel) Engines in
Agricultural Use**

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

**Contact: Guy Gimlen
415-749-4734**

Prepared by:

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1000-A Ortega Way, Suite A
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(714) 632-8521**

December, 2010

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CHAPTER 1

PROJECT DESCRIPTION

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PROJECT DESCRIPTION

1.1 INTRODUCTION

The Bay Area Air Quality Management District is proposing Regulation 11, Rule 17: Limited Use Stationary Compression Ignition Engines in Agricultural Service as a local regulation that is equivalent to the Air Toxic Control Measure (ATCM) for Stationary Compression Ignition (CI – also referred to as diesel) Engines adopted by the California Air Resources Board (CARB) for the same category of sources. The intent of this regulation is to adopt CARB requirements for stationary engines in agricultural operations, but to also address local compliance issues faced by operators of low-use stationary agricultural diesel engines.

1.2 AGENCY AUTHORITY

The California Environmental Quality Act (CEQA), Public Resources Code §21000 et seq., requires that the environmental impacts of proposed projects be evaluated and that feasible methods to reduce, avoid or eliminate significant adverse impacts of these projects be identified and implemented. To fulfill the purpose and intent of CEQA, the BAAQMD is the lead agency for this project and has prepared the Notice of Preparation/Initial Study for the proposed Regulation 11, Rule 17 Environmental Impact Report (EIR). An EIR is the appropriate document when there is the potential for significant environmental impacts (CEQA Guidelines Section 15064(a)(1)).

The Lead Agency is the “public agency that has the principal responsibility for carrying out or approving a project that may have a significant effect upon the environment” (Public Resources Code Section 21067). It was determined that the BAAQMD has the primary responsibility for supervising or approving the entire project as a whole and is the most appropriate public agency to act as lead agency (CEQA Guidelines Section 15051(b)).

1.3 PROJECT LOCATION

The BAAQMD has jurisdiction of an area encompassing 5,600 square miles. The Air District 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. 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 1-1).

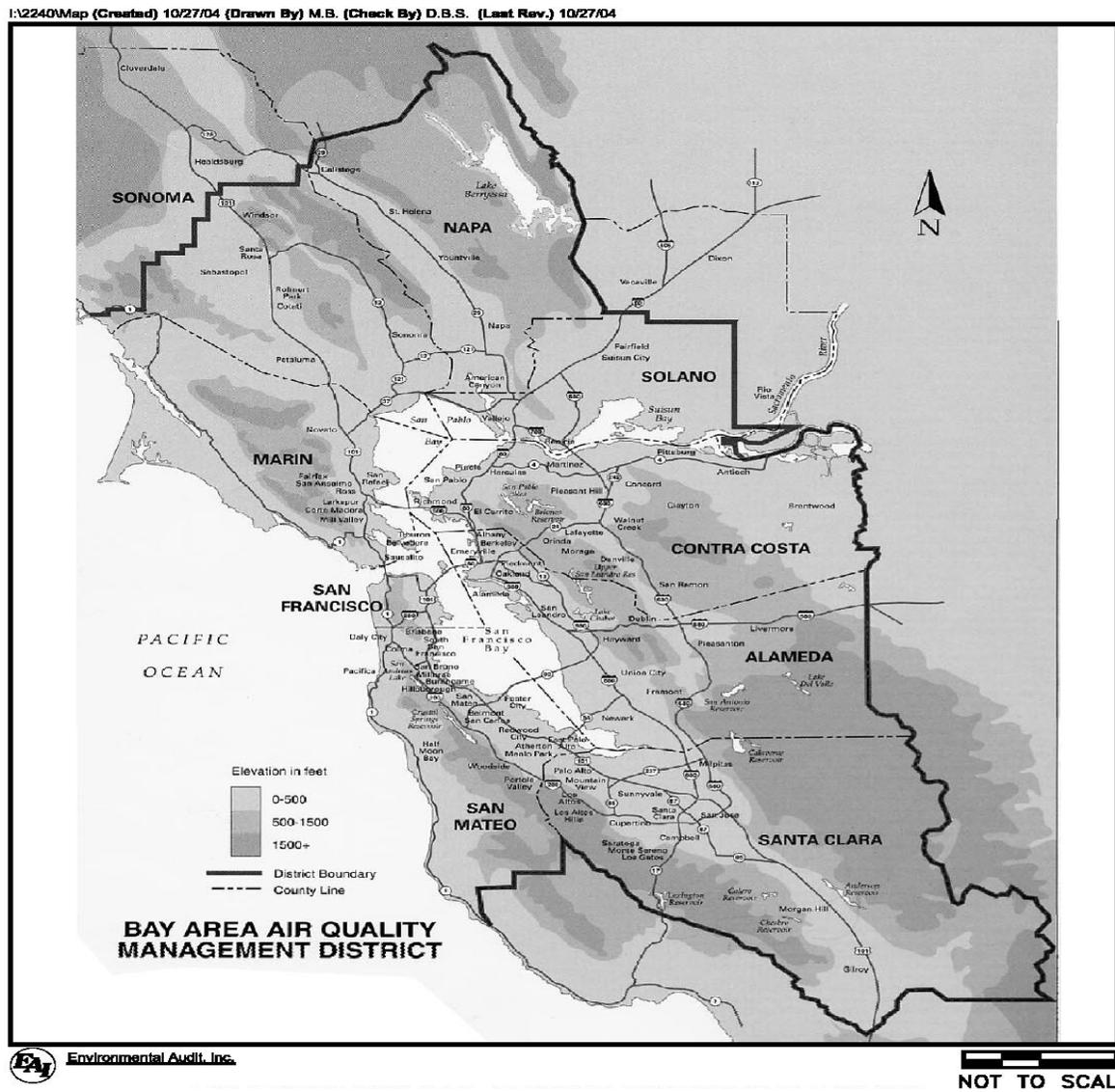


Figure 1-1 Bay Area Air Quality Management District Location

1.4 BACKGROUND

The Air Toxic Control Measure (ATCM) for Stationary Compression Ignition Engines (Sections 93115 through 93115.15, Title 17 of the California Code of Regulations, effective October 17, 2007) was originally adopted by CARB pursuant to Section 39650, et seq., of the California Health and Safety Code (H&SC). Section 39650 establishes a program for CARB, along with the Office of Environmental Health Hazard Assessment (OEHHA), to review the health effects of pollutants emitted into the air, to identify those that are most harmful as Toxic Air Contaminants (TACs), and to establish risk reduction plans and regulations to reduce public exposure to TACs they have identified. The particulate fraction of diesel exhaust was identified by CARB as a TAC in 1998, and CARB adopted a Risk Reduction Plan in 2000 that identified the main sources of diesel particulate matter and set out a schedule for regulating them.

CARB adopted an ATCM for stationary CI engines in 2004, which affected diesel engines driving a wide variety of machinery including electrical generators, conveyors, pumps and compressors. The ATCM required all applicable sources of TACs to hold valid operating permits or be registered with the local air district, unless the source is covered by a specific exemption. In 2006, CARB determined that both emergency standby engines and agricultural engines were potentially significant sources of air pollution, so both categories of engines were included in the ATCM and brought into the registration / permit program.

Under Section 39666 of the H&SC, local air districts are charged with implementing and enforcing ATCMs that affect stationary sources. The District has enforced the ATCM for stationary CI engines since it became effective. Section 39666 of the H&SC also allows districts to adopt equivalent or more stringent local rules for the same sources. When the ATCM was amended in 2006 to include stationary agricultural engines, agricultural interests raised concern about replacement of low-use diesel engines. CARB staff and staff from several air quality management districts in the state have been working together to identify acceptable equivalent local rules that resolve the concerns regarding these low-use agricultural diesel engines. The proposed Regulation 11, Rule 17: Limited Use Stationary Compressions Ignition Engines in Agricultural Use is the result of that effort in the Bay Area.

The CARB ATCM specifically exempted diesel engines in agricultural use when approved in 2004. However, further study indicated the emissions from agricultural diesel engines were significant, and agricultural engines needed to be controlled or replaced. When the ATCM was updated in 2006, agricultural diesel engines were no longer exempt. CARB included exemptions for diesel driven air movement fans used for frost protection in orchards and vineyards, and for agricultural standby emergency generators. However, CARB failed to include exemptions for other low-use diesel engines and water pumps used to spray water as an alternate method of frost protection. The ATCM requires that diesel engines larger than 100 horsepower (hp) meet new emissions standards by December 31, 2010, and diesel engines from 50 – 100 hp meet

the new standards by December 31, 2011. Most engines must be replaced to meet the new standards. Regulation 11, Rule 17 is designed to provide a deferred timetable for replacement of limited use diesel engines because: (1) Most low-use agricultural diesel engines are no where near their end of useful life, so early replacement represents an economic penalty that was not adequately considered in CARB's ATCM economic analysis; and (2) Tier 4 engines are scheduled to be available in the 2014/2015 timeframe. Replacing current low-use agricultural diesel engines with Tier 4 engines will substantially reduce long-term emissions.

In addition, orchards and vineyards occasionally need to use diesel driven water pumps to protect crops if they suffer from lack of water during excessive heat in summer, or from freezing in winter. These orchards and vineyards are equipped with sprinkler systems used to provide supplemental water when needed during extremely hot and dry summer days (usually in August and September), and to provide frost protection during the coldest parts of the spring (February to April). Water for supplemental irrigation is very seldom used because most fruit trees and grape vines have deep roots, and quality of the fruit is degraded with excess water. Similarly, frost protection is seldom needed and the number of days and hours of potential frost are highly variable each year, averaging about 80 hours per year. These pumps provide water to frost protection sprinklers, generally during the early morning hours.

CARB based its cost effectiveness analysis of the ATCM on "irrigation pumps" like those in the central valley, and did not consider "minor supplemental irrigation" or "frost protection" pumps. CARB staff assumed that most of these engines operated more than 1000 hours per year (which is normal for irrigation pumps). Engines that operate 1000 hours per year and are over 20 years old are typically near their end of useful life and would need to be rebuilt or replaced (assuming a typical ~20,000 hour life). However the lower usage (under 100 hours per year) supplemental irrigation and frost protection diesel engines do not wear out as quickly. Low-use agricultural diesel engines can have significant remaining life, and this loss of remaining life was not included in CARB's economic evaluation. In addition, emissions were overestimated based on assuming 1000 hours of operation per year. The cost of reducing emissions by replacing low-use agricultural pumps under the schedule in the ATCM is much higher than estimated by CARB.

1.5 PROJECT DESCRIPTION

The ATCM for stationary CI engines requires the replacement of all agricultural diesel engines in the District by the end of 2010 or 2011 (depending on their size). Regulation 11, Rule 17 would allow compliance through other options that are equivalent to the ATCM. Specific elements of the proposed rule are discussed below.

The District has been implementing CARB's ATCM since it was first approved in 2004. As required by the amendments effective October, 2007, all stationary agricultural diesel engines over 50 HP must be registered with the District. The District has registered

approximately 300 agricultural diesel engines to date. Over the three years since CARB's ATCM became effective for agricultural engines, affected farmers and District staff have commented to CARB staff that an exemption was needed for low-use agricultural diesel engines. After review and evaluation of potential options, District staff has developed a proposed rule that incorporates a combination of alternatives, including a very limited exemption for the least used engines, a compliance extension for low-use engines that would allow their replacement with Tier 4 engines over a longer period of time, and shorter time periods for certain engines to come into compliance.

A. Exemption for Very Low-Use Engines

Proposed Regulation 11, Rule 17 would exempt from emissions control requirements any agricultural engine that operates fewer than 20 hours per year, and is located more than 200 meters (about one-eighth mile) from a residential area, school, or health facility. This is consistent with the provisions currently included in the ATCM for emergency standby engines. The owner or operator of the exempt engine is required to maintain records of use to substantiate the exempt status.

B. Alternative Compliance Plan for Low-Use Engines

Under the proposed Regulation 11, Rule 17, the owner or operator of an agricultural diesel engine may apply for alternate compliance by petitioning the District for approval of a low-use Alternative Compliance Plan (low-use ACP). There are five criteria for an agricultural engine to be eligible for the low-use ACP:

- The engine must be used exclusively for an agricultural operation;
- The engine must be equipped with a non-resettable hour meter;
- The engine must be registered with the District's Agricultural Engine Registration Program;
- The engine must operate fewer than 100 hours per year;
- The engine must be located more than 200 meters from a residential area, school, or health facility. If the engine is located 200 meters or less from a residential area, school, or health facility, a Health Risk Screening Assessment approved by the District must document the health risk is less than 1 in a million.

If the low-use ACP is approved by the Air Pollution Control Officer (APCO), the engine may continue to operate for an extended period until the time it is required by District Regulation 11, Rule 17 to comply with the emissions standards of the ATCM. The proposed alternate deadlines for ATCM compliance are based on the engine Tier, as follows:

- Tier 0 engines may continue to operate for up to 100 hours per year until December 31, 2020.
- Tier 1 engines may continue to operate for up to 100 hours per year until December 31, 2020.
- Tier 2 engines may continue to operate for up to 100 hours per year until December 31, 2025.

Each engine must be replaced with the highest tier (lowest emissions) engine available for purchase at the time of replacement. The ACP deadlines are designed to enable replacement of existing engines with Tier 4 engines. In addition, the owner or operator of each engine must record its use and report it to the District each year at the time of registration / permit renewal.

Shortened Compliance Term for Engines No Longer Eligible for an Exemption or Low-Use ACP

CARB's ATCM provides a period of up to eighteen months for an agricultural engine that loses its exempt status to come into compliance with the otherwise applicable emissions standards. Proposed Regulation 11, Rule 17 shortens that period for engines that can no longer meet the requirement for an exemption or the terms of their approved low-use ACP. The proposed rule would allow six months to remove the engine from service or replace it with an engine that complies with the otherwise applicable standards.

Sources Affected by Proposed Regulation 11, Rule 17

There are currently three hundred three (303) agricultural engines registered with the District. The number of engines registered has increased approximately 10 percent since August, 2010. In August there were two hundred and seventy nine (279) agricultural engines registered with the District. Analysis of emissions, and potential emissions reductions were based on the 279 diesel engines in August. While there may be additional engines registered in the future, the existing inventory of registered engines that may be affected is as follows:

- 64 engines operate fewer than 20 hours per year and are potentially eligible to be exempted from control requirements. Four (4) of these engines are fueled by propane, so are already exempt. In addition, 12 of these appear to be located close to housing, a school or a health facility, so they may not qualify for the proposed exemption. Thus, approximately 48 additional engines are expected to be exempt.
- 90 engines operate more than 20 hours per year, but fewer than 100 hours per year, and may qualify for a low-use Alternate Compliance Plan. Three (3) of these engines are Tier 3 engines that already meet the emissions standards, and 3

more of these engines are fueled by propane so are already exempt. Thus, eighty four (84) may be eligible for the ACP.

Emissions Impacts of ATCM

The CARB ATCM has already had a significant impact on emissions. Mobile and prime use stationary diesel engines are being replaced with newer clean burning engines. Early replacement of agricultural diesel engines through use of incentives from the Carl Moyer Program and the Agricultural Assistance Program have resulted in 65 agricultural diesel engines with new cleaner burning diesel engines. Estimated emissions reductions from these 65 replacements engines are:

- Non-Methane Hydrocarbon 2.26 tons per year
- NO_x 23.73 tons per year
- Particulate Matter 0.89 tons per year

Emissions Impacts of Proposed Rule

Implementation of proposed Regulation 11, Rule 17 will delay fully achieving additional emissions reductions from low use agricultural engines up to 10 – 15 years, but will ultimately result in greater overall emissions reductions than anticipated by the ATCM, as shown in the table below. The low-use ACP provides the advantage of delaying replacement of agricultural diesel engines until Tier 4 engines are available. Replacement with Tier 4 engines provides the added benefit of even lower long-term emissions for the life of these replacement engines (typically more than 20 years).

Pollutant	Current Emissions	Emissions after Replacement per ATCM	Emissions after Replacement per Reg. 11-17
Non-methane Hydrocarbon (VOC)	1.05 tpy	0.49 tpy	0.16 tpy
Nitrogen Oxides (NO _x)	11.77 tpy	3.25 tpy	0.42 tpy
Particulate Matter (PM)	0.64 tpy	0.23 tpy	0.02 tpy

CHAPTER 2

ENVIRONMENTAL CHECKLIST FORM

Introduction
General Information
Potentially Significant Impact Areas
Determination
Environmental Checklist and Discussion

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

References

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 Amendments to Regulation 11, Rule 17.
Lead Agency Name:	Bay Area Air Quality Management District
Lead Agency Address:	939 Ellis Street San Francisco, California 94109
Contact Person:	Guy Gimlen
Contact Phone Number:	415-749-4734
Project Location:	This rule adoption 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:	Rule 11-17 applies to low-use stationary agricultural diesel engines.
Zoning:	Rule 11-17 applies to low-use stationary agricultural diesel engines in agricultural uses, primarily at orchards and vineyard throughout the District, which are primarily located in agricultural areas.
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 a "✓" 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.

- | | | |
|--|---|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input checked="" type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology / Soils |
| <input checked="" type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology / Water Quality |
| <input type="checkbox"/> Land Use / Planning | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise |
| <input type="checkbox"/> Population / Housing | <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Transportation / Traffic | <input type="checkbox"/> Utilities / Service Systems | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION

On the basis of this initial evaluation:

- I find the proposed project **COULD NOT** have a significant effect on the environment, and that a **NEGATIVE DECLARATION** will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be significant effects in this case because revisions 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
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I. AESTHETICS.

Would the project:

a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage to scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings along a scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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 rule adoption focuses on Toxic Air Contaminant (TAC) emissions from low-use stationary agricultural diesel engines in agricultural uses. Rule adoption for these low-use stationary diesel engines will affect a portion of the agriculture operations within the Bay Area, particularly those that operate as orchards and vineyards. It is not uncommon for scenic highways or corridors to be located in the vicinity of agricultural areas.

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 adoption of Regulation 11-17 would exempt or defer from emission control requirements compliance dates for specific low-use stationary diesel engines in agricultural uses based on engine size, hours of operation, and proximity to residences, schools or health care facilities in the Bay Area. The proposed rule is not expected to require the construction of any major new structures that would be visible to areas outside of existing agricultural boundaries, and is not expected to result in any adverse aesthetic impacts. Once implemented, the modifications would involve replacement of existing equipment with new equipment, which is expected to be the same size and location as existing equipment. The low-use stationary diesel engines affected by the proposed rule are located within existing agricultural areas within the Bay Area, which are not currently in areas that are in conflict with scenic vistas. The proposed Regulation 11-17 is not expected to require any construction activities, and is not expected to result in adverse aesthetic impacts. Therefore, the replacement of old equipment with new equipment within existing agricultural areas is not expected to generate significant adverse impacts on aesthetics. The proposed Regulation 11-17 would also not require any new sources of light or glare, since new equipment would largely replace existing equipment and light sources are not required for the use of diesel engines.

Conclusion

Based upon these considerations, no significant adverse aesthetic impacts are expected from the implementation of Regulation 11-17. Therefore, agricultural resources impacts will not be further analyzed in the EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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 adoption of Regulation 11-17 will affect low-use stationary agricultural diesel engines in existing agricultural areas within the Bay Area. Agricultural or forest resources are currently located within the areas affected by the proposed project in the Bay Area.

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 adoption of Regulation 11-17 would exempt or defer from emission control requirements compliance dates for specific low-use stationary diesel engines in agricultural uses based on engine size, hours of operation, and proximity to residences, schools or health care facilities in the Bay Area. The areas affected by the proposed project are located in agricultural areas where agricultural resources are located. Replacing existing equipment in agricultural areas will not require construction activities as these engines are generally portable. Any new equipment will be replacing equipment of similar size and configuration in existing agricultural applications, thus, no significant adverse impacts to agricultural and forest resources are expected as a result of the implementation of the proposed regulation.

Conclusion

Based upon these considerations, no significant adverse impacts on agricultural or forest resources are expected from the implementation of Regulation 11-17. Therefore, agricultural resources impacts will not be further analyzed in the EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Violate any air quality standard or contribute to an existing or projected air quality violation? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a non-attainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d) Expose sensitive receptors to substantial pollutant concentrations? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e) Create objectionable odors affecting a substantial number of people? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Setting

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties, and portion of southwestern Solano and southern Sonoma Counties.

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 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.

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.

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 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. The District is in attainment of the State and federal ambient air quality standards for CO, NO_x, and SO₂. The District is not considered to be in attainment with the federal and state ozone standards, and state PM₁₀ and PM_{2.5} standards.

Regulatory Background

Criteria Pollutants

The Clean Air Act (CAA) Amendments of 1990 give the U.S. EPA additional authority to require states to reduce emissions of ozone precursors and 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.

Discussion of Impacts

III a. Regulation 11-17 is being proposed as a local regulation that is equivalent to the ATCM for Stationary Compression Ignition Engines adopted by CARB for the same category of sources. Under Section 39666 of the H&SC, local air districts are charged with implementing and enforcing ATCMs that affect stationary sources. Section 39666 of the H&SC also allows districts to adopt equivalent or more stringent local rules for the same sources. When the ATCM was amended in 2006 to include stationary agricultural engines, agricultural interests raised concern about replacement of low-use diesel engines. CARB staff and staff from several air quality management districts in the state have been working together to identify acceptable equivalent local rules that resolve the concerns regarding these low-use agricultural diesel engines.

Implementation of proposed Regulation 11, Rule 17 will delay fully achieving some emissions reductions from low use agricultural engines up to 10 – 15 years, but will ultimately result in greater overall emissions reductions than anticipated by the ATCM. The low-use ACP provides the advantage of delaying replacement of agricultural diesel engines until Tier 4 engines are available.

Regulation 11-17 is not identified as a control measure in the 2010 Clean Air Plan, therefore, the proposed rule will not conflict with an applicable air plan. Replacement of these engines by the years 2020 through 2025 provides the added benefit of even lower long-term emissions for the life of these replacement engines (typically more than 20 years).

III b, c. Implementation of proposed Regulation 11, Rule 17 will delay fully achieving some emissions reductions from low use agricultural engines up to 10 – 15 years. The proposed regulation will ultimately result in greater overall emissions reductions than anticipated by the ATCM; however, during certain interim years certain specified engines will be allowed to continue operations at higher emission limits than currently allowed by the ATCM. Because of the number of agricultural engines currently in operation, the emissions reductions postponed during interim years are potentially significant and will be evaluated in the EIR.

III d. Agricultural operations are expected to comply with Regulation 11, Rule 17 by the replacement of older low-use stationary diesel engines with new diesel engines. In order to comply with the proposed regulation, agricultural diesel engines must operate less than 100 hours per year and be located more than 200 meters (about one-eighth mile) from residential areas, schools, and health care facilities (unless a health risk screening assessment indicates a health risk less than one per million). Engines that do not meet these requirements are not eligible for the delay in engine replacement. Most, if not all, engines affected by the proposed rule are located in lightly populated areas. Engines eligible for an alternative compliance plan (ACP) under the proposed rule would operate on a very limited basis and would be located at least 200 meters from a residential area, school, or health facility. It is not anticipated that the proposed rule would result in

sensitive receptors being exposed to substantial pollutant concentrations. The EIR will examine this potential impact, however, to assure that any such potential impact is considered.

III e. The proposed project is not expected to result in an increase in odors. Affected agricultural operations are expected to comply by replacing existing low-use stationary diesel engines. While the replacement low-use stationary diesel engines will produce less PM and NOx emissions, they will continue to be fueled with diesel, which will not change the fuel source, the hours of use, or result in an increase in odors produced during operation. Potential odor impacts associated with the adoption of proposed Regulation 11-17 are not expected to be significant.

Conclusion

Based upon these considerations, the potentially significant adverse air quality impacts associated with the delay in compliance of up to 10-15 years for some diesel engines will be evaluated in the EIR. The emission impacts during the interim years will be evaluated to determine if air quality impacts would be significant.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

- | | | | | | |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) | Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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 project are located within existing agricultural areas within the Bay Area. The affected areas have been graded to develop various agricultural operations. Native vegetation has generally been removed from agricultural areas to accommodate agricultural species.

Regulatory Background

Biological resources are generally protected by the City and/or County General Plans through land use and zoning requirements which minimize or prohibit development in biologically sensitive areas. Biological resources are also protected by the California Department of Fish and Game, and the U.S. Fish and Wildlife Service. The U.S Fish and Wildlife Service and National Marine Fisheries Service oversee the federal Endangered Species Act. Development permits may be required from one or both of these agencies if development would impact rare or endangered species. The California Department of Fish and Game administers the California Endangered Species Act which prohibits impacting endangered and threatened species. The U.S. Army Corps of Engineers and the U.S. EPA regulate the discharge of dredge or fill material into waters of the United States, including wetlands.

Discussion of Impacts

IV a – f. No impacts on biological resources are anticipated from the proposed rule adoption which would apply to existing equipment in agricultural areas. Existing equipment affected by the proposed project is located within agricultural areas, which do not typically include sensitive biological species. The agricultural areas have been graded and developed for agricultural applications, and native biological resources (other than crops) have been removed. There are no construction activities associated with the proposed adoption of Regulation 11-17 as existing diesel engines would only need to be replaced and no development outside of existing areas is expected.

Conclusion

Based upon these considerations, no significant adverse biological impacts are expected from the implementation of Regulation 11-17. Therefore, biological resource impacts will not be further analyzed in the EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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V. CULTURAL RESOURCES.

Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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 new equipment affected by the proposed rule amendments are within agricultural areas located in the Bay Area. These areas have already been graded to allow for agricultural operations. These areas generally have been used to support agricultural operations for many decades.

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 rule adoption that would apply to low-use stationary diesel engines used for agricultural purposes. The equipment affected by the proposed project already exists and would be replaced. Any replacement of existing equipment with new equipment would occur within the boundaries of existing agricultural operations. The existing areas have been graded and developed for agricultural purposes. No new construction would be required due to the adoption of the proposed Regulation 11-17. Therefore, no significant adverse impacts to cultural resources are expected due to the proposed adoption of Regulation 11-17.

Conclusion

Based upon these considerations, no significant adverse impacts to cultural resources are expected from the adoption of the proposed Regulation 11-17. Therefore, cultural resources impacts will not be further analyzed in the EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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VI. GEOLOGY / 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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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 rule amendments are located in agricultural areas within the Bay Area.

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 equipment affected by the proposed project already exists and is located within agricultural areas. No new construction activities are expected to be required as a result of adopting the proposed Regulation 11-17, rather, old equipment would be required to be placed with new equipment. Since no new structures will be required to be built as a result of the adoption of Regulation 11-17, permits complying with the Uniform Building Code will not be required and no new structures would be subject to the effects of ground shaking. Since no new construction is required as a result of Regulation 11-17, no significant impacts from seismic hazards are expected.

VII b. No new construction activities would be required due to the adoption of Regulation 11-17. Equipment affected by the proposed project already exists and is located within the confines of existing agricultural operations. Any new equipment would be installed within the agricultural areas in the same or similar locations. Therefore, the proposed project is not expected to result in substantial soil erosion or the loss of topsoil as no major construction activities would be required.

VII c – e. The equipment affected by the proposed project already exists and no major construction activities are required to replace existing diesel engines. Therefore, the proposed project will not require construction activities 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, since no construction is required, 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. Since no construction would be required, the proposed project 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, thus, the proposed project is not expected to have significant impacts on wastewater treatment/disposal systems. Therefore, no adverse significant impacts to geology and soils are expected due to the proposed adoption of Regulation 11-17.

Conclusion

Based upon these considerations, no significant geology and soils impacts are expected from the adoption and implementation of Regulation 11-17. Therefore, geology/soils impacts will not be further analyzed in the EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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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? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
-

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 CO₂, methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), 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. Approximately 80 percent of GHG emissions in California are from fossil fuel combustion and over 70 percent of GHG emissions are carbon dioxide emissions.

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 2006, Governor Schwarzenegger signed California's Global Warming Solutions Act of 2006 (AB32). AB32 required 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.

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 CO₂ 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.

Discussion of Impacts

VII a., b. The proposed project would delay the implementation of CARB's ATCM for certain low use diesel engines in agricultural uses. Implementation of the ATCM or the proposed regulation is not expected to result in a significant increase in GHG emissions. The proposed regulation would result in the use of more Tier 4 diesel engines reducing the overall particulate matter emissions. However, additional Tier 4 diesel engines could result in a slight increase in GHG emissions if additional air pollution control equipment and/or engine design resulted in a potential loss of engine efficiency and a potential increase in GHG emissions. The potential GHG impacts will be further evaluated in the EIR.

Conclusion

Based upon these considerations, greenhouse gas and climate change impacts will be further analyzed in the EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Setting

The affected agricultural operations affected by the proposed project do not handle and or process large quantities of flammable, hazardous, and acutely hazardous materials. Agricultural operations that use diesel engines handle and transport diesel fuel. Diesel fuel is considered to be a combustible liquid with a moderate fire hazard. Vapors may be ignited rapidly when exposed to heat, spark, open flame or other ignition source. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to the sewer may cause fire or explosion hazard.

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 project are generally located in agricultural 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.

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.

Discussion of Impacts

VIII a - c. It is expected that the proposed adoption of Regulation 11-17 will lead to the replacement of low-use stationary diesel engines with newer diesel engines of similar size. Diesel engines use diesel fuel which is a hazardous material. The proposed regulation is not expected to change or increase the potential hazards associated with the use of diesel fuels. Therefore, the proposed project will not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Further, the proposed project will not create a significant increase in hazards to the public in the event of an upset or accident involving the release of hazardous materials into the environment.

Finally, the proposed project would not increase hazardous emissions or handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. In order to comply with the proposed regulation, agricultural diesel engines must operate less than 100 hours per year and be located more than 200 meters (about one-quarter mile) from residential areas, schools, and health care facilities (unless a health risk screening assessment indicates a health risk less than one per million). Engines that do not meet these requirements are not eligible for the delay in engine replacement.

Therefore, the proposed adoption of Rule 11-17 is not expected to generate significant adverse hazard impacts as it is not expected to increase the use of diesel fuel, or any other hazardous material.

VIII d. No impacts on hazardous material sites are anticipated from the proposed project. Operating agricultural areas are generally not located on the hazardous materials sites list pursuant to Government Code Section 65962.5. Additionally, the proposed project would have no affect on hazardous materials nor would the proposed project create a significant hazard to the public or environment. Low-use stationary diesel engines already exist and are located at existing agricultural operations. The proposed project 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.

VIII e – f. No impacts on airports or airport land use plans are anticipated from the adoption of Regulation 11-17. The low-use stationary diesel engines already exist and are located within the confines agricultural operations. Once the proposed project is implemented, agricultural operations would be expected to comply by replacing existing low-use stationary diesel engines with new ones. These changes are expected to be made within the confines of existing agricultural areas. No development outside of existing agricultural operations is expected to be required as a result of the adoption of Regulation 11-17. Therefore, no significant adverse impacts on an airport land use plan or on a private air strip are expected.

VIII g. No impacts on emergency response plans are anticipated from the proposed project that would apply to existing agricultural operations. The low-use stationary diesel engines already exist and are located within the confines of existing agricultural operations. The proposed project neither requires, nor is likely to result in, activities that would impact any emergency response plan, therefore, no significant adverse impacts on emergency response plans are expected.

VIII h. No increase in hazards related to wildfires are anticipated from the proposed project. The low-use stationary diesel engines affected by the proposed project already exist and are located within the confines of existing agricultural operations. The proposed project will not increase the use of diesel fuel or any other flammable materials. Native vegetation has been removed from the agricultural areas to accommodate crops. Therefore, no increase in exposure to wildfires will occur due to the proposed adoption of Regulation 11-17.

Conclusion

Based upon these considerations, no significant adverse hazards and hazardous materials impacts are expected from the adoption of Regulation 11-17. Therefore, hazards and hazardous material impacts will not be further analyzed in the EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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IX. HYDROLOGY / 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f)	Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h)	Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j)	Inundation by seiche, tsunامي, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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 agricultural operations affected by the proposed Regulation 11-17 are located throughout the District. Affected areas are generally surrounded by other agricultural operations. 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 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 State of California, through the State Water Resources Control Board (SWRCB), has authority to issue NPDES permits, which meet U.S. EPA requirements, to specified industries.

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. 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.

Discussion of Impacts

IX a, f. No significant adverse impacts on hydrology and water quality resources are anticipated from the proposed project, which would apply to existing low-use agricultural diesel engines. Diesel engines are not a source of water use or wastewater generation. Therefore, the proposed project would not require additional water use or an increase in wastewater discharged. Therefore, no violation of any water quality standards or waste discharge requirements, and no decrease in water quality is expected from adoption of the proposed Regulation 11-17.

IX b. The low-use stationary diesel engines affected by the proposed project already exist and are located within existing agricultural areas. The proposed adoption of Regulation 11-17 will not require additional water use. Therefore, the proposed project is not expected to deplete groundwater supplies or interfere with groundwater recharge. Therefore, no significant impacts on groundwater supplies are expected due to the adoption of proposed Regulation 11-17.

IX c - e Agricultural operations are expected to comply with the proposed Regulation 11-17 by replacing existing low-use stationary diesel engines with new engines. No construction activities outside are expected to be required and no increase in paved areas are expected. Therefore the proposed project 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. Nor would the proposed project create or contribute additional runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. The proposed project is not expected to substantially degrade water quality. Therefore, no significant adverse impacts to storm water runoff are expected.

IX g – i. The low-use stationary diesel engines affected by the proposed project are located within agricultural areas. No major construction activities are expected due to the adoption of the proposed Regulation 11-17. The proposed Regulation would not result in the construction on any housing or place houses within a 100-year flood plain. Diesel engines are generally portable and can be easily moved to avoid areas subject to flowing. The proposed project 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.

IX j. The agricultural operations affected by the proposed project are located within agricultural areas. No construction activities are expected due to the adoption of the proposed Regulation 11-17. The proposed project 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.

Conclusions

Based upon these considerations, no significant adverse hydrology and water quality impacts are expected from the implementation of the proposed Regulation 11-17. Therefore, hydrology and water quality impacts will not be further analyzed in the EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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X. LAND USE / PLANNING.

Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Physically divide an established community? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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 rule amendments are primarily located in agricultural 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

X a-c. The low-use stationary diesel engines affected by the proposed project already exist and are located within existing agricultural areas. The agricultural operations are expected to comply with Regulation 11-17 by replacing existing equipment with new stationary diesel engines. No construction activities and no land use impacts are expected as a result of the proposed project.

Conclusion

Based upon these considerations, no significant adverse land use impacts are expected from the adoption of the proposed Regulation 11-17. Therefore, land use impacts will not be further analyzed in the EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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 operations affected by the proposed rule amendments are primarily located in agricultural 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

XI a-b. The low-use stationary diesel engines affected by the proposed project already exist and are located within existing agricultural areas. The affected engines are not expected to require any construction activities or impact any mineral resources. The proposed project 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.

Conclusion

Based upon these considerations, significant mineral resource impacts are not expected from the adoption of the proposed Regulation 11-17. Therefore, mineral resource impacts will not be further analyzed in the EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Expose persons to or generate of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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 project are located in agricultural areas of the Bay Area, which are generally surrounded by other agricultural operations.

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

XII a-d. The low-use stationary diesel engines affected by the proposed project already exist and are located within the confines of existing agricultural operations. The proposed rule would exempt or defer from emission control requirements compliance dates for specific low-use stationary diesel engines in agricultural uses based on engine size, hours of operation, and proximity to residences, schools or health care facilities in the Bay Area. Compliance will be achieved in the form of replacement of existing low-use stationary diesel engines with new equipment.

No construction activities are expected as a result of adopting Regulation 11-17. Therefore, noise related to construction activities would not be associated with the proposed project.

Proposed Regulation 11-17 would required the replacement of certain low-use diesel engines. The proposed regulation would not result in an increase in the number of diesel engines or an increase in size of the diesel engines. It is expected that each agricultural operation 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. Any new replacement diesel engine is expected to operate at similar noise levels as existing equipment, so no increase in noise levels is expected. Therefore, no significant adverse impacts to noise are expected due to the proposed project.

It is also not anticipated that new low-use stationary diesel engines will cause an increase in groundborne vibration levels because such engines are not typically vibration intensive equipment. Consequently, the proposed project will not directly or indirectly cause substantial noise or excessive groundborne vibration impacts.

The proposed project would not substantially increase ambient noise levels from stationary sources, either intermittently or permanently. Therefore, noise impacts associated with the proposed regulation are expected to be less than significant.

XII e-f. If applicable, the agricultural operations would still be expected to comply, and not interfere, with any applicable airport land use plans. Regulation 11-17 would require the replacement of certain existing diesel engines with newer engines and would not result in an increase in noise or impact an airport land use plan. All noise producing equipment must comply with local noise ordinances and applicable OSHA or Cal/OSHA workplace noise reduction requirements.

Conclusion

Based upon these considerations, significant noise impacts are not expected from the adoption of the proposed Regulation 11-17. Therefore, noise impacts will not be further analyzed in the EIR.

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
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XIII. POPULATION / 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)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Displace a substantial number of people, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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 project are located throughout the area 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

XIII a. No construction activities associated with Regulation 11-17 are expected, thus, relocation of individuals, the requirement new housing or commercial facilities, or changes to the distribution of the population is not anticipated. Further, replacing existing equipment with new equipment will not require any new employees. Human population within the jurisdiction of the BAAQMD is anticipated to grow regardless of implementing the proposed project. As a result, the proposed project is not anticipated to generate any significant adverse effects, either direct or indirect, on population growth in the district or population distribution.

XIII b-c. Because the proposed project would require equipment replacement at existing agricultural operations, 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.

Conclusions

Based upon these considerations, significant population and housing impacts are not expected from the adoption of proposed Regulation 11-17. Therefore, population and housing impacts will not be further analyzed in the EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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XIV. 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 project are primarily located in agricultural 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

XIV a. Implementation of the proposed project is anticipated to continue current agricultural operations. The proposed project is not expected to result in an increased use of hazardous materials (e.g., diesel fuel) that would require attention from fire or police departments in the event of an incident. In the event of an accident, 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 of the low probability of accidents that pertain to existing equipment as well as new low-use stationary diesel engines. Therefore, the proposed project is not expected to increase the demand for additional public services (e.g., fire departments, police departments, local government, etc.) 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 no construction activities are anticipated at affected agricultural operations, and operation of existing or new

equipment 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.

Conclusion

Based upon these considerations, significant public services impacts are not expected from the adoption of proposed Regulation 11-17. Therefore, public services impacts will not be further analyzed in the EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
-

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 project are located in agricultural 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

XV 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 project. Any required new low-use stationary diesel engines would be installed within the confines of the existing agricultural operations, so no changes in land use would be required. Further, the proposed project would not increase population growth and would not impact existing neighborhood and regional parks or other recreational facilities, or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. Therefore, no significant adverse impacts on recreation are expected.

Conclusion

Based upon these considerations, significant recreation impacts are not expected from the adoption of proposed Regulation 11-17. Therefore, recreation impacts will not be further analyzed in the EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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 by the county congestion management agency for designated roads or highways? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Result in a change in air traffic patterns, including either an increase in traffic levels or a | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Result in inadequate emergency access? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Setting

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.

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

XVI a-b. No construction activities resulting from adoption of proposed Regulation 11-17 are anticipated, and would not require an increase in workers or require any substantial equipment. The proposed project is not expected to cause an increase in traffic at any agricultural operations, or require any additional employees. Therefore, traffic associated with the proposed project is not expected to exceed, either individually or cumulatively, the current level of service at any intersection. The work force at each affected agricultural operation is not expected to increase as a result of the proposed project and no increase in operation-related traffic is expected. Thus, no traffic impacts are expected due to the proposed project.

XVI c. Though some of the operations 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 (replacing existing low-use stationary diesel engines with new engines) would not influence or affect air traffic patterns. Further, the existing diesel engines would be replaced with new diesel engines of the size and type. Diesel engines are low in profile and height and would not 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 of equipment that could result in safety risks.

XVI d - e. The proposed project will not result in an increase in traffic at agricultural operations. Therefore, the proposed project will not increase traffic hazards or change the design of any roadway, or result in incompatible uses. All low-use stationary diesel engine replacement will occur within the confines of the existing agricultural operations. The proposed project is not expected to alter the existing long-term circulation patterns or create long-term impacts on the traffic circulation system. The proposed project does not involve construction of any roadways, so there would be no change in a roadway design feature that could increase traffic hazards. Emergency access would not be impacted by the proposed project as no change in traffic, access, or circulation is required.

XVI f. Operational activities resulting from the proposed project are 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 agricultural areas.

Conclusion

Based upon these considerations, significant transportation/traffic impacts are not expected from the adoption of proposed Regulation 11-17. Therefore, transportation/traffic impacts will not be further analyzed in the EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less-than- Significant Impact	No Impact
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XVII. UTILITIES / SERVICE SYSTEMS.

Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements needed? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Comply with federal, state, and local statutes and regulations related to solid waste? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Setting

Given the large area covered by the BAAQMD, public utilities are provided by a wide variety of local agencies. 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.

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

XVII a, b, d and e. The proposed project would not result in the use of any additional water or an increase in any wastewater generated at agricultural operations as diesel engines do not consume water or generate wastewater. Therefore, no impacts on wastewater treatment requirements or wastewater treatment facilities are expected.

XVII c. Agricultural operations are expected to comply with the proposed project by replacing existing low-use stationary diesel engines. The proposed project does not require construction activities or will result in an increase in paved surfaces. Therefore, the proposed project would not alter existing drainage or require the construction of new storm water drainage facilities. Nor is the proposed project 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.

XVII f and g. The proposed project would not affect the ability of agricultural operations 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 project, since the proposed project would replace equipment over a period of years. The proposed regulations would allow the replacement of certain low-use diesel engines equipment at the end of its life, as opposed to early retirement, so that no additional waste is expected to be generated. Waste associated with old engines is generally limited to metal and metals are usually recycled so no significant impact to land disposal facilities would be expected.

The proposed regulation would not generate any additional hazardous materials or hazardous waste from Low-use stationary diesel engines, so no significant impacts to hazardous waste disposal facilities are expected due to the proposed project. All operations are expected to continue to comply with all applicable federal, state, and local statutes and regulations related to solid and hazardous wastes.

Conclusion

Based upon these considerations, significant impacts to utilities and service systems are not expected from the adoption of proposed Regulation 11-17. Therefore, impacts to utilities and service systems will not be further analyzed in the EIR.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
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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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

XVIII MANDATORY FINDINGS OF SIGNIFICANCE

Discussion of Impacts

XVIII a. The proposed Regulation 11-17 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 project is expected to result in emission reductions from agricultural operations, thus providing a beneficial air quality impact and improvement in air quality. Further, equipment replacement would occur within the confines of existing agricultural operations, which have already been graded and disturbed. As discussed in Section IV, Biological Resources and Section V, Cultural Resources, no significant adverse impacts are expected to biological or cultural resources.

XVIII b-c. The proposed project is expected to result in replacement of existing low-use stationary diesel engines with new low-use stationary diesel engines. The proposed project is part of a long-term program to bring the Bay Area into compliance with the state ambient air quality standards for PM and reduce exposure to diesel particulates, a toxic air contaminant, thus reducing the potential health impacts due to PM exposure. Implementation of proposed Regulation 11, Rule 17 will delay fully achieving some emissions reductions from low use agricultural engines up to 10 – 15 years. The proposed regulation will ultimately result in greater overall emissions reductions than anticipated by the ATCM; however, during certain interim years certain specified engines will be allowed to continue operations at higher emission limits than currently allowed by the ACTM. Because of the number of agricultural engines currently in operation, the emissions reductions postponed during interim years are potentially significant and will be evaluated in the EIR.

Most, if not all, engines affected by the proposed rule are located in lightly populated areas. Engines eligible for an alternative compliance plan (ACP) under the proposed rule would operate on a very limited basis and would be located at least 200 meters from a residential area, school, or health facility. It is not anticipated that the proposed rule would result in sensitive receptors being exposed to substantial pollutant concentrations. The EIR will examine this potential impact, however, to assure that any such potential impact is considered.

Implementation of the ATCM or the proposed regulation is not expected to result in a significant increase in GHG emissions. The proposed regulation would result in the use of more Tier 4 diesel engines reducing the overall particulate matter emissions. However, additional Tier 4 diesel engines could result in a slight increase in GHG emissions if additional air pollution control equipment and/or engine design resulted in a potential loss of engine efficiency and a potential increase in GHG emissions. The potential GHG impacts will be further evaluated in the EIR.

References

- BAAQMD, 2006. Bay Area 2005 Ozone Strategy, January 4, 2006.
- BAAQMD, 2010. 2010 Clean Air Plan, September, 2010.
- BAAQMD, 2010. BAAQD Regulation 11, Rule 17, Limited Use Stationary Compression Ignition (Diesel) Engines in Agricultural Use, Workshop Report, October 2010.
- CARB, 2007. Staff Report; California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit, Appendix A-1, November 16, 2007.
- CARB, 2009. "California Greenhouse Gas Inventory for 2000-2006 — Summary by IPCC Category." March 13, 2009.
http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_ipcc_00-06_sum_2009-03-13.pdf (August 24, 2009).
- Northern Sonoma County APCD, Regulation 3, Rule 8: Airborne Toxic Control Measure for Stationary Compression Ignition (CI) Engines

Appendix B

Air Toxics and GHG analysis

Appendix B BAAQMD Rule 11-17 Health Risk Analysis

CARB HARP Model Results⁽¹⁾

Engine Type	100 hp		175 hp		500 hp	
	Risk (per million)	PM2.5 GLC (mg/m ³)	Risk (per million)	PM2.5 GLC (mg/m ³)	Risk (per million)	PM2.5 GLC (mg/m ³)
Baseline (Current Emissions) - Tier 0 Engines	0.502	1.58E-03	0.73	2.29E-03	1.32	4.14E-03
Proposed Project (Full Implementation) - Tier 4 Engines	0.0050	1.58E-05	0.0073	2.29E-05	0.0132	4.14E-05
ACTM - Tier 3 Engines	0.11	3.47E-04	0.109	3.44E-04	0.198	6.21E-04
Proposed Project (Delayed Implementation) ⁽²⁾	0.0689		0.1002		0.1812	

(1) Using Screen 3 met data file available in the HARP model.

(2) Assumes exposure to emissions from Tier 0 for 9 years and exposure to emission from Tier 4 for 61 years.

Significance Evaluation	100 hp		175 hp		500 hp	
	Cancer Risk (per million)	PM2.5 GLC (mg/m ³)	Cancer Risk (per million)	PM2.5 GLC (mg/m ³)	Cancer Risk (per million)	PM2.5 GLC (mg/m ³)
Baseline (Current Emissions) - Tier 0 Engines	0.5020	0.0016	0.7300	0.0023	1.3200	0.0041
Proposed Project (Full Implementation) - Tier 4 Engines	0.0050	0.0000	0.0073	0.0000	0.0132	0.0000
Change ⁽¹⁾	-0.4970	-0.0016	-0.7227	-0.0023	-1.3068	-0.0041
ACTM - Tier 3 Engines	0.11	3.47E-04	0.109	3.44E-04	0.198	6.21E-04
Proposed Project (Delayed Implementation)	0.0689		0.1002		0.1812	
Risk Increase During Delay ⁽²⁾	-0.0411		-0.0088		-0.0168	0.0035
PM2.5 GLC During Delay ⁽³⁾		0.0012		0.0019		0.0035
Significance Threshold	10	0.3	10	0.3	10	0.3
Significant?	No	No	No	No	No	No

(1) Baseline compared to full implementation of proposed rule emissions.

(2) ACTM compared to delayed implementation of proposed rule emissions (2011-2020)

(3) Comparison of PM2.5 GLC during delay from 2011-2020.

Appendix B BAAQMD Rule 11-17 GHG Analysis

GHG Analysis for Low Use Agricultural Engines

GHG	EF (kg/mmbtu)	Global Warming Potential	CO2eq (kg/yr)	Baseline CO2eq (tonnes/yr)	Proposed Rule CO2eq (tonnes/yr)	Increase of CO2eq (tonnes/yr)
CO2	73.1	1	72,628,243.14	72,628.24	73,354.53	726.28
CH4	0.003	21	62,593.42	62.59	63.22	0.63
N2O	0.0006	310	184,799.63	184.80	186.65	1.85
CO2eq - Registered Low Use Engines				72,875.64	73,604.39	728.76
CO2eq - Unregistered Low Use Engines				145,751.27	147,208.79	1,457.51
CO2eq - Registered and Unregistered Low Use Engines				218,626.91	220,813.18	2,186.27

Parameters and Assumptions

Baseline values are based on registered 2010 agricultural engine data.

Low use assumes 100 or fewer hours of operation.

Total Baseline Low Use Agricultural Engines Power in Horsepower

27537.90 HP

Total Baseline Low Use Agricultural Engines Power in BTU/hr

70130769.93 BTU/hr

Total Baseline Low Use Agricultural Engines Power in mmBTU/hr

70.13 mmBTU/hr

Total Baseline Operating Time for Low Use Agricultural Engines

5751.82 hours

Total Baseline Power Output of Low Use Agricultural Engines

403379.85 mmBTU

Typical Diesel Engine Efficiency (http://en.wikipedia.org/wiki/Brake_specific_fuel_consumption)

40.6% of Fuel Input

Total Heating Value of Fuel Consumed

993546.42 mmBTU

Fuel Efficiency Loss of Tier 4 Engines

1% of baseline

Appendix B BAAQMD Rule 11-17

Diesel PM Cancer Risk Value vs Distance Baseline

Distance (ft)	100HP	175HP	250HP	500HP
100	1.83E-06	9.91E-07	7.41E-07	1.49E-07
200	2.58E-06	2.54E-06	2.68E-06	1.52E-06
300	2.08E-06	2.37E-06	2.69E-06	2.38E-06
400	1.6E-06	1.98E-06	2.35E-06	2.4E-06
500	1.25E-06	1.63E-06	1.99E-06	2.24E-06
600	9.94E-07	1.35E-06	1.68E-06	2.03E-06
700	8.14E-07	1.13E-06	1.43E-06	1.82E-06
800	6.81E-07	9.67E-07	1.23E-06	1.63E-06
900	5.8E-07	8.35E-07	1.07E-06	1.46E-06
1000	5.02E-07	7.3E-07	9.44E-07	1.32E-06

Appendix B
BAAQMD Rule 11-17

Diesel PM Cancer Risk Value vs Distance
ACTM

Distance (ft)	100HP	175HP	250HP	500HP
100	4.03E-07	1.49E-07	1.11E-07	2.24E-08
200	5.67E-07	3.8E-07	4.02E-07	2.27E-07
300	4.57E-07	3.55E-07	4.04E-07	3.57E-07
400	3.52E-07	2.97E-07	3.52E-07	3.6E-07
500	2.74E-07	2.44E-07	2.98E-07	3.36E-07
600	2.19E-07	2.03E-07	2.52E-07	3.04E-07
700	1.79E-07	1.7E-07	2.15E-07	2.73E-07
800	1.5E-07	1.45E-07	1.85E-07	2.44E-07
900	1.28E-07	1.25E-07	1.61E-07	2.19E-07
1000	1.1E-07	1.09E-07	1.42E-07	1.98E-07

Appendix B BAAQMD Rule 11-17

Diesel PM Cancer Risk Value vs Distance Proposed Project

Distance (ft)	100HP	175HP	250HP	500HP
100	1.83E-08	9.91E-09	7.41E-09	1.49E-09
200	2.58E-08	2.54E-08	2.68E-08	1.52E-08
300	2.08E-08	2.37E-08	2.69E-08	2.38E-08
400	1.6E-08	1.98E-08	2.35E-08	2.4E-08
500	1.25E-08	1.63E-08	1.99E-08	2.24E-08
600	9.94E-09	1.35E-08	1.68E-08	2.03E-08
700	8.14E-09	1.13E-08	1.43E-08	1.82E-08
800	6.81E-09	9.67E-09	1.23E-08	1.63E-08
900	5.8E-09	8.35E-09	1.07E-08	1.46E-08
1000	5.02E-09	7.3E-09	9.44E-09	1.32E-08

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Memorandum

To: Chairperson Tom Bates and Members
of the Board of Directors

From: Jack P. Broadbent
Executive Officer/APCO

Date: May 11, 2011

Re: Overview of Strategic Facilities Planning for a Joint Regional Agency Co-
Location Facility

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

The Strategic Facility Planning project is a multi-phased project that has been instrumental in determining recommendations and has resulted in a multi-agency project with the Metropolitan Transportation Commission (MTC), the Association of Bay Area Governments (ABAG) and potentially the Bay Conservation and Development Commission (BCDC) .

At a January 21, 2009 Board of Directors' Retreat, the Board discussed its strategic vision and objectives, one of which was to "implement best practices in environmental stewardship in Air District operations." The Board of Directors discussed the relative energy inefficiencies of the Air District headquarters.

Separately, in December 2008, Air District staff initiated a request for proposal (RFP) for a strategic facilities planning analysis as a prerequisite to any decision about major capital expenditures for repairs and upgrades to the Air District headquarters. A request for proposal was issued for Phase I of the project and Hellmuth, Obata + Kassabaum, Inc. (HOK) Advanced Strategies was selected in a competitive bid process to conduct visioning and data gathering for the project. Phase I work on the project was completed in November 2009.

Phase II of the strategic facilities planning project began in 2009 and was completed in 2010; the primary objective of Phase II was to explore alternative headquarter solutions and develop a real estate headquarter strategy that best aligned with the Air District, MTC and ABAG's business and financial objectives as well as operational needs. After a very competitive selection process including consultation with MTC and ABAG, a contract was awarded to CB Richard Ellis (CBRE) to provide Real Estate Brokerage Advisory Services.

CBRE conducted an analysis of each agency's existing facilities, operational requirements, sustainability and environmental and financial objectives. CBRE also developed real estate scenarios and conducted preliminary research of the Oakland and San Francisco markets.

The Phase II Study Findings and Recommendations from CBRE were presented to each of the three agencies' governing Boards for further discussion and approval of next steps in December 2010. The Air District, MTC and ABAG Board and Commissioners unanimously approved moving forward with the next phase of the joint facility strategy to identify specific market options in Oakland and San Francisco with MTC as the lead agency in this phase; and to report back to each of the governing boards in the Spring.

On January 26, 2011, the MTC authorized staff to enter into a contract with CBRE to provide commercial real estate services, with compensation in the form of a commission paid by the seller and fully contingent upon the close of escrow services. The contract will include optional services to be separately paid for by each agency if such agency elects in its sole discretion to use services for: 1) project management, and 2) disposition of existing assets, should a real estate transaction be approved.

DISCUSSION

The objective of the Joint Regional Agency Co-Location project is to identify viable real estate option(s) in the City of Oakland and City and County of San Francisco within a half mile of BART and close proximity to other major forms of public transportation for the co-location of the Air District, the MTC and the ABAG.

On March 14, 2011, CBRE distributed, via email and a dedicated webpage (www.cbre.com/regionalfacility) a RFP to owners, developers, brokerage firms and other interested parties seeking proposals that met criteria as listed in Attachment A. The closing date for submittal of proposals was April 1, 2011. CBRE received 11 proposals containing 12 options. CBRE has completed initial due diligence assessments to confirm the merits of each proposal.

CBRE will present its findings and short-list recommendations in closed session to each agency's governing board for consideration. The Air District will consider CBRE's findings and short list at its May 18, 2011 meeting; the ABAG Commission will meet and consider the findings and short list at its May 19, 2011 meeting and the Bay Area Toll Authority and MTC will consider the findings and short list at its May 25, 2011 meeting. Upon authorization to proceed from each of the three agencies, CBRE will commence real estate negotiations with one or more of the following properties resulting in a non-binding Letter of Intent:

- 1945 Broadway Street, Oakland CA: Sears Development Company, to be developed with Phelps Development and SUDA (Owner)
- 1221 Broadway Street, Oakland CA: The Clorox Company (Owner)
- 1100 Broadway Street, Oakland CA: SKS Investments, LLC (Owner)
- 875 Stevenson Street, San Francisco, CA: Shorenstein Realty Services, LP (Owner)

- 390 Main Street, San Francisco, CA: Angelo, Gordon & Co., L>P> Amerimar Enterprises, Inc and Barnes RHPO Partners, LLC (Joint Venture)

CBRE will then present the proposed terms and conditions for the recommended final option in closed session for review and approval by all three governing boards at future board meetings.

BUDGET CONSIDERATION/FINANCIAL IMPACT

Commercial Brokerage fees for Transactional Services will be through commercial real estate brokerage commissions paid by third party associations (building owners or agents) upon successful completion of a transaction.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Mary Ann Okpalaugo
Reviewed by: Jack Colbourn

Attachment A

Property Criteria

The proposed properties must meet criteria from both occupancy and financing perspectives as described in section II, and such other factors as the Agency[ies] deem appropriate.

A. Project Size

- The building must be 350,000 rentable sq. ft. or greater

B. Contiguous Availability

- There must be 150,000 – 200,000 usable sq. ft. of contiguous space available for near-term occupancy with the balance of the building available for development of long-term future government purposes

C. Occupancy Timelines

- The contiguous space should be available for occupancy within 24 months
 - Longer occupancy timelines may be considered

D. Location

- The property is located within the city of Oakland or San Francisco
- The property is located within ½ mile of BART and other major forms of mass public transit

E. Public Meeting Space

- The property must allow for Public Assembly
- The property must accommodate one or more boardrooms for public meetings (minimum 3,500 square feet) of up to 38 public officials

F. Code Compliance

- The property must meet or be able to meet current Seismic, ADA and other code compliance without extraordinary cost

G. LEED

- The property must have the ability to achieve LEED qualifications/certification

H. Purchase Option

- The preference is for an immediate purchase
 - Short-term leases with a fixed purchase option may be considered