



BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

## BOARD OF DIRECTORS' REGULAR MEETING

November 19, 2008

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

### Questions About an Agenda Item

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

### Meeting Procedures

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

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

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

WEDNESDAY  
NOVEMBER 19, 2008  
9:45 A.M.

BOARD ROOM  
7TH FLOOR

## CALL TO ORDER

Opening Comments  
Roll Call  
Pledge of Allegiance

Chairperson, Jerry Hill  
Clerk of the Boards

## PUBLIC COMMENT PERIOD

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

## CONSENT CALENDAR (ITEMS 1 – 4)

Staff/Phone (415) 749-

1. Minutes of November 5, 2008

L. Harper/5073

[lharp@baaqmd.gov](mailto:lharp@baaqmd.gov)

2. Communications

J. Broadbent/5052

[jbroadbent@baaqmd.gov](mailto:jbroadbent@baaqmd.gov)

*Information only.*

3. Consideration and Approval to Establish a New Classification of Supervising Human Resources Analyst with a Salary Set at Pay Range 142

jbroadbent/5052

[jbroadbent@baaqmd.gov](mailto:jbroadbent@baaqmd.gov)

*The Board of Directors will consider approval to establish a new job classification of Supervising Human Resources Analyst with an annual salary range starting at \$88,251 and ending at \$107,270.*

4. Consideration and Approval of Contractor to Assist with Updating and Revising the Air District's California Environmental Quality Act (CEQA) Guidelines

jbroadbent/5052

[jbroadbent@baaqmd.gov](mailto:jbroadbent@baaqmd.gov)

*The Board of Directors will consider approval of a contract with EDAW, Inc. to assist with the update and revision of the Air District's CEQA Guidelines for the purpose of providing guidance to local lead agencies on evaluating and mitigating air quality impacts of projects and plans, in an amount not to exceed \$94,690.*

## COMMITTEE REPORTS/RECOMMENDATIONS

5. Report of the **Ad Hoc Committee on Port Emissions** Meeting of November 17, 2008

CHAIR: N. MILEY

J. Broadbent/5052

[jbroadbent@baaqmd.gov](mailto:jbroadbent@baaqmd.gov)

Action(s): *The Committee may recommend Board of Directors approval of "San*

## **PUBLIC HEARING CONTINUED**

6. Continued Public Hearing to Consider Adoption of proposed amendments to Air District Regulation 8, Rule 20: Graphic Arts Printing and Coating Operations, amendments to Regulation 2, Rule 1: Permits, and amendments to Regulation 3: Fees, Schedule R: Equipment Registration Fees, and Adoption of a CEQA Negative Declaration

H. Hilken/4642

[hhilken@baaqmd.gov](mailto:hhilken@baaqmd.gov)

*Proposed amendments to Regulation 8, Rule 20 would reduce emissions from printing presses by reducing the allowable volatile organic compound (VOC) content in flexographic ink on porous substrates and in press cleaning products for all presses, and by subjecting lower-emitting printing facilities to the requirements of the rule. The lower-emitting facilities would be required to register with the District but would not need a permit. Proposed amendments to Regulation 2, Rule 1 would align the permitting requirements with the applicability limits in Regulation 8, Rule 20 and amendments to Regulation 3 would set registration fees for these facilities.*

## **PROCLAMATION/COMMENDATION**

*The Board of Directors’ will recognize the Honorable Jerry Hill for his dedicated leadership, and service to air quality in the Bay Area.*

*The Board of Directors will acknowledge incoming Chairperson, Pamela Torliatt.*

## **CLOSED SESSION**

7. **Conference with Legal Counsel – Existing Litigation**

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

*Peter Rogosin v. Bay Area AQMD, et al., San Francisco Superior Court Case No. CGC 08 478154*

## **OPEN SESSION**

### **OTHER BUSINESS**

8. Report of the Executive Officer/APCO
9. Chairperson’s Report
10. 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)*

11. Time and Place of Next Meeting – 9:45 a.m., Wednesday, December 3, 2008- 939 Ellis Street, San Francisco, CA 94109
12. Adjournment

**CONTACT EXECUTIVE OFFICE - 939 ELLIS STREET SF, CA 94109**

**(415) 749-5127**  
**FAX: (415) 928-8560**  
**BAAQMD homepage:**  
[www.baaqmd.gov](http://www.baaqmd.gov)

- To submit written comments on an agenda item in advance of the meeting.
- To request, in advance of the meeting, to be placed on the list to testify on an agenda item.
- To request special accommodations for those persons with disabilities. Notification to the 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](http://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**

**NOVEMBER 2008**

<u>TYPE OF MEETING</u>	<u>DAY</u>	<u>DATE</u>	<u>TIME</u>	<u>ROOM</u>
<b>Board of Directors Ad Hoc Cme. on Port Emissions</b> <i>(At the Call of the Chair)</i>	Monday	17	9:30 a.m.	4 <sup>th</sup> Floor Conf. Room
<b>Board of Directors Regular Meeting</b> <i>(Meets 1<sup>st</sup> &amp; 3<sup>rd</sup> Wednesday of each Month)</i>	Wednesday	19	9:45 a.m.	Board Room
<b>Board of Directors Mobile Source Committee</b> <i>– (Meets 4<sup>th</sup> Thursday of each Month)</i>	Wednesday	19	Immediately Following Board Meeting	4 <sup>th</sup> Floor Conf. Room
<b>Board of Directors Legislative Committee</b> <i>(Meets 4<sup>th</sup> Monday of the Month)</i>	Monday	24	9:30 a.m.	4 <sup>th</sup> Floor Conf. Room

**DECEMBER 2008**

<u>TYPE OF MEETING</u>	<u>DAY</u>	<u>DATE</u>	<u>TIME</u>	<u>ROOM</u>
<b>Advisory Council Technical Committee</b> <i>(Meets 1<sup>st</sup> Monday of every even Month)</i> - CANCELLED	Monday	1	9:30 a.m.	Board Room
<b>Board of Directors Climate Protection Committee Meeting</b> <i>(Meets 3<sup>rd</sup> Thursday Every Other Month)</i>	Monday	1	9:30 a.m.	4 <sup>th</sup> Floor Conf. Room
<b>Board of Directors Regular Meeting</b> <i>(Meets 1<sup>st</sup> &amp; 3<sup>rd</sup> Wednesday of each Month)</i>	Wednesday	3	9:45 a.m.	Board Room
<b>Advisory Council Air Quality Planning Committee</b> <i>(Meets 1<sup>st</sup> Thursday Even Month)</i> - CANCELLED	Thursday	4	9:30 a.m.	Board Room
<b>Advisory Council Public Health Committee</b> <i>– (Meets 2<sup>nd</sup> Wednesday Even Month)</i> - CANCELLED	Wednesday	10	1:30 p.m.	Board Room
<b>Board of Directors Stationary Source Committee</b> <i>(Meets 3<sup>rd</sup> Monday Quarterly)</i> - CANCELLED	Monday	15	9:30 a.m.	Board Room
<b>Board of Directors Regular Meeting</b> <i>(Meets 1<sup>st</sup> &amp; 3<sup>rd</sup> Wednesday of each Month)</i>	Wednesday	17	9:45 a.m.	Board Room
<b>Board of Directors Legislative Committee</b> <i>(Meets 4<sup>th</sup> Monday of the Month)</i>	Monday	22	9:30 a.m.	4 <sup>th</sup> Floor Conf. Room
<b>Board of Directors Budget &amp; Finance Committee</b> <i>(Meets 4<sup>th</sup> Wednesday of each month)</i> - CANCELLED	Wednesday	24	9:30 a.m.	4 <sup>th</sup> Floor Conf. Room

## JANUARY 2009

<u>TYPE OF MEETING</u>	<u>DAY</u>	<u>DATE</u>	<u>TIME</u>	<u>ROOM</u>
<b>Board of Directors Public Outreach Committee</b> <i>(Meets 1<sup>st</sup> Thursday every other Month)</i>	Thursday	1	9:30 a.m.	4 <sup>th</sup> Floor Conf. Room
<b>Board of Directors Regular Meeting</b> <i>(Meets 1<sup>st</sup> &amp; 3<sup>rd</sup> Wednesday of each Month)</i>	Wednesday	7	9:45 a.m.	Board Room
<b>Advisory Council Retreat</b> <i>(Meets 2<sup>nd</sup> Wednesday Every Other Month)</i>	Wednesday	14	10:00 a.m.	Board Room
<b>Board of Directors Regular Meeting</b> <i>(Meets 1<sup>st</sup> &amp; 3<sup>rd</sup> Wednesday of each Month)</i>	Wednesday	21	9:45 a.m.	Board Room
<b>Board of Directors Mobile Source Committee</b> – <i>(Meets 4<sup>th</sup> Thursday of each Month)</i>	Thursday	22	9:30 a.m.	4 <sup>th</sup> Floor Conf. Room
<b>Board of Directors Legislative Committee</b> <i>(Meets 4<sup>th</sup> Monday of the Month)</i>	Monday	26	9:30 a.m.	4 <sup>th</sup> Floor Conf. Room
<b>Board of Directors Budget &amp; Finance Committee</b> <i>(Meets 4<sup>th</sup> Wednesday of each month)</i>	Wednesday	28	9:30 a.m.	4 <sup>th</sup> Floor Conf. Room

HL - 11/13/08 (4:05 p.m.)

P/Library/Forms/Calendar/Calendar/Moncal

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Memorandum

To: Chairperson Jerry Hill and Members  
of the Board of Directors

From: Jack P. Broadbent  
Executive Officer/APCO

Date: November 13, 2008

Re: Board of Directors' Draft Meeting Minutes

RECOMMENDED ACTION:

Approve attached draft minutes of the Regular Board of Directors' meeting of November 5, 2008.

DISCUSSION

Attached for your review and approval are the draft minutes of the November 5, 2008 Regular Board of Directors' meeting.

Respectfully submitted,

Jack P. Broadbent  
Executive Officer/APCO

## BAY AREA AIR QUALITY MANAGEMENT DISTRICT

### DRAFT MINUTES

Board of Directors' Regular Meeting– November 5, 2008

#### **Call To Order**

Opening Comments: Chairperson Jerry Hill called the meeting to order at 9:45 a.m.

Roll Call: Present: Jerry Hill, Chair, Directors Tom Bates, Harold Brown, Chris Daly, John Gioia, Scott Haggerty, Yoriko Kishimoto, Carol Klatt, Liz Kniss, Janet Lockhart, Jake McGoldrick, Nate Miley, Mark Ross, Michael Shimansky, Tim Smith, Pam Torliatt, Gayle Uilkema, Brad Wagenknecht, Ken Yeager

Absent: Dan Dunnigan, Erin Garner, and John Silva

Pledge of Allegiance: The Board of Directors recited the Pledge of Allegiance.

#### **Public Comment Period:**

Francisco DeCosta, Director of Environmental Justice Advocacy, said he believes that Lennar's settlement of \$515,000 should be used toward good projects for the Bayview-Hunters Point community.

Jerome Carloss disagreed with results of Lennar air monitoring and believed the Air District is relying on outdated compliance information in its permitting process.

Cameron Wilson, Global Community Monitor, expressed concern regarding the issuance of permits to Custom Alloy Scrap Sales (CASS), believed the company emits high levels of toxins, and requested a hearing be set to address inadequate permitting.

Alex Nguyen, Oakland City Attorney, expressed concern regarding the Air District's permit renewal process, stating it was done without taking neighborhood impacts into consideration. He questioned the appeal process, said their office is also working with the Alameda County District Attorney's office on CASS facing criminal pollution charges, and requested improved permit conditions.

District Counsel, Brian Bunger discussed CASS's annual renewal process, said the company is operating within permit guidelines and discussed the appeal process.

In response to questions of the Board of Directors, Mr. Broadbent said the District is dedicating significant grant dollars toward the CARE Program to characterize the air quality in West Oakland. He reiterated that CASS's emissions are extremely low, but the District will put into place additional monitoring. Relative to the cumulative risk, he hoped to discuss

approaches for the Board to consider at their January retreat and have the Executive Committee or Stationary Source Committee review the issue.

Ray Kidd echoed previous speaker comments, said he lives three blocks from the CASS facility, disputed the Air District's results, and requested the matter return to the Board after new monitoring information is gathered.

Randolph Colosky, West Oakland Air Monitor, discussed CASS's operations and said their stack has not been inspected for compliance since 2007 and 8 tests performed by West Oakland Air Monitor's revealed 30 times the nickel standard, 16 times the cadmium standard, and 8 times the chromium standards.

Brittney Hamilton, Danyate Willingham, Jackie Le, and Nikos Clay, seniors at Excel High School, spoke of their class experiment conducted two years ago where they found heavy metal emissions from CASS and requested additional testing be done.

Elizabeth de Rham, Rose Foundation for Communities and the Environment, said they have been working with students at Excel High School and CASS about how to be better neighbors, reiterated concerns expressed by previous speakers, and requested the Board make the issue a priority.

Margaret Gordon, Commissioner, Port of Oakland; CARE Working Board member; and resident of West Oakland, said communities at risk were not involved in CASS's permit process, and questioned why a permit was issued without a thorough investigation.

Chair Hill requested Mr. Broadbent prepare a written report about alleged discrepancies of monitoring and he reported that the item would be agendaized for the Board of Directors Stationary Source Committee meeting on December 15, 2008.

### **Consent Calendar (Items 1 – 8)**

Director Uilkema requested removal of Item 5 from the Consent Calendar.

1. Minutes of October 1, 2008
2. Communications  
*Information only.*
3. Quarterly Report of Air Resources Board Representative – Honorable Jerry Hill
4. Quarterly Report of the Executive Office Activities
6. Consideration of Hiring Recommendation at Step E of Salary Range 148M for the Information Systems Manager Position  
*Consider hiring recommendation at Step E of Salary Range 148M for the Information Systems Manager position.*

7. Consideration of Adjusting Air District's Medical Contribution Declared to the California Public Employee's Retirement System (CalPERS)  
*The Board of Directors will consider approval of the attached resolution adjusting the District's Maximum Medical Contribution declared to CalPERS for management, confidential, represented, and miscellaneous employees and retirees.*
8. Set Public Hearing for December 3, 2008 to Consider Proposed Amendments to Regulation 8, Rule 45: Motor Vehicle and Mobile Equipment Coating Operations; and Regulation 3: Fees, Schedule R: Equipment Registration Fees; and Adoption of a CEQA Negative Declaration.

**Board Action:** Director Wagenknecht moved approval of Consent Calendar Items 1, 2, 3, 4, 6, 7 and 8; seconded by Director Uilkema; carried unanimously without opposition.

5. Air District Personnel on Out of State Business Travel  
*In accordance with Section 5.4 (b) of the District's Administrative Code, Fiscal Policies and Procedures Section, the Board is hereby notified that the attached memoranda lists District personnel who traveled on out-of-state business.*

Director Uilkema supported approval of the item and asked for the matter to be referred to the Executive Committee for discussion.

**Board Action:** Director Wagenknecht moved approval of Consent Calendar Item 5; seconded by Director Brown; carried unanimously without opposition.

### **COMMITTEE REPORTS AND RECOMMENDATIONS**

9. Report of the **Budget and Finance Committee** Meeting of October 22, 2008

**CHAIR: C. DALY**

Director Daly gave the report of the Budget and Finance Committee meeting of October 22, 2008, stating that the Committee met and approved the Budget and Finance Committee minutes of September 23, 2008.

The Committee received an update on the San Mateo County investment pool and recent actions undertaken by the Air District. Staff presented to the Committee background information on Air District funds held with the San Mateo County Treasurer; net losses sustained due to the Lehman Brothers bankruptcy totaling \$6.1 million; action taken to date by the Air District, including: implementation of a hiring freeze, reviewing discretionary funds, capital assets, and overtime expenditures, as well as unexecuted contracts. The Carl Moyer Program and Mobile Source Incentive Fund are sufficient to accommodate all current projects and fund the amount of the investment loss. The Transportation Fund for Clean Air fund is sufficient to fund all of the approved projects.

The San Mateo County Treasurer has retained an attorney to file suit against Lehman Brothers based upon fraudulent financial reporting and is revising its investment policy to

ensure that the Pool exposure is properly limited. The Air District has also retained counsel and a financial advisor to review the Air District's overall investment options.

The Committee then received a status report of Air District responses to comments contained in the 2006/07 Audit Management Letter, which was performed by Air District Auditors, Caporicci & Larson. The Management Letter contained observations and there were no findings. The Air District has responded and implemented measures to address observations stated in the Management Letter.

The next meeting of the Budget and Finance Committee will be at the call of the Chair.

Director Haggerty requested the Air District pursue its own investment fund, and asked that the matter be referred to the Legislative Committee.

**Board Action:** Director Daly moved to approve the report of the Budget and Finance Committee Meeting; seconded by Director Kishimoto; carried unanimously without opposition.

10. Report of the **Mobile Source Committee** Meeting of October 23, 2008

**CHAIR: T. SMITH**

*Action(s): The Committee recommended Board of Directors approval of the following:*

- A) Transportation Fund for Clean Air TFCA County Program Manager Expenditure Plan for Napa County;*
- B) Authorize the Executive Officer/APCO to enter into funding agreement with the Napa County Program Manager to implement Board approved projects; and reallocate funds among Board approved projects, consistent with Board adopted TFCA Program Manager Policies;*
- C) TFCA County Program Manager Fund Policies to govern allocation of FY 2009/2010 TFCA funds presented in Item 5, Attachment A of the staff report;*
- D) Direct Mail Center as the contractor for the Vehicle Buy Back (VBB) Program direct mail service; and*
- E) Authorize the Executive Officer/APCO to execute a contract for up to \$112,250 with Direct Mail Center for direct mail services for the VBB Program, with the option to renew the contract for an additional year at the Air District's discretion.*

Director Smith gave the Report of the Mobile Source Committee, stating the Committee met on Thursday, October 23, 2008 and approved the Mobile Source Committee minutes of September 25, 2008.

The Committee considered staff's recommendation for the Fiscal Year 2008/2009 Transportation Fund for Clean Air County Program Manager Expenditure Plan for Napa County. The Air District received two projects from the Napa County Program Manager, and both projects were reviewed. Air District staff determined that one of the two projects

submitted in the FY 2008/2009 Napa County Program Manager expenditure plan met all the requirements including the cost-effective criteria. Air District staff will continue to work with the Napa County Program Manager to identify additional eligible projects for the remaining FY 2008/2009 TFCA Program Manager Expenditure Plan for Napa County.

The Committee recommends Board of Directors' approval of Fiscal Year 2008/2009 Transportation Fund for Clean Air Napa County Program Manager expenditure plan and authorize the Executive Officer to enter into funding agreements with the Napa County Program Manager to implement Board of Director approved projects; and reallocations of funds among Board of Director approved projects, consistent with Board of Director adopted TFCA Program Manager Policies.

The Committee also considered proposed revisions to the Transportation Fund for Clean Air County Program Manager Fund Policies that will govern the allocation of Fiscal Year 2009/2010 TFCA County Program Manager funds. A letter was before the Board from the Bay Area Congestion Management Agency Directors in support of the proposed policies. The Committee recommends that the Board of directors adopt the proposed TFCA County Program Manager Fund Policies that govern the allocation of FY 2009/2010 TFCA County Program Manager funds.

Finally, the Committee considered staff's recommendation for Direct Mail Center as the contractor for the Air District's Vehicle Buy Back program's direct mail service. The Committee recommends that the Board of Directors approve Direct Mail Center as the Air District's contractor for the Vehicle Buy Back program's direct mail service and authorize the Executive Officer to execute a contract agreement with Direct Mail Center in an amount not to exceed \$112,250 for direct mail services for the Vehicle Buy Back program direct mail services.

The next meeting of the Mobile Source Committee is scheduled for Wednesday, November 19, 2008 immediately following the Board of Directors meeting.

**Board Action:** Director Smith moved to approve the report and recommendations of the Mobile Source Committee; seconded by Director Kishimoto; carried unanimously without opposition.

11. Report of the **Public Outreach Committee** Meeting of October 31, 2008

**CHAIR: M. ROSS**

Director Ross gave the Report of the Public Outreach Committee, stating the Committee met on Friday, October 31, 2008. The Committee received an update on the Wintertime Spare the Air Alert Campaign. Staff presented advertising and media outreach efforts focusing on the implementation of Regulation 6, Rule 3: Wood-burning Devices that began November 1st. Staff also presented a variety of campaign notification tools, such as website links, 877-4-NO-BURN, telephone and email alerts and widgets, which are devices that can be easily downloaded onto an organization's website to provide added outreach. The Committee discussed the process to be followed once an NOV is issued. Staff was requested to provide a Fact Sheet on enforcing the rule. The update concluded with the showing of a commercial on Check Before You Burn, showcased by Executive Officer/APCO Jack Broadbent.

The Committee then considered a request to establish a formal Community Grant Program which would augment the Air District's existing outreach efforts. The program would consist of a call for projects and staff working with groups to discuss their specific needs. The program is recommended to move forward to the Executive Committee in December and be launched early next year. The Committee recommends that the Executive Committee review the formal program, establish a funding level, and for staff to bring forth criteria, thresholds, and target areas for consideration. Once the program is in place, staff would go out with a call for projects, screen applications, and present those projects to the Executive Committee. The next meeting of the Public Outreach Committee is at the Call of the Chair.

Directors briefly discussed with Mr. Broadbent the District's ability to measure results of the campaign, polling which might assist in identifying the most impacted areas, and advertising and media outreach underway that focuses on the new wood-burning regulation.

**Board Action:** Director Ross moved to approve the report and recommendations of the Public Outreach Committee; seconded by Director Brown; carried unanimously without opposition.

12. Report of the **Nominating Committee** Meeting of November 5, 2008  
**CHAIR: J. Hill**

Chair Hill gave the report of the Nominating Committee, stating that the Committee met on Wednesday, November 5, 2008 and discussed at length the nominations for the Board Officers. On a unanimous vote, the Nominating Committee recommended that the Board of Directors approve the following slate of Board Officers for the 2009 term of office:

Pamela Torliatt, Chairperson  
Brad Wagenknecht, Vice-Chairperson  
Tom Bates, Secretary

**Board Action:** Chair Hill moved to approve the report and recommendations of the Nominating Committee; seconded by Director Haggerty; carried unanimously without opposition.

**PUBLIC HEARING**

13. Public Hearing to Consider Adoption of proposed amendments to Air District Regulation 8, Rule 20: Graphic Arts Printing and Coating Operations, amendments to Regulation 2, Rule 1: Permits, and amendments to Regulation 3: Fees, Schedule R: Equipment Registration Fees, and Adoption of a CEQA Negative Declaration.

*Proposed amendments to Regulation 8, Rule 20 would reduce emissions from printing presses by reducing the allowable volatile organic compound (VOC) content in flexographic ink on porous substrates and in press cleaning products for all presses, and by subjecting lower-emitting printing facilities to the requirements of the rule. The lower-emitting facilities would be required to register with the District but would not need a permit. Proposed amendments to Regulation 2, Rule 1 would align the*

*permitting requirements with the applicability limits in Regulation 8, Rule 20 and amendments to Regulation 3 would set registration fees for these facilities.*

Air Quality Specialist II, William Thomas Saltz, gave an overview of the proposed amendments to Regulation 8, Rule 20: Graphic Arts Printing and Coating Operations. He described currently regulated printing technologies and gave a background of the regulation's initial adoption in 1980 and subsequent amendment in 1999, stating a control measure SS-2 in the 2005 Ozone Strategy was developed.

He then presented current and proposed VOC limits for flexographic ink, proposed VOC limits for cleaning products, additional amendments to the regulation, current emissions and emission reductions, costs and CEQA analysis, the Rule development process and noted that 6 written comments were received at the conclusion of the workshop process. Comments from Pechiney Plastic Packaging, Inc. related to the timeline with which to label VOC information, and staff believed proper labeling could be achieved through application of stickers to existing product labeling.

District Counsel, Brian Bunger reported on a minor change in the text of the Rule which was omitted from the final Rule amendment. He said having not published this sentence, the Health and Safety Code requires adoption at the next public hearing. The text should read, as follows:

*“Effective July 1, 2009, manufacturers and suppliers of cleaning products that are sold for use in graphic arts operations within the District and of all inks, coatings, adhesives, and fountain solutions that are sold for use in digital printing within the District shall include a designation of their products' VOC content, less water, as supplied, expressed in grams per liter or pounds per gallon, on data sheets.”*

Directors questioned the number and types of facilities affected by the amendment, the amount of pollution produced by graphic arts printing and coating operations, a streamlined and web-based registration and annual renewal process and associated fees and reductions of 1.65 tons per day.

Chair Hill opened the public hearing.

Karen Nardi, Bingham, McCutchen, representing Hewlett Packard Company, voiced support for the Rule's intent to reduce VOC emissions. She believed it will be important to review the digital industry and focus not only on VOC content but on the actual emissions, as some may be very minute.

Rita Loof, Director of Environmental Affairs, RadTech International, supported the proposed amendments to the Rule, stating that they have over 800 members involved in manufacturing in ultra-violet and associated chemistries. She said RadTech International has no control over the formulation of cleaners and hopes to engage in future discussions regarding testing methods. Regarding Regulation 2, she asked that facilities not be looked at on a mass emissions basis, as they will be in the permitting system regardless of whether their facility is conventional or if they put in a new line that emits zero VOC's. Consequently, this does not

recognize those that make capital investments, and she suggested future incentives be given to those making capital investments.

Brian Galley, Pechiney Plastic Packaging, Inc., supported the Rule revision and asked the District to consider revising its requirement to allow the use of a low-emitting vapor pressure cold cleaning solvent, as the revisions would require them to be connected to an oxidizer system at the plant, which is not cost-effective. He also asked the District to apply the exemption threshold on a per machine basis.

Mr. Saltz agreed to bring information back to the Board on the low vapor pressure cold cleaning solvent and he discussed the use of abatement equipment to clean presses. Regarding Ms. Loof's comments, Mr. Saltz said the industry uses electron beam and UV coatings and it is difficult to test for VOC emissions. However, test methodologies are being worked on and more rigorous testing must be done. Staff will return with information about Ms. Loof's concern relating to Regulation 2, Rule 1, stating the technology generally does not emit VOC's; however, cleaning products do and they want to separate out the applicability.

## **PRESENTATION**

14. Overview of the Air Resources Board AB 32 Climate Change Proposed Scoping Plan  
*Chuck Shulock, Manager of the Climate Change Program from the Air Resources Board provided an overview of the Proposed Scoping Plan.*

Chuck Shulock, Manager of the Climate Change Program, Air Resources Board, provided an overview of the proposed Scoping Plan which reduces greenhouse gas levels by 2010, AB 32's timeline and recommendations, which include a mix of strategies that combine market mechanisms, other regulations, voluntary measures and targeted fees, and said key elements include:

- Energy efficiency programs
- 33% renewable energy
- California cap-and-trade program linked to WCI partner programs
- Targets for transportation-related emissions
- Existing laws and policies
- Targeted fees

Mr. Shulock presented a table of reduction measures, from uncapped and capped sectors, stating that 596 MMTCO<sub>2</sub>E would be emitted under a business-as-usual plan, and a reduced, 422 MMTCO<sub>2</sub>E would be emitted under the Scoping Plan.

He then discussed the Cap-and-Trade program recommendation which is to implement a firm cap on emissions on electricity and major industrial sectors in 2012, and noted that transportation and natural gas would be added in 2015. The number of allowances is fixed and offsets are limited to less than half of the required reductions, and they will seek input from a broad range of experts on allowance allocation and use of revenue.

He further discussed sector-specific measures, local government actions, regional transportation-related greenhouse gas targets, economic and public health benefits, major

issues of the plan, GHG reporting, tools and verification, CEQA thresholds of significance, the preliminary staff proposal, and proposed thresholds of significance for industrial projects and residential and commercial projects.

Mr. Shulock said it will take two years to adopt AB 32 measures and ARB will partner with local air districts in moving forward to implement the program.

Directors confirmed with Mr. Shulock that the Scoping Plan was located on ARB's website. Directors further clarified that performance standards are being developed to address proposals for residential and commercial development; that revenues generated could potentially be used for incentives to further reduce emissions, and a discussion then ensued regarding reduction of GHG's to 1990 levels, as well as recycling and zero waste at landfills.

### **CLOSED SESSION**

15. **Conference with Legal Counsel – Existing Litigation**

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

- A) *Horn Blowers v. Bay Area AQMD, et al., San Francisco Superior Court Case No. CGC-07-464286*
- B) *Andrea Gordon v. Bay Area AQMD, United States District Court, Northern District of California, Case No. CV 08-3630 BZ*
- C) *James Culp v. Bay Area AQMD, San Francisco Superior Court, Small Claims Division, Case No. CSM08 826376*

### **OPEN SESSION**

**Report of Closed Session:** District Counsel Brian Bunger reported that the Board of Directors had met in Closed Session and provided direction to Counsel.

### **OTHER BUSINESS**

16. Report of the Executive Officer/APCO

Mr. Broadbent congratulated Directors who were re-elected. He reported that Director Miley hosted a meeting with Air District staff and representatives from the Bayview-Hunters Point where progress was made. A community meeting will be held on November 15<sup>th</sup> to discuss projects and the CARE Program. He also reported that the EPA revised its standard significantly; however, the Bay Area is considerably below that standard.

17. Chairperson's Report

Chair Hill reported the receipt of a letter from the International Brotherhood of Teamsters regarding activities at the Port of Oakland, and requested Director Miley and the Ad Hoc Committee review the issue at their November 17, 2008 meeting.

18. Board Members' Comments

Director Bates reported on the City of Berkeley's receipt of grant monies totaling \$75,000 for solar projects applications and said that within 9 minutes, all applications for funding were expended. He thanked the District and hoped to make funding available to other cities.

19. **Time and Place of Next Meeting** – 9:45 a.m., Wednesday, November 19, 2008- 939 Ellis Street, San Francisco, CA 94109

20. **Adjournment** - The meeting adjourned at 12:08 a.m.

Lisa Harper  
Clerk of the Boards

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Memorandum

To: Chairperson Jerry Hill and Members  
of the Board of Directors

From: Jack P. Broadbent  
Executive Officer/APCO

Date: November 11, 2008

Re: Board Communications Received from November 5, 2008 through November 18, 2008

RECOMMENDED ACTION

Receive and file.

DISCUSSION

A list of Communications directed to the Board of Directors' received by the Air District from November 5, 2008 through November 18, 2008, if any, will be at each Board member's place at the November 19, 2008, Regular Board meeting.

Respectfully submitted,

Jack P. Broadbent  
Executive Officer/APCO

**BAY AREA AIR QUALITY MANAGEMENT DISTRICT**

Memorandum

To: Chairperson Jerry Hill and Members  
of the Board of Directors

From: Jack P. Broadbent  
Executive Officer/APCO

Date: November 7, 2008

Re: Consider Establishing a New Classification of Supervising Human Resources Analyst with a Salary Set at Pay Range 142

RECOMMENDATION

Approve establishing a new job classification of Supervising Human Resources Analyst with an annual salary range starting at \$88,251 and ending at \$107,270 (Pay Range 142).

BACKGROUND

The Air District has 34 supervisors who, on average, supervise 5 staff. The Human Resources Office has 10 staff but does not have a supervisory level job classification.

DISCUSSION

The Supervising Human Resources Analyst job classification will be responsible for supervising the Human Resources staff and overseeing day-to-day operations of the Human Resources Office. This recommendation is consistent with the Air District's numeric span of control and provides a career ladder to development and retention of Human Resources staff. If approved, one existing Human Resources Analyst position will be upgraded to the position of Supervising Human Resources Analyst. This recommendation does not create a new position in the budget.

If approved, the new classification will be effective as of the date of Board of Director approval.

BUDGET CONSIDERATION/FINANCIAL IMPACT

This recommendation represents an annual base salary increase for one position of approximately \$2,942 for the remainder of this fiscal year and \$4,413 thereafter.

Respectfully Submitted,

Jack Broadbent  
Executive Officer/APCO

Prepared by: Michael Rich

**DRAFT**

**BAY AREA AIR QUALITY MANAGEMENT DISTRICT**

**OCTOBER 2008**

## **SUPERVISING HUMAN RESOURCES ANALYST**

### **DEFINITION**

Under direction, supervises the staff and participates in human resources activities; performs related work as assigned.

### **DISTINGUISHING CHARACTERISTICS**

This class is a working supervisor and provides both supervision and professional human resources services in support of the District's goals and objectives. Incumbents are responsible for ensuring adherence to the District's policies and procedures in the performance of a variety of human resources activities for the District.

### **EXAMPLES OF DUTIES (Illustrative Only)**

Assigns, supervises, reviews and evaluates the work of professional, technical and support staff.

Participates in the selection of assigned staff and provides for their training and professional development.

Supervises the administration, interpretation and development of personnel and administrative programs, policies and procedures; analyzes impact of new programs, policies (including legislation) and procedures on the organization and makes findings and recommendations.

Supervises and helps perform special projects and analysis (e.g., surveys) and composes correspondence and reports related to specialized areas of personnel management, including employee relations, position classification, compensation, employee training and organizational development, employee benefits, safety, recruitment and selection, and other areas as assigned.

Provides accurate information to employees and effective consultation to management staff on employee relations and other personnel-related matters, including interpretation and application of various District policies and procedures such as the MOU and Administrative Code.

Serves in a supervising capacity in grievance meetings and discrimination complaint investigations as assigned; develops and evaluates facts and recommends District positions and/or actions, composes reports and correspondence related to grievances and investigations; assists in the development and preparation of supporting materials and documentation for hearings, mediations, and arbitrations. Works with employees and supervisors/managers to assist in resolving personnel-related issues; identifies additional resources and processes needed for effective resolution as needed.

Serves in a supervising capacity during the meet and confer process; assists in the development of language for management proposals; analyzes labor proposals and assists in preparing management response; conveys District's positions in meet and confer meetings as assigned; compiles, compares, analyzes, and summarizes salary and benefits data for contract negotiations.

Drafts human resources related Board/Committee agenda items; develops and prepares supporting documentation; assists in the preparation of presentation materials; serves as subject matter resource at Board/Committee and presents agenda item to the Board/Committee as assigned.

Develops and recommends outreach, recruitment, and selection strategies and procedures that comport with merit-based principles and public personnel practices; conducts recruitment and selection activities including, but not limited to, consulting with hiring managers to determine recruitment needs and advising

## **Supervising Human Resources Analyst**

**October 2008 DRAFT**

**PAGE 2 OF 3**

them on the recruitment process, developing and preparing recruitment plans, vacancy announcements and examination materials, evaluating candidates, validating test methods, monitoring processes for compliance with all applicable laws, rules, and procedures, evaluating and recommending responses to appeals or protests, and developing recommendations to address any necessary corrective action.

Maintains the District's classification and compensation plan; conducts compensation studies; desk audits; prepares and revises class specifications; prepares necessary paperwork for the Board to adopt revised class specifications.

Develops strategies to reduce benefit costs and/or improve processes while maintaining or improving benefit or service levels; analyzes and reviews benefit contracts for renewal, legal compliance, and daily administration; trouble shoots benefit problems relating to contract or policy disputes or compliance issues with employees, vendors, and/or broker.

Supervises the District's training curriculum to enhance organizational and employee development; assists in the evaluation of individual training needs and recommends appropriate courses or action; coordinates training activities; presents training. Represents the Human Resources Office and the District in meetings, conferences, workshops, trainings and other forums; confers with representatives of other governmental jurisdictions.

Develops strategies to address Equal Employment Opportunity concerns/issues; advises management on policy; prepares, updates and monitors Affirmative Action Plan.

Supervises the District's self-insured workers' compensation program; develops strategies to reduce work-related injuries and associated costs; analyzes program effectiveness; prepares required reports to maintain State compliance; performs work station evaluations; reports and monitors work related injuries; provides consultation to managers on options to return employees to works.

Supervises the maintenance of the District's Human Resources Information System and database and uses System as needed to perform assigned work; develops non-standard reports by determining needed data fields and format; enters select data types.

Assists the Human Resources Officer in the formulation of policy, goals and objectives, and the annual budget for the Human Resources Office.

### **QUALIFICATIONS**

#### **Knowledge of:**

Principles and practices of employee supervision, including selection, work planning, training, work evaluation, and discipline.

Principles and practices of public personnel administration relating to employee relations, position classification, wage and salary administration, job analysis, test development and administration, personnel selection, training and organizational development, employee group benefit plans, equal employment opportunity and affirmative action and workers' compensation and safety.

Applicable Federal, State and local laws, codes, regulations and guidelines.

Organizational and administrative research analysis and methodology, including statistical research and presentation methods and techniques.

Techniques and practices for composing reports and correspondence.

## **Supervising Human Resources Analyst**

**October 2008 DRAFT**

**PAGE 3 OF 3**

Practices and procedures of office management, basic business data processing principles, and the use of word processing and other business software and personal computer equipment.

### **Skill in:**

Assigning, supervising, reviewing and evaluating the work of professional, technical and support staff.

Selecting and motivating staff and providing for their training and professional development.

Applying the principles and practices of public personnel administration.

Analyzing, interpreting, evaluating, summarizing, and explaining policies, procedures, laws, rules, regulations, statistical data, and other written materials.

Analyzing situations, evaluating alternatives, and recommending effective courses of action.

Developing and implementing assigned projects and programs, assembling and analyzing data and preparing reports without detailed instructions.

### **Ability to:**

Use effective oral and written communication with people at all levels of the organization.

Maintain required confidentiality in carrying out assignments, studies, and projects.

Maintain effective performance under stressful conditions such as meeting deadlines while handling multiple projects.

Establish and maintain effective working relationships with those contacted in the course of the work.

Use sound independent judgment.

### **Education and Experience:**

A typical way to obtain the knowledge and skill is:

Equivalent to graduation from a four year college or university with major coursework in human resources, public or business administration, or a closely related field and four years of professional human resources experience. Professional human resources experience in a public agency setting is desirable.

Directly related experience may substitute for education on a year for year basis.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT  
Memorandum

To: Chairperson Jerry Hill and Members  
of the Board of Directors

From: Jack P. Broadbent  
Executive Officer/APCO

Date: November 12, 2008

Re: Consideration of a Contractor to Update and Revise the Air District's  
California Environmental Quality Act (CEQA) Guidelines

RECOMMENDED ACTION:

Approval of EDAW, Inc. as the contractor for the update and revision of the Air District's CEQA Guidelines; and authorize the Executive Officer to execute a contract not to exceed \$94,690 with EDAW, Inc. to provide services for the update and revision of the Air District's CEQA Guidelines.

BACKGROUND

The District's CEQA Guidelines, first published in 1985, were last revised in 1999. The CEQA process and the District's CEQA Guidelines are one of many mechanisms the District employs to further its primary goal of attaining and maintaining state and federal ambient air quality standards. The CEQA Guidelines also address a much broader range of issues, encompassing the full spectrum of health and nuisance related effects that can be caused by air pollution. The CEQA Guidelines address effects from pollutants subject to state and federal ambient air quality standards, toxic and hazardous air contaminants, and from odors and dust emissions.

The District publishes its Guidelines to assist local jurisdictions and agencies to comply with the requirements of the California Environmental Quality Act regarding adverse impacts to air quality. The intent of the District Guidelines is to provide methodologies for the review of air quality impacts from local plans and development projects contemplated within the boundaries of the District. The primary purpose of the Guidelines is to provide a means to identify proposed local plans and development projects that may have a significant adverse effect on air quality and to provide recommendations to mitigate those impacts.

The District CEQA Guidelines should be updated. Many of the assumptions underlying the analytical methodologies have been updated or revised since the last update of the District's Guidelines. In addition, some air quality impact issues, such as air toxic risk and global climate change, have seen significantly increased focus and prominence.

DISCUSSION

Under this contract, the District seeks to prepare a wholesale revision of the CEQA Guidelines including updated and revised emission factors, analytical methodologies and mitigation measures. The District also intends to review existing significance criteria, establish new significance criteria where needed and develop justification statements for each criterion.

On September 19, 2008 the District published Request for Proposals No. 2008-169. The objective of the RFP was to contract with a qualified and experienced firm to assist the District in the update and revision of the District’s CEQA Guidelines. The District received the following four proposals and all proposals were deemed responsive to the RFP. The proposals were evaluated against criteria set forth in the RFP including: responsiveness to the RFP, expertise and experience of the proposed team, experience of the project manager(s), local/green business and cost.

**Summary of Request for Proposals for CEQA Guidelines Update**

<b>Company Name</b>	<b>Cost</b>	<b>Total Points</b>
EDAW Inc.	\$94,690	79
PMC	\$56,288	77
Michael Brandman Assoc.	\$114,505	72
ICF Jones & Stokes	\$266,690	71

The Proposals were evaluated by a cross departmental team which included staff from Planning and Research and Engineering Divisions. Additionally, Business Administration staff evaluated each Proposal for responsiveness to the RFP. Based on the RFP evaluation criteria listed above, EDAW’s proposal scored the highest. While EDAW’s bid was the second lowest in cost, staff believes selection of EDAW warranted based on EDAW’s extensive CEQA experience and the strength of its project management team. If approved by the Board of Directors, the term of the contract with the contractor would be for twelve months, with the option to extend the contract at the District’s discretion.

BUDGET CONSIDERATION/FINANCIAL IMPACTS

Funding for consultant services to update the Air District CEQA Guidelines is included in the approved FY 2008/2009 Air District budget.

Respectfully submitted,

Jack P. Broadbent  
Executive Officer/APCO

Prepared by: Greg Tholen  
Reviewed by: Henry Hilken

BAY AREA AIR QUALITY MANAGEMENT DISTRICT  
Memorandum

To: Chairperson, Jerry Hill and Members  
of the Board of Directors

From: Jack P. Broadbent  
Executive Officer/APCO

Date: November 13, 2008

Re: Report of the Ad Hoc Committee on Port Emissions Meeting November 17, 2008

RECOMMENDED ACTION

The Committee may recommend Board of Directors approval of “*San Francisco Bay Area Green Ports Initiative – Program Description and Plan*”.

DISCUSSION

The Ad Hoc Committee on Port Emissions will meet on Monday, November 17, 2008. The Committee will receive the following reports and presentations:

- A) Status Report on the Port of Oakland’s Maritime Air Quality Improvement Plan;
- B) Green Ports Initiative Implementation Plan; and
- C) Discussion of Comprehensive Truck Management Plan.

Attached are the staff reports presented in the Ad Hoc Committee on Port Emissions packet.

Chairperson, Nate Miley will provide an oral report of the meeting.

BUDGET CONSIDERATION/FINANCIAL IMPACTS

No budget considerations or financial impacts at this time.

Respectfully submitted,

Jack P. Broadbent  
Executive Officer/APCO

Prepared by: Mary Ann Goodley

BAY AREA AIR QUALITY MANAGEMENT DISTRICT  
Memorandum

To: Chairperson Miley and Members of the  
Ad Hoc Committee on Port Emissions

From: Jack P. Broadbent  
Executive Officer/APCO

Date: November 6, 2008

Re: Overview of Port of Oakland Maritime Air Quality Improvement Plan

RECOMMENDED ACTION:

Informational report, receive and file.

BACKGROUND

The Port of Oakland established a Task Force to assist the Port in preparing a Maritime Air Quality Improvement Plan (MAQIP or Plan). The MAQIP Task Force has four co-chairs from the Port of Oakland, the West Oakland community, Port-related industry, and the Bay Area Air Quality Management District. The MAQIP is intended to be the Port's master plan for air quality goals and policies for seaport operations. The 35-member Task Force was convened in 2006 and included representatives of key community groups, government agencies, and port-related businesses.

Richard Sinkoff, the Port's Director of Environmental Planning and Programs gave an update on the Plan and the planning process at the Ad Hoc Committee's meeting on July 2, 2008.

DISCUSSION

The Port released the Final Maritime Air Quality Improvement Plan in October 2008 and held the final Task Force meeting on October 31, 2008. The Port intends to present the Plan to their Maritime Committee on November 20, 2008 and then to the Port Board of Commissioners for approval on December 2, 2008. Port staff has also indicated that they intend to present a user fee proposal to the Maritime Committee and the Port Board at the same meetings.

At the November 17<sup>th</sup> Ad Hoc Committee meeting, Air District staff will provide an update on the MAQIP and next steps.

BUDGET CONSIDERATION / FINANCIAL IMPACT:

None.

Respectfully submitted,

Jack P. Broadbent  
Executive Officer/APCO

BAY AREA AIR QUALITY MANAGEMENT DISTRICT  
Memorandum

To: Chairperson Miley and Members  
of the Ad Hoc Committee on Port Emissions

From: Jack P. Broadbent  
Executive Officer/APCO

Date: November 6, 2008

Re: Green Ports Initiative Implementation Plan

RECOMMENDED ACTION:

Consider a recommendation that the Board of Directors approve the accompanying “San Francisco Bay Area Green Ports Initiative – Program Description and Plan” and forward the recommendation and plan for approval by the Board of Directors.

BACKGROUND

The Ad Hoc Committee on Port Emissions and the Green Ports Initiative both had their origins in discussions at the Board of Directors retreat in Berkeley on January 17, 2007. Since that time, much has changed, and District staff is prepared to recommend a course of action that will best utilize District resources and staff to reduce emissions at San Francisco Bay Area ports. This memorandum briefly summarizes the background for the Green Ports Initiative, what has changed, and what staff is proposing in the accompanying Green Ports Initiative document.

At the Board of Directors retreat in January 2007, staff presented information from the District’s Community Air Risk Evaluation (CARE) program that showed high emissions of diesel particulate matter (PM) in West Oakland. Port-related activity was noted to contribute to diesel PM in these areas. District staff indicated that they were working with the California Air Resources Board (ARB) on a West Oakland Health Risk Assessment. Staff also indicated that progress in reducing emissions at the Port of Oakland appeared to lag efforts at the Ports of Los Angeles and Long Beach.

Out of the discussions came a decision to consider a regulatory approach, including grant funding to reduce toxic emissions. In addition, Mark Ross, the Board Chairperson at the time, announced the formation of this Committee to examine approaches to reducing emissions at the ports.

At the time of the Board retreat, substantial regulatory work had long been underway at ARB, but little of this had surfaced. Now, almost two years later, ARB has adopted extensive regulations that cover every source of significance at ports. These regulations will produce very large reductions in emissions and risk at ports. The Green Ports Initiative document discusses this background in detail.

Also since the Board retreat, extensive funding for emission reduction activities at the ports has become available to the Air District through ARB's Proposition 1B Goods Movement Emission Reduction Program.

With these two primary pillars – ARB regulations and Proposition 1B grant funding – the Air District is now in a position to implement the program envisioned by the Board in January 2007, albeit through reliance on ARB regulations rather than Air District regulations.

## DISCUSSION

The proposed Green Ports Initiative, as discussed in the accompanying document, “San Francisco Green Ports Initiative – Program Description and Plan,” includes three primary components:

1. Enforcement of California Air Resources Board regulations on port mobile sources;
2. Grants for earlier or greater emission reductions than required by regulations; and
3. Targeting and evaluation of emission reduction efforts through inventories, monitoring, and outreach.

For each component, considerable activity is already underway within other District programs. For example, Air District staff has already begun discussing joint enforcement efforts with ARB. In addition, as the Members of the Committee are aware, the Air District has already accepted applications to retrofit trucks serving the Port of Oakland with diesel PM filters. Through Planning Division programs, District staff has been working on inventories for Bay Area ports other than Oakland, on ambient air monitoring in West Oakland, and on refinements to the West Oakland Health Risk Assessment.

The ARB regulations provide a strong regulatory base for Air District action to reduce emissions at Bay Area ports. The ARB regulations are expected to produce statewide emission reductions of from 66% to 86% from port diesel PM sources. How the ARB regulations will affect emissions at any particular port depends upon the mix of sources at the port. For the Port of Oakland, the ARB regulations are expected to reduce diesel PM emissions by 65% in 2012 and by 81% in 2020 relative to base year 2005.

Enforcement of the ARB regulations is crucial to the success of the effort to reducing diesel PM emissions at ports. The regulations themselves are ambitious: ARB is attempting to accomplish in as little as three years for some sources, emission reductions of a magnitude that, for automobiles, took over a decade. The Air District has a fundamental role to play because state law gives the Air District authority to enforce the ARB regulations.

The additional grant funding available for port diesel PM sources comes at a time when opportunities for reductions beyond those required by regulation are fast diminishing. This is simply a consequence of the aggressive regulatory program, but it will require prompt action by the Air District.

The Air District staff recommends adoption of the Green Ports Initiative program as described in the accompanying document.

BUDGET CONSIDERATION / FINANCIAL IMPACT:

Much of the activity to implement the Green Ports Initiative has already been budgeted for and is already being carried out through existing initiatives. In particular, the inventory for Bay Area ports other than Oakland was already included in the Planning Division budget for FY2008/2009. Current port enforcement activity is already included in the Compliance and Enforcement Division budget. Grant activities are also already budgeted. There may be future needs for additional enforcement resources for port enforcement work, which would be included in future budget proposals.

Respectfully submitted,

Jack P. Broadbent  
Executive Director/APCO



BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

# San Francisco Bay Area Green Ports Initiative

## Program Description and Plan

(November 2008)

I.	Introduction.....	1
II.	Background.....	2
	A. What are the impacts of diesel PM at ports?.....	2
	B. What are the ARB regulations and why are they important? .....	4
	C. Which ports would be subject to the Green Ports Initiative?.....	6
	D. What have ports been doing about air pollution? .....	7
	E. What has the Air District been doing about air pollution at ports? .....	7
III.	Green Ports Initiative – Program Components .....	10
	A. Enforcement of ARB Regulations .....	10
	B. Grants.....	12
	C. Targeting and Evaluation of Emission Reduction Efforts .....	13
	Appendix A – ARB Regulations on Diesel PM Sources at Ports.....	17
	Appendix B – Descriptions of the Five San Francisco Bay Area Seaports.....	21
	Appendix C – Description of Port Emission Reduction Efforts.....	24

## **I. Introduction**

The Green Ports Initiative is a program of the Bay Area Air Quality Management District intended to reduce air pollution from trucks, ships, and other equipment associated with Bay Area port operations. The program has three primary components:

1. Enforcement of California Air Resources Board (ARB) regulations on port mobile sources;
2. Grants for earlier or greater emission reductions than required by regulations; and
3. Targeting and evaluation of emission reduction efforts through inventories, monitoring, and outreach.

The primary focus of the program is to reduce emissions of diesel particulate matter (PM) and thereby reduce the health impacts of port operations on surrounding communities. In producing local reductions of diesel PM, the program will also reduce total regional PM emissions. In addition, it will reduce emissions of other two regional pollutants, nitrogen oxides (NO<sub>x</sub>) and sulfur dioxide (SO<sub>2</sub>). This document describes the Green Ports Initiative, explains the

background for the initiative, and serves as the plan for implementation. This document is a significant revision to an April 2007 version of the document.

The revised Green Ports Initiative takes advantage of the ARB regulatory structure now in place. In April 2007, before the adoption of most of the ARB regulations, the Green Ports Initiative was proposed as a regulatory initiative that would require ports to develop emission inventories and plans to achieve emission reduction goals but would not require emission reductions. However, emission inventories are underway or completed, and ARB regulations establish enforceable requirements rather than goals, thereby making District regulation unnecessary. As a result, the updated Green Ports Initiative focuses on achieving emission reductions under the ARB regulations while funding additional or earlier emission reductions through Air District grant programs.

The Green Ports Initiative is aimed at the five Bay Area commercial seaports and is not intended to address emissions from other maritime or goods movement pollution sources. This focus is a consequence of the potential at the five ports for significant diesel PM emissions from ships and trucks all operating in close proximity to neighborhoods. Though maritime activities not directly associated with the five ports contribute to regional emissions of PM and NOx, these activities have less potential for direct health impacts and are, in any case, addressed by the ARB regulations.

## **II. Background**

The backdrop to the Green Ports Initiative is a decade of activity that began with the identification of diesel PM as a toxic air contaminant. This action led ultimately to a comprehensive and complicated structure of port air pollution regulation, to many and varied efforts by community and environmental groups to push ports to address community concerns, to port programs to address those concerns, and to various Air District efforts at the ports.

### **A. What are the impacts of diesel PM at ports?**

The Green Ports Initiative is intended to reduce diesel PM health risks associated with port operations. Although the exact magnitude of the additional risk posed by port operations cannot be known precisely or directly measured, risk can be estimated using health risk assessment techniques.

Risk assessment involves the use of computer models to simulate real-world exposures to pollutants and to calculate estimated risks based on those exposures. Three primary types of variables have major impacts on the estimated risk: (1) the location and magnitude of diesel PM emissions, (2) the local meteorological conditions that determine how the diesel PM emissions are dispersed, and (3) the length of time of exposure. Risk assessment models calculate the predicted concentration of diesel PM for each point on the map of a study area. Using a cancer potency factor that correlates cancer risk with the amount of diesel PM inhaled, a model can then assign cancer risk to each point within the study area. Cancer risk is generally based on 70 years

of continuous exposure at that point. Non-cancer risks can be assessed by using predicted concentrations of diesel PM and correlations between PM levels and non-cancer health effects.

ARB has conducted a health risk assessment (HRA) to examine the health risks associated with diesel PM emissions from activities in West Oakland<sup>1</sup>. The West Oakland study included sources of diesel PM associated with each of three groupings of activities. Emissions from trucks, ships, and other activities at the Port of Oakland were grouped as Part 1. Diesel PM emissions associated with the Union Pacific rail yard were grouped as Part 2. Part 3 included diesel PM emissions from other sources in or near West Oakland, including ships and trucks not associated with the Port of Oakland.

Key findings from the West Oakland HRA are:

- The areas of highest cancer risk (approximately 1500 in a million<sup>2</sup>) are on Port of Oakland property and along the freeways to the north (I-580) and east (I-980) of West Oakland;
- The average estimated lifetime cancer risk from diesel PM exposure in West Oakland is approximately 1180 in a million;
- Of this total average cancer risk of 1180 in a million, approximately 16% of the risk is attributable to Port of Oakland activities, 3% is attributable to the Union Pacific rail yard, and 81% is attributable to non-port/non-rail yard activities (chiefly diesel trucks on freeways);
- When cancer risk is apportioned to source categories, approximately 71% of total risk comes from trucks (port and non-port taken together), 20% comes from ships and harbor craft, 5% comes from locomotives, and 4% comes from cargo handling equipment;
- Estimated annual non-cancer health effects include 18 premature deaths, 8 hospital admissions for respiratory or cardiovascular causes, and 290 asthma or other lower respiratory symptoms.

Of particular note is the extent to which risks from on-road trucks dominate cancer risk in West Oakland. In the HRA, ARB indicated that there is some uncertainty about the total risk attributable to trucks and about the portion of that risk attributable to port activities<sup>3</sup>. However, this uncertainty will be of less importance in the future as ARB has already adopted regulations on port trucks and is expected to adopt additional regulations on all other trucks in early 2009. Both regulations will require trucks to have approximately 85% lower diesel PM emissions. Port trucks will have to clean up by 2010, while other commercial trucks will probably have until 2014.

---

<sup>1</sup> Draft "Diesel Particulate Matter Health Risk Assessment for the West Oakland Community Preliminary Summary of Results" dated March 19, 2008 (ARB, 2008).

<sup>2</sup> This means that, in a population of 1 million, you would expect 1500 additional persons to get cancer from breathing diesel PM at the expected concentration over a 70-year lifetime. The average lifetime risk of cancer from all causes is approximately 200,000 in a million to 250,000 in a million.

<sup>3</sup> The Air District is working with West Oakland community groups to perform more detailed truck counts in an effort to refine these estimates. See discussion under "Air District Port Activities."

In developing emission reduction strategies for Bay Area ports other than Oakland, the Air District will be able to draw on insights gained from the West Oakland HRA. For example, it should be possible to roughly approximate the expected risks of some activities at other ports by comparing activity characteristics (e.g., nature and number of sources, upwind/downwind relationships of receptors and sources, and proximity of receptors to sources) to those for similar activities in West Oakland. The ARB regulations will produce substantial emission reductions for all Bay Area ports, and rough risk approximations may be sufficient to allow the Air District to target supplementary enforcement activities and grant efforts.

**B. What are the ARB regulations and why are they important?**

The Green Ports Initiative is intended to continue and supplement efforts by ARB that began in 1998 when ARB identified diesel PM as a toxic air contaminant. After identifying diesel PM as a TAC, ARB conducted an assessment of the need for regulation pursuant to Health and Safety Code sections 39658, 39665, and 39666. In 2000, ARB completed this assessment and adopted a *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. The plan included recommendations for the development of control measures for diesel sources. It also established a goal of reducing by 2020 California's diesel PM emissions and associated cancer risks by 85% from 2000 levels.

Because much of the activity at large ports relies on diesel equipment, ports have been a particular focus of ARB diesel PM regulatory activities. To guide these activities, ARB adopted its *Emission Reduction Plan for the Ports and Goods Movement in California* in April 2006. The plan identified strategies for reducing emissions of diesel PM and other pollutants created by the movement of goods through California ports and was part of the broader Goods Movement Action Plan being jointly carried out by the California Environmental Protection Agency and the Business, Transportation, and Housing Agency.

Beginning in late 2005, ARB began adopting regulations on port equipment responsible for diesel PM emissions. By the end of 2007, ARB had adopted stringent regulations on all significant sources at ports. Although enforcement of an ARB rule on ship auxiliary engines adopted in 2005 was enjoined by the U.S. Court of Appeals for the Ninth Circuit, ARB adopted a replacement rule in 2008 that applies to both auxiliary engines and propulsion engines and was drafted to avoid the federal preemption issue that led the court to enjoin enforcement of the earlier rule. Appendix A shows the ARB regulations adopted to date along with a summary of the primary requirements of each regulation.

The ARB regulations will produce large emission reductions, assuming full compliance with the regulations. The table on the next page shows the statewide diesel PM emission reductions expected for each category of sources affected by the ARB regulations.

## Statewide Emission Reductions from ARB Regulations

Source Category	Expected Statewide Diesel PM Reductions
Cargo Handling Equipment	40% by 2010 66% by 2015
Commercial Harbor Craft	50% by 2015 70% by 2020
Port Drayage Trucks	86% by 2010
Ships at Berth (Shore Power)	50% by 2014 75% by 2020
Ships at Berth / Underway (Fuel Sulfur Limits)	74% by 2009 83% by 2012

Notes

- Emission reductions estimates are from the ARB staff report prepared for the public hearing on the regulation.
- The reduction estimates for the two ship emission measures are not additive; shore power requirements are expected to further reduce in-port emissions beyond the amounts shown for the fuel sulfur limits, but the interaction of the two rules is complex. The current shore power regulation is applicable to container and cruise ships that visit the Ports of Oakland and San Francisco. ARB staff is expected to propose requirements for other ocean-going vessels in 2009.

Though the focus of the ARB regulations is on reducing diesel PM emissions, the rules are also expected to reduce emissions of two regional pollutants, NO<sub>x</sub> and SO<sub>2</sub>. For cargo handling equipment, commercial harbor craft, port trucks, and ships at berth, statewide NO<sub>x</sub> emissions will be reduced by roughly 50% to 75% by the last compliance date shown in the table above. In addition, emissions of SO<sub>2</sub> by ships using low-sulfur fuel at berth or underway will be reduced by 95%.

How the ARB regulations will affect emissions at any particular port depends upon the mix of sources at the port. A detailed port emissions inventory will permit relatively precise estimates of future emission reductions, although reasonable estimates are possible using a less detailed inventory, particularly for smaller ports with fewer sources and less activity. For the Port of Oakland, a comprehensive inventory has been completed, and inventory projections show that the ARB regulations will reduce diesel PM emissions by 65% in 2012 and by 81% in 2020 relative to base year 2005.

State law gives air districts authority to enforce the ARB regulations. In adopting each of its port regulations (see Appendix A), ARB cited its authority over toxic substances in California Health and Safety Code sections 39650 through 39667. Under Section 39666, air districts are required to enforce all air toxic control measures or, for non-vehicular sources subject to air district

jurisdiction, adopt and enforce equally stringent or more stringent air district requirements. In addition, Health and Safety Code section 42403 gives any attorney for an air district authority to bring an action to recover penalties for violations of ARB rules or of air district rules.

**C. Which ports would be subject to the Green Ports Initiative?**

There are five ports of significance in the San Francisco Bay Area: Benicia, Oakland, Redwood City, Richmond, and San Francisco. How each port is addressed under the Green Ports Initiative will depend upon two primary factors: (1) the activity levels of sources of diesel PM, and (2) whether those activity levels are likely to impose significant risk on the surrounding community. Where port activities are likely to impose significant risk, the appropriate strategy will be determined by a number of factors, including:

- The manner in which ARB regulations affect the port’s activities;
- What particular types of enforcement efforts would be productive;
- Whether there are significant opportunities to reduce emissions through grant activities;
- What types of opportunities exist to work with the community; and
- What means exist to monitor progress.

Given the unique circumstances of each port, activities under the Green Ports Initiative will be different for each. A basic overview for each of the five Bay Area ports is provided in Appendix B.

Levels of activity vary significantly from port to port. The table on the next page provides 2005 ship and truck trip data for each of the Bay Area ports and, for comparison, for the Ports of Los Angeles and Long Beach

**2005 Port Activity Data**

Port	Ocean Going Vessel Arrivals	Truck Trips
Benicia	63	2,660
Oakland	1916	2.6 million
Redwood City	167	60,000
Richmond	103	6,000
San Francisco	179	n/a
Long Beach	3166	4.3 million
Los Angeles	2341	5.7 million

Notes

- Data derived from 2005 inventories prepared or being prepared for each port
- 2005 truck data not available for San Francisco
- Richmond data is only for the public terminals at the port

#### **D. What have ports been doing about air pollution?**

As information about the health risks from diesel PM became widely known, each of the large ports in California came under scrutiny from community and environmental groups, from local politicians and the Legislature, and from regulators. In response, the large ports began efforts to assess the problems and develop solutions at the same time that ARB was acting to adopt regulations.

In November 2006, the Ports of Los Angeles and Long Beach jointly adopted an action plan, called the San Pedro Bay Clean Air Action Plan, to reduce each port's emissions by 45% to 50% by the end of 2011. The plan predated most of the ARB port regulations and set forth proposed actions that in most respects are mirrored in requirements now found in ARB regulations.

A central element of the plan is a Clean Trucks Program. Both ports have implemented the program by adopting orders requiring port terminal operators to prohibit access to trucks not operating under a concession agreement with the port. The primary difference between the concession agreements at the two ports is that the Port of Los Angeles requires that motor carriers transition away from independent contractor drivers and instead use drivers who are employees of the motor carrier. This requirement is intended to address the concern that many independent contractor drivers lack the financial resources to purchase new trucks or retrofits to comply with Clean Trucks Program requirements. This requirement is currently the focus of a federal lawsuit filed by the American Trucking Association.

The Port of Oakland has also followed, albeit with a later start, the planning path opened by the Ports of Los Angeles and Long Beach. In March 2008, the Port released an emissions inventory that was used by the California Air Resources Board in preparing its West Oakland HRA. Then, in June 2008, the Port of Oakland proposed its draft Maritime Air Quality Improvement Plan (MAQIP), which it hopes to finalize by late 2008. The Port has also been working on a Comprehensive Truck Management Program as one step in implementing the MAQIP. Bay Area community and environmental groups are seeking to have the Port adopt concession requirements similar to those adopted by the Port of Los Angeles.

More detailed descriptions of these activities are found in Appendix C.

#### **E. What has the Air District been doing about air pollution at ports?**

The Air District has been working with ports, operators of port equipment, community groups, and technology companies through its planning, grant making, and enforcement programs in order to understand emissions, enforce existing laws and regulations, promote new technologies, and otherwise assist efforts to reduce diesel PM emissions at the ports.

#### CARE

In 2004, the Air District began its Community Air Risk Evaluation (CARE) program to evaluate and reduce the impacts of toxic air contaminants on Bay Area communities. Through inventory efforts, the program identified diesel PM as responsible for over 80% of the cancer risk-weighted

emissions of toxics in the Bay Area. From the inventory, the Air District developed a series of Bay Area maps showing risk-weighted emissions. The maps showed that areas of highest emissions tended to be associated with freeways and freeway intersections. West Oakland and the northeastern portion of San Francisco were the two areas with highest risk-weighted emissions.

In a second phase of the program, the Air District is performing regional-scale and local-scale modeling to determine what sources of diesel PM and TAC emissions dominate risk-weighted emissions. In one of these efforts, the Air District partnered with the California Air Resources Board (CARB), Port of Oakland, and the Union Pacific Railroad to develop the West Oakland HRA discussed above.

In an effort that grows out of the West Oakland HRA, the Air District is partnering with Pacific Institute and the West Oakland Environmental Indicators Project to conduct a comprehensive traffic count survey, to be carried out in summer and fall of 2008. The objective of the study is to refine the truck data used in the HRA by gathering additional truck location and idling time data and by improving the allocation of trucks to port or non-port service. The results of this effort may allow some refinement of the West Oakland HRA.

Based on these technical analyses, the Air District has developed the CARE Mitigation Action Plan, which focuses risk reduction efforts in the communities most impacted by toxic air contaminants. Mitigation activities in these communities include focusing grants and incentives, community outreach, land use guidance, collaboration with local health departments, and the Green Ports Initiative. Three of the six communities identified in the CARE Mitigation Action Plan – West Oakland, Eastern San Francisco, and Richmond – include ports addressed in the Green Ports Initiative.

#### Port of Oakland MAQIP

Since early 2007, the Air District's Executive Officer has participated as a co-chair of the task force helping the Port of Oakland develop its Maritime Air Quality Improvement Plan (MAQIP). District staff have attended all MAQIP task force meetings.

#### Grants

Over the past 10 years the District has been involved, through its incentive programs, in the aggressive reduction of emissions from maritime-related activities at all Bay Area ports. This work has largely centered on the reduction of diesel PM from shipping and working vessels and from on-road trucks. Funding for this effort has come from ARB's Carl Moyer Program and its California Goods Movement Bond program and from the District's Mobile Source Incentive Fund (MSIF) and Transportation Fund for Clean Air (TFCA). By the end of 2009, these programs will have provided:

- \$15 million in funding to replace or repower the engines of harbor craft (ferries, tugboats, workboats and fishing vessels);
- \$12 million in funding to replace, retrofit or repower port drayage trucks; and

- \$4 million to provide grid-based shore power for ocean-going ships at the Port of Oakland (Eagle Marine Terminal) and the Port of San Francisco (Princess Cruise Lines).

It is estimated that these funds will replace over 1,200 diesel engines operating at Bay Area ports resulting in diesel PM emission reductions of 150 tons over the lifetimes of these projects. In fiscal year 2009 to 2010, the District intends to make up to another \$20 million available to replace port drayage trucks in advance of the ARB regulatory deadline, with other funds being allotted for more shore power and harbor craft projects based on demand.

### Enforcement

Since 2003, Air District enforcement staff have been enforcing Health and Safety Code section 40720, which restricts idling by port trucks outside terminal gates at the Port of Oakland, the only port in the Bay Area to which the restrictions apply. These restrictions were added to state law in 2002 by AB 2650, authored by Alan Lowenthal, now a State Senator, whose district includes Long Beach.

As part of its effort to enforce the AB 2650 idling restrictions, the Air District began regular meetings with port truckers in 2003. That effort has evolved into a Port of Oakland Trucker's Working Group that meets monthly, generally at the Port of Oakland offices, to discuss a wide range of topics. District staff continue to participate in all meetings of the group.

Air District enforcement staff will also begin enforcing ARB's truck idling regulations that limit idling to 5 minutes throughout California, but exempt idling when queuing, unless it is within 100 feet of a residence. This regulation is expected to reduce idling by port trucks in areas away from terminal gates. ARB and District staff have been working together on this effort, and ARB staff trained Air District inspectors regarding idling enforcement in October 2008.

In September 2008, the Air District also began discussions with ARB regarding enforcement of the ARB regulations on port mobile sources, including the regulations on port drayage trucks, marine vessel fuel sulfur, shore power, cargo handling equipment, and harbor craft. The two agencies expect to reach agreements on how responsibilities will be shared in enforcing the regulations.

### Inventories

In early 2007, Air District staff began discussions with the Bay Planning Coalition (BPC) and the five Bay Area ports in an effort to prepare inventories for the ports of Benicia, Redwood City, Richmond, and San Francisco. These discussions led to an agreement signed by the Air District, BPC, and the ports laying out a plan for completing inventories.

Under the agreement, the work is directed by a steering committee composed of representatives from each of the ports and from the Air District. As with the inventory prepared by the Port of Oakland, the initial inventories will rely on 2005 data. The ports and the Air District have jointly funded the compilation of port activity data required to begin inventory calculations. The result will be a baseline 2005 inventory for each Bay Area port that the Air District can use to prioritize

enforcement, grant making, and other activities and that the port can use to measure progress in reducing emissions. As of fall 2008, activity data has been collected for each port and inventory calculation work has begun.

### **III. Green Ports Initiative – Program Components**

The Green Ports Initiative includes three primary program components:

1. Enforcement of California Air Resources Board regulations on port mobile sources;
2. Grants for earlier or greater emission reductions than required by regulations; and
3. Targeting and evaluation of emission reduction efforts through inventories, monitoring, and outreach.

Each program component is discussed in greater detail below.

#### **A. Enforcement of ARB Regulations**

The regulatory effort to reduce diesel PM health risks from ports is ambitious. It took the State of California approximately a decade to reduce automobile emissions by 85% and two decades to reduce them by 95%<sup>4</sup>. ARB is now attempting to achieve similar reductions from port sources in, depending upon the source, between 3 years and 12 years. One result of the regulations will be major changes in the way ports are operated. The Air District will work with ARB to coordinate the extensive enforcement activities that will be necessary to ensure a smooth transition to new ways of doing business at the ports. In addition to providing inspection resources, the Air District expects to bring to bear its knowledge and experience from enforcing truck idling restrictions at the Port of Oakland.

Enforcing the ARB mobile source regulations will bring new challenges to the Air District. The District has traditionally regulated stationary sources with fixed addresses and with ownership and operating structures that are generally relatively easy to determine. The ARB regulations, however, affect a disparate array of diesel PM sources owned by many different types of entities that the District has not regulated in the past. For example, cargo handling equipment may be owned by a port or some other entity and leased to terminals or it may be owned by a terminal operator. Marine vessel ownership and operating structures are even more complex: a vessel may be owned by a single-vessel holding company that is controlled by a shipping company, but it may be chartered by another company, operated by a ship management company, and represented by different agents for each port it visits. Port trucking operations are also complicated. A port may be served by hundreds of motor carriers who dispatch from a fleet of thousands of trucks owned by individual owner/operators.

The regulations will also bring new challenges to ARB. Although ARB has long regulated mobile sources, much of this experience has involved ensuring compliance with automobile

---

<sup>4</sup> In 1964, the California Motor Vehicle Control Board set hydrocarbon tailpipe standards for 1966 vehicles at 6.3 grams per mile. It took a decade to reduce the standard by 85% and two decades to reduce it by 95%. California's current tailpipe standards are approximately 99% below the 1966 standard.

emission standards at the manufacturer level. ARB has less experience verifying compliance in the field. This effort will require ARB to put more staff in the field and will almost certainly require ARB to work with each air district having one or more ports within its jurisdiction.

In working with ARB on this enforcement effort, the Air District will (1) seek to reach general agreement with ARB regarding how the two agencies will work together, (2) establish Air District enforcement priorities by port and by equipment category based on emissions or health risk from that equipment, (3) work with ARB to develop specific protocols or agreements to guide enforcement for each specific regulation/source category, (4) work with ports to develop compliance agreements for ARB regulations, and (5) monitor compliance efforts and provide reports to the Board of Directors as requested. Each of these components is discussed in greater detail below.

### General Agreement with ARB Regarding Enforcement

As noted in the discussion of the ARB regulations, state law gives air districts authority to enforce the regulations. However, the regulations vary in the extent to which they address enforcement issues. For example, some of the rules grant ARB a right of access to facilities affected by the regulation but do not specifically grant such access to air districts. The regulations are silent regarding issues that frequently arise when agencies work together: how are inspection priorities established, do the agencies perform inspections jointly or individually, who files court actions when they become necessary, and how are penalties divided. The Air District will work with ARB to resolve these kinds of issues and, where appropriate, develop any necessary enforcement or delegation agreements. Air District staff met with ARB staff in Sacramento in September 2008 to begin this effort.

### Establishing Enforcement Priorities

In working to enforce the ARB regulations, the Air District will prioritize its efforts at Bay Area ports based on the overall level of emissions or health risk associated with each port and, for a particular port, the significance of a particular source category (ships, trucks, harbor craft, or other equipment) as determined from a port inventory or risk assessment.

### Developing Inspection Protocols by Source Category or Regulation

The ARB regulations vary widely in structure, content, and requirements. Each regulation will require a different enforcement approach. ARB has begun developing inspection protocols for trucks in order to enforce its truck idling regulation. In October 2008, ARB trained District staff to perform inspections under the rule. Although the idling rule is not specifically a port regulation, it should help establish a working relationship for performing the types of mobile source inspections required to enforce the port regulations. ARB will be developing inspection protocols for all of its port regulations. The Air District will seek to provide comments and work with ARB in developing these protocols.

## Compliance Agreements with Ports

All of the port regulations raise issues regarding port access, given federal port security requirements. ARB has discussed these issues with some ports and is starting to work out arrangements to permit port access for inspections.

The Air District will discuss with both ARB and the Bay Area ports the potential for broader agreements that cover more than simply port access. Inspections have some potential to disrupt port business, and the ports therefore have an interest in taking steps to make sure that sources are available for inspection in a manner consistent with the conduct of port business. For example, the Air District and ARB will be conducting inspections of trucks for compliance with the port drayage trucks regulation. Ports may be able to minimize the impact of inspections on port business by establishing truck entry routes, inspection gates, and other mechanisms. These arrangements would then be embodied in a compliance agreement. A compliance agreement might also provide for compliance assistance from the Air District and ARB.

## Compliance Monitoring and Reporting

As with all of its enforcement work, the Air District will record and retain compliance information and will be able to provide the Board of Directors with status reports.

### **B. Grants**

As discussed above, the Air District grant programs have already funded significant diesel PM reductions at the Port of Oakland and at other ports. Grants for emission reductions from port equipment will continue to be available to produce earlier or greater emission reductions than required by the ARB regulations. This is a carrot-and-stick approach, with the ARB regulations compelling reductions, and the grant programs offering incentives to move sooner or farther.

Regulations and grants have always been connected through requirements that emission reductions funded by grants be “surplus” to those required by regulation. With the emergence of ARB’s comprehensive port regulations, finding opportunities for “surplus” emission reductions has become more difficult. However, there remain significant windows of opportunity in the near term for the Air District to fund various types of emission reductions. The activities funded by grants must produce “surplus” emission reductions and must comply with guidelines for the ARB programs through which funds come to the Air District. The table on the next page sets forth funding opportunities.

### Grant Opportunities by Source Category

Source Category	Grant Opportunities
Cargo Handling Equipment	Limited opportunities to replace or repower some equipment, primarily before 2010
Commercial Harbor Craft	Engine repowers and replacements for Tier 0 engines at least 2 years in advance of regulatory requirements (with applicability dates determined by vessel-specific information)
Port Trucks <sup>1</sup>	Installation of filters: until 6/30/09 Engine replacement w/ 2007 engines: until 12/31/11 <sup>2</sup> Purchase of trucks w/ 2007 engines: until 12/31/11
Ships at Berth (Shore Power)	Shore power $\geq$ 25% of ship visits: until 12/31/13 Shore power for $\geq$ 60% of ship visits: until 12/31/16 Shore power for $\geq$ 70% of ship visits: until 12/31/19 Shore power for $\geq$ 90% s of ship visits: 2020 and beyond

Notes

<sup>1</sup> ARB's on-road trucks regulation, which is before the Air Resources Board for adoption on 12/11/08, will add filter retrofit requirements for MY 2004-2006 drayage trucks. There will be additional grant opportunities for installation of filters on these trucks, with dates that depend upon compliance dates in the adopted regulation.

<sup>2</sup> This is the date for independent owner/operators. The deadline for fleets is 12/31/10.

During fiscal year 2009 to 2010, Air District staff expect to make approximately \$20 million in grant funding available to fund port drayage truck retrofits. In subsequent fiscal years, grant fund availability is difficult to predict and will depend, in part, on the state of the economy, which significantly affects state revenues.

#### **C. Targeting and Evaluation of Emission Reduction Efforts**

Ultimately, the progress of the Green Ports Initiative must be measured in the neighborhoods around the ports and particularly in West Oakland, where port impacts are almost certainly much greater than in any other Bay Area community. There are three components to the targeting and evaluation effort: (1) completion of inventories for each of the five Bay Area ports, (2) ambient air monitoring in West Oakland, and (3) dialog between Air District staff and community groups to discuss Green Ports Initiative efforts. The Air District staff will strive to involve the community in all aspects of the initiative.

## Emission Inventories

In March 2008, the Port of Oakland completed its 2005 baseline emissions inventory. In the MAQIP, the Port indicated that it would update the inventory on a two or three year cycle beginning with a 2008 inventory.

Air District staff are currently working with the Bay Planning Coalition (BPC) and the ports of Benicia, Redwood City, Richmond, and San Francisco to prepare 2005 baseline inventories. The work is being carried out under a contract between BPC and the consulting firms of Moffatt & Nichol and ENVIRON International Corp. Both firms have extensive backgrounds in port work. The Air District expects to supplement the Bay Area Seaports Emission Inventory with information regarding significant emission sources not covered in the inventory but located on or near port property.

Emission inventories will be used both to target Air District resources and to assess progress. The Port of Oakland inventory and the West Oakland HRA have already revealed much about diesel PM emissions and health risk in that community. The primary conclusions appear to be:

1. A few types of sources (trucks primarily, but also ships at berth) dominate emissions and risk;
2. Reducing emissions from those sources would be the most productive means of reducing overall emissions and risk;
3. Because ARB has already imposed regulations on those sources, ensuring compliance with the regulations should be the highest priority; and
4. Grants should be focused on those sources.

Given preliminary information about the other Bay Area ports, it is likely that the inventories will not show emissions that warrant the same level of concern as for the Port of Oakland. But the same conclusions are likely to apply. With the inventory results, District staff will be able to analyze the options for reducing emissions at each port and, in consultation with community and environmental groups, pick enforcement and grant-making options that most productively use Air District resources.

## Ambient Air Monitoring

The Air District will start work on its West Oakland Measurement Study in fall 2008. This study will use ambient air monitoring to assess the results of ARB's *Draft Diesel Particulate Matter Health Risk Assessment (HRA) for the West Oakland Community*. The ARB study used models to predict concentrations of diesel PM in West Oakland and then used the modeled concentrations to predict health effects. Because concentrations of diesel PM cannot be directly measured – since diesel PM is just one component of overall PM captured on monitoring filters – there is no direct way to confirm the HRA results. The Air District study will determine whether ambient concentrations of diesel PM can be derived from measurements of a variety of other pollutants, and if so, whether the concentrations are similar to those predicted by the models used for the HRA. In carrying out the study, the Air District will work with the Desert Research Institute (DRI), which has considerable experience in this type of work.

In the first phase of the study, the Air District and DRI will use a mobile sampling van to conduct a preliminary survey of West Oakland to characterize variation in atmospheric concentrations of NO<sub>x</sub>, CO, PM 2.5, ultrafine particles, VOCs, and black carbon. Based on results from mobile sampling, fixed sampling sites will be established in community locations that are likely to have the highest air toxic concentrations. Samples will be collected at the fixed sites during the winter 2008/2009. While samples are being collected at the fixed sites, the mobile sampling van will be used to collect samples near specific types of PM sources, including diesel PM sources like ships and trains, gasoline vehicle sources, and wood smoke sources. Pollutant signatures from this mobile sampling will be analyzed to determine whether measurements of black carbon can be used as a surrogate for diesel PM. The mobile sampling results will also be compared with the fixed location sampling results.

In the final phase of the study, samples will be collected that will then be used to estimate the contribution of diesel PM to ambient levels of PM<sub>2.5</sub> in West Oakland. To do this, PM 2.5 samples will be collected at sites in the West Oakland community. Using source profiles developed in the earlier work, the PM<sub>2.5</sub> samples will be analyzed to determine the contributions of diesel equipment, gasoline vehicles, wood smoke, and cooking. The ambient measured concentrations of diesel PM will then be compared to the modeled concentrations from the West Oakland HRA.

This study will only be carried out for a single season. However, the Air District is establishing a permanent monitoring location in West Oakland that can be used to help track risk reduction progress for the West Oakland community.

### Community Outreach

An important component of the Green Ports Initiative is community outreach to ensure that Air District efforts are directed in ways that best serve Bay Area port communities most affected by diesel PM. The Air District will (1) continue to collaborate with community groups to develop, focus, and improve Green Ports activities, and (2) continue to collaborate with local health departments and other agencies to find paths for joint action and to support each other's individual activities in the communities.

In West Oakland, the Air District has spent and will continue to spend considerable staff time and resources involving the community in efforts to assess and reduce diesel PM emissions. As noted in the discussion of current Air District activities, the Air District is working with the Pacific Institute and the West Oakland Environmental Indicators Project to conduct a comprehensive truck survey in West Oakland. For the future, the Air District expects to work with these and other community groups to assess inventory and monitoring data and to develop mechanisms for community input on enforcement and grant efforts. For example, a key element of the Green Ports Initiative is enforcement of ARB's port trucks rule. Because community members are quite familiar with trucking operations in West Oakland, the Air District will seek community input in developing enforcement protocols for the rule, including any agreements with the Port of Oakland, and in developing mechanisms for community reporting of problems.

In addition to working with community and environmental groups, the Air District will discuss Green Ports Initiative efforts with representatives from the ports, marine terminals, trucking firms, shipping lines, and other related businesses. In particular, to the extent that efforts include agreements regarding enforcement, the Air District expects to involve any businesses affected by enforcement activities in order to ensure that all know what to expect.

The Air District will continue to work with the inter-agency group formed to work on the Port of Oakland Maritime Air Quality Improvement Plan (MAQIP). The group began meeting in late 2007 and includes ARB, the Alameda County Environmental Health Department, the Alameda County Public Health Department, the City of Oakland, the Port of Oakland, and the U.S. Environmental Protection Agency. The focus of the inter-agency group has been to assist MAQIP development, to coordinate agency resources and efforts to reduce air pollution and its impacts, and to examine relationships between modeled risks and community health.

As inventory data becomes available for other ports, the Air District will participate in community meetings or conduct separate meetings to discuss findings. The Air District already works with a resource team in each Bay Area county composed of representatives from business, community organizations, government, and environmental groups. The Air District will work through this network to set up or participate in community meetings and in meetings with the regulated community.

**Appendix A – ARB Regulations on Diesel PM Sources at Ports**

DRAFT

Regulation (Adoption Date)	Who's Responsible	Primary Requirements
Cargo Handling Equipment Regulation (12/8/2005)	Any person who sells, offers for sale, leases, rents, purchases, owns, or operates compression-ignition mobile cargo-handling equipment that operates at a California port or intermodal rail yard	<p><u>For yard trucks:</u></p> <ul style="list-style-type: none"> <li>• Effective 1/1/2007, newly purchased, leased, or rented yard truck must meet 2007 or later on-road or Tier 4 off-road requirements</li> <li>• Existing yard trucks: replace or repower with engine meeting 2007 or later on-road standards or Tier 4 off-road standards or retrofit to Tier 4 standards; schedule based on age of existing engine (most pre-2003 to be completed by end of 2010)</li> </ul> <p><u>For other equipment:</u></p> <ul style="list-style-type: none"> <li>• Effective 1/1/2007, newly purchased, leased, or rented equipment must meet 2007 or later on-road or, if unavailable, Tier 4 off-road or highest off-road level available with controls installed</li> <li>• Existing equipment: replace or repower with certified on-road engine or Tier 4 off-road or retrofit with highest level verified controls; schedule based on age of existing engine; several alternative compliance options available</li> </ul>
Commercial Harbor Craft Regulation (11/15/2007)	Any person who sells, supplies, offers for sale, purchases, owns, operates, leases, charters, or rents a new or in-use diesel vessel that is not an ocean-going or recreational vessel (includes ferries, excursion vessels, tugboats, towboats, push-boats, crew boats, supply boats, work boats, pilot boats, fishing vessels, research vessels, and others)	<ul style="list-style-type: none"> <li>• New harbor craft: Engines must meet EPA standards in effect at time of acquisition</li> <li>• Existing harbor craft: All replacement engines must meet applicable EPA Tier 2 or 3 standards</li> <li>• New ferries: propulsion engines must meet applicable EPA Tier 2 or 3 standards coupled with BACT controls or meet Tier 4 standards</li> <li>• Retrofit requirements for existing ferries, excursion vessels, tugboats and towboats: EPA Tier 1 and earlier engines must be replaced by Tier 2 or 3 engines in accordance with a schedule based on engine model year, with older engines being replaced first</li> <li>• Vessel owner/operators must file an initial report with ARB by 2/28/2008 and maintain engine usage data</li> </ul>

Regulation (Adoption Date)	Who's Responsible	Primary Requirements
Port Drayage Trucks Regulation (12/6/2007)	<p>Owners and operators of on-road heavy-duty diesel trucks that operate on or transit through port or intermodal rail yard properties for the purpose of moving cargo</p> <p>(Applies to all Bay Area ports and the following rail yards: BNSF Oakland, Union Pacific Oakland, BNSF Richmond)</p>	<p><u>For truck owners:</u></p> <ul style="list-style-type: none"> <li>Effective 12/31/2009: A truck in port and rail yard service must have a 1994 or later model year engine that (1) for 1994-2003 model year engines, has an ARB-approved PM filter, or (2) for 2004 or later engines, meets federal or California standards</li> <li>Effective 12/31/2013: All trucks in port and rail yard service must have a 1994 or newer engine that meets 2007 model year emission standards</li> <li>Effective 9/30/2009: Drayage truck must be registered in ARB Drayage Truck Registry (DTR)</li> <li>Must attach truck registry label, maintain engine and controls and keep maintenance log</li> </ul> <p><u>For motor carriers:</u> May not dispatch a truck for port or rail yard service that does not comply with the emission standards and registry requirements</p> <p><u>For ports and intermodal rail yards:</u></p> <ul style="list-style-type: none"> <li>Effective 9/30/2009: Must collect information on trucks not in DTR entering port or rail yard</li> <li>Effective 4/15/2010: Must begin reporting information on trucks not in DTR to ARB</li> </ul>
Shore Power Regulation (12/6/2007)	<ul style="list-style-type: none"> <li>Any person who owns, operates, charters, rents, or leases a container ship, passenger ship, or refrigerated cargo ship in a fleet that visits California ports* 25 or more times (or 5 for passenger ships) in a year</li> <li>Any person who owns or operates a terminal at a California port* with more than 50 vessel visits per year involving container, passenger, or refrigerator cargo ships</li> </ul> <p>* 6 ports, including only Oakland and San Francisco in the Bay Area</p>	<p><u>For ship operators:</u></p> <ul style="list-style-type: none"> <li>Effective 1/1/2014: Ship auxiliary engines must be shut down for 50% of a fleet's visits to California ports</li> <li>Effective 1/1/2017: Ship auxiliary engines must be shut down for 70% of a fleet's visits to California ports</li> <li>Effective 1/1/2020: Ship auxiliary engines must be shut down for 80% of a fleet's visits to California ports</li> <li>Alternative compliance option: Using any technology or combination of technologies, reduce at-berth emissions 10% by 2010, 25% by 2012, 50% by 2014, 70% by 2017, and 80% by 2020</li> <li>Submit fleet compliance plans and updates for each port** on a schedule based on compliance dates</li> </ul> <p><u>For terminal operators:</u></p> <ul style="list-style-type: none"> <li>Submit initial compliance plan by 7/1/2009</li> <li>Submit plan updates in accordance with schedule aligned with compliance dates</li> <li>Maintain data on vessel visits and associated energy usage</li> </ul> <p><u>For ports**:</u> Beginning with 2010 data, must submit vessel visit data annually by April of the following year</p> <p>** Requirements apply only to Oakland and San Francisco in the Bay Area</p>

Regulation (Adoption Date)	Who's Responsible	Primary Requirements
Ship Auxiliary and Main Engine Regulation (7/24/2008)	Any person who owns, operates, charters, rents, or leases an ocean-going vessel that visits a California port	<p>No ocean-going vessel may use fuel with a sulfur content exceeding that listed below within twenty-four miles of the California coast:</p> <ul style="list-style-type: none"> <li>• Upon OAL approval of the regulation: For auxiliary diesel engines, marine gas oil (MGO) sulfur content may not exceed 1.5% and marine diesel oil (MDO) sulfur content may not exceed 0.5%</li> <li>• Effective 7/1/2009: For main engines, MGO sulfur content may not exceed 1.5% and MDO sulfur content may not exceed 0.5%</li> <li>• Effective 1/1/2012: . For all engines, MGO and MDO sulfur content may not exceed 0.1%</li> </ul>

DRAFT

**Appendix B – Descriptions of the Five San Francisco Bay Area  
Seaports**

DRAFT

## **Appendix B – Description of the Five San Francisco Bay Area Seaports**

### **Benicia**

The Port of Benicia is a privately-owned port located along the Carquinez Strait 16 miles from the Golden Gate Bridge. The port property covers 667 acres within the 3,500 acre Benicia Industrial Park. The port is operated by AMPORTS, which imports motor vehicles using roll-on/roll-off (RORO) ships. In addition, Kinder Morgan, Inc. operates a petroleum coke export business at the port. Tugs also use the port to lay over between jobs. Union Pacific Railroad provides on-terminal rail service.

### **Oakland**

The Port of Oakland is the fourth largest container port in the United States (behind the Port of Los Angeles, the Port of Long Beach, and New York City/New Jersey). Terminal facilities at the port cover more than 770 acres.

The port is operated by a department of the City of Oakland, with control and management exercised by the Board of Port Commissioners. The port is a non-operating or landlord port that leases space to tenant marine terminals. There are ten major terminals at the port, all of which serve container ships and all of which operate under leases that grant preferential access to terminal facilities.

Two railroads, the Burlington Northern Santa Fe and the Union Pacific, operate rail yards immediately adjacent to the port that provide intermodal service to move containers to markets throughout the United States. The port is also served by major freeways that allow trucks to move containers to intermodal railheads, distribution centers, and into interstate commerce.

### **Redwood City**

The Port of Redwood City is located 18 miles south of San Francisco. It is operated by a department of Redwood City and managed by the Board of Port Commissioners. It is primarily a bulk import port for commodities used in making concrete and other materials for Bay Area construction projects. The two major tenants are Cemex Aggregates and Cemex Cement. Cemex Aggregates primarily imports aggregates from British Columbia. Cemex Cement primarily imports cement from Indonesia. PABCO Gypsum, a manufacturer of gypsum wallboard, imports gypsum through the port for its wallboard plant in Newark. IMI imports bauxite through the port for the Hanson Permanente cement plant in Cupertino. The only export business at the port is SIMS Group, which exports scrap metal, mainly from crushed automobiles, through the port.

### **Richmond**

The Port of Richmond is located 9 miles from the Golden Gate Bridge. It encompasses five marine terminals owned by the City of Richmond and ten privately-owned terminals all located

along the Richmond Inner Harbor. The city-owned terminals are leased to tenants that handle a wide range of liquid and dry bulk commodities, automobiles, and other cargo.

Private terminals handle bulk liquid, dry bulk materials, metals, and break-bulk cargoes. Half of the private terminals (Pacific Atlantic, IMTT, BP Lubricants, ConocoPhillips, and BP West Coast) handle petroleum products.

The Chevron Richmond Long Wharf, which is also generally associated with the Port of Richmond, is located about two miles west of the other Port of Richmond terminals. Chevron operates the wharf, importing crude oil and intermediate products and exporting various petroleum products. The wharf is covered by the BAAQMD permit issued to the Chevron Richmond Refinery. Emissions from ships at the wharf are included in refinery-wide emissions, which are subject to an emissions cap imposed by the permit.

### **San Francisco**

The Port of San Francisco owns 7.5 miles of San Francisco waterfront stretching from the Hyde Street Pier southward along San Francisco Bay to Berth 96 near Hunters Point. The Port covers more than 1000 acres and is operated as a public enterprise agency of the City and County of San Francisco. The port is managed by a five-member Board of Commissioners.

The Port of San Francisco has over 500 tenants, but most of them have no connection to waterborne commerce. Port tenants include offices, retail shops, parking lots, restaurants, and the baseball park. The primary maritime activities at the port are the cruise ship dock at Pier 35, the cargo terminals from China Basin south to Hunters Point, and a great variety of harbor craft activity.

## **Appendix C – Description of Port Emission Reduction Efforts**

DRAFT

## **Appendix C – Description of Port Emission Reduction Efforts**

### **Ports of Los Angeles and Long Beach**

The Port of Los Angeles and the Port of Long Beach have worked in tandem to address concerns about pollution from port activities. Each port first prepared an inventory of air emissions in 2001 and updated the inventory in 2005 and 2006. In November 2006, the ports jointly adopted an action plan, called the San Pedro Bay Clean Air Action Plan, to reduce each port's emissions by 45% to 50% by the end of 2011 relative to base year 2001 (Los Angeles) or 2002 (Long Beach). The plan, which was the first such port plan in the nation, sets forth actions to reduce emissions from the trucks, ocean-going vessels, cargo handling equipment, harbor craft, and trains involved in moving goods to, from, and around the two ports. The primary goal of the plan is to reduce the public health risks from port-related air pollution while allowing for continued growth of the ports.

The major initiatives identified in the San Pedro Bay plan are: (1) replacement or retrofit of approximately 16,000 trucks, (2) concession agreements imposing clean truck requirements as well as safety, security, and financial responsibility requirements on truck firms that operate at the ports, (3) development of shore power at all terminals, (4) use of low-sulfur fuel by ocean going vessels, (5) a complete replacement of off-road equipment engines with engines that meet the very low-EPA Tier 4 emission standards, (6) accelerated deployment of low emission locomotives and harbor craft by the railroad and tugboat companies, and (7) a technology advancement program, in partnership with the South Coast AQMD. In most respects, these initiatives are similar to those now mandated by ARB regulations.

A central element of the plan has been the Clean Trucks Program. To implement the Clean Trucks Program, each port adopted tariff amendments requiring all drayage trucks to meet EPA 2007 truck emission standards by 2012. Each port then adopted orders requiring port terminal operators to prohibit access to trucks not operating under a concession agreement with the port. The concession agreements for the two ports are similar in imposing requirements regarding truck company licensing, registration with the port's drayage truck registry, responsibility for drivers, compliance with the Clean Trucks Program, parking, maintenance, safety, port security, radio frequency identification devices for trucks, truck placards, and financial responsibility. The primary difference between the concession agreements at the two ports is that the Port of Los Angeles tariff requires that motor carriers transition away from independent contractor drivers and instead use drivers who are employees of the motor carrier.

Each port included in its tariff a system of charges to be paid by motor carriers. These charges include initial concession application fees and annual administrative fees of \$100 for each truck operating under a concession agreement. In addition, the ports have included a \$35 per twenty-foot container unit charge on containers moved by trucks that do not meet 2007 EPA emission standards.

In July 2008, the American Trucking Association filed a lawsuit against the two ports, alleging that the concession agreements are preempted by a 1994 federal statute that deregulated trucking.

The primary target of the lawsuit is the Port of Los Angeles requirement that motor carriers use employee drivers. In September 2008, a U.S. District Court judge denied ATA's request for a preliminary injunction barring implementation of the Clean Trucks Program. ATA filed an appeal with the U.S. Court of Appeals for the Ninth Circuit, which denied the request for injunctive relief and established an expedited briefing schedule for the case. In October, the federal government filed an amicus brief in the case supporting ATA's effort to reverse the decision of the District Court. The outcome of this case on appeal will determine the extent to which ports can use concession agreements to control the nature of the trucking businesses and trucks that move containers at the ports.

Various community and labor groups would like to see the Port of Los Angeles concession model implemented at all ports as a way to reduce truck emissions while improving the working conditions of independent contractor drivers. These groups are concerned that many independent contractor drivers lack the financial resources to purchase new trucks or retrofits and that subsidy programs may require financial contributions or the assumption of debt that truckers cannot afford.

### **Port of Oakland**

In 2005, the Port of Oakland began preparation of an emissions inventory to provide baseline data for planning activities and for tracking progress in reducing emissions. In March 2008, the Port released the final inventory, the "Port of Oakland 2005 Seaport Air Emissions Inventory." Data from this inventory was used by the California Air Resources Board in preparing its West Oakland HRA.

In June 2008, the Port of Oakland released a draft Maritime Air Quality Improvement Plan (MAQIP). The plan had its origins in discussions with community groups and regulatory agencies in 2006. In early 2007, the Port established a 35-member MAQIP Task Force which met through 2007 and early 2008. The Task Force had four co-chairs, including Jack Broadbent, the Executive Officer of the Air District. The Port intends the plan to be a master plan establishing air quality goals and policies to guide Port efforts to reduce emissions. A central element of the MAQIP is a resolution, adopted by the Board of Port Commissioners on March 18, 2008, committing the Port to an 85% reduction by 2020 in cancer risks from exposure to Port diesel PM emissions. The Air District has commented on the draft MAQIP urging that the plan should include (1) more detail regarding the measures that will be implemented to achieve plan goals, (2) clear descriptions of the means for ensuring that tenants comply with the ARB regulations on which the plan heavily relies, (3) backup measures in the event that plan measures cannot be implemented, and (4) a timeline for implementing user fees to cover air pollution program costs. The Port expects to finalize the MAQIP in late 2008.

The draft MAQIP differs from the plan adopted by the Ports of Los Angeles and Long Beach because it does not include implementation programs and projects within the plan. Rather than include implementation steps in the MAQIP, the Port of Oakland appears to be developing its emission reduction programs as separate efforts. In particular, the Port has been working on a Comprehensive Truck Management Plan since June 2007. In developing the plan, the Port has been following developments with the concession agreements adopted by the Ports of Los

Angeles and Long Beach. Community, environmental, and labor groups have been urging the Port of Oakland to adopt a concession agreement model for truck management.

On July 1, 2008, the Port of Oakland adopted a resolution authorizing Port staff to explore amending the port tariff to impose a container fee of \$12.50 to \$25.00 per twenty-foot container unit. The revenue raised by the container fees would be used to fund programs to reduce air pollution from Port activities.

DRAFT

BAY AREA AIR QUALITY MANAGEMENT DISTRICT  
Memorandum

To: Chairperson Miley and Members of the  
Ad Hoc Committee on Port Emissions

From: Jack P. Broadbent  
Executive Officer/APCO

Date: November 6, 2008

Re: Discussion of Comprehensive Truck Management Plan at the Port of  
Oakland

---

RECOMMENDED ACTION:

Informational report, receive and file.

DISCUSSION

Staff will discuss developments regarding potential comprehensive truck management plans at the Port of Oakland.

BUDGET CONSIDERATION / FINANCIAL IMPACT:

None at this time.

Respectfully submitted,

Jack P. Broadbent  
Executive Officer/APCO

BAY AREA AIR QUALITY MANAGEMENT DISTRICT  
Memorandum

To: Chairperson Jerry Hill and Members  
of the Board of Directors

From: Jack P. Broadbent  
Executive Officer/APCO

Date: November 12, 2008

Re: Continued Public Hearing to Consider Proposed Amendments to Regulation  
8, Rule 20: Graphic Arts Printing and Coating Operations; Regulation 3: Fees,  
Schedule R: Equipment Registration Fees; and, Regulation 2 Permits, Rule 1:  
General Requirements

---

RECOMMENDED ACTION:

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

- Adopt proposed amendments to Regulation 8: Organic Compounds, Rule 20: Graphic Arts Printing and Coating Operations, including a revision to Section 8-20-306;
- Adopt proposed amendments to Regulation 3: Fees, Schedule R: Equipment Registration Fees;
- Adopt proposed amendments to Regulation 2: Permits, Rule 1: General Requirements; and
- Adopt a California Environmental Quality Act (CEQA) Negative Declaration.

BACKGROUND

Regulation 8, Rule 20 sets volatile organic compound (VOC) emission limits for graphic arts products including inks, coatings, adhesives, and cleaning products in order to reduce ozone forming emissions to the atmosphere. The proposed amendments will implement control measure SS-2 from the Bay Area 2005 Ozone Strategy. A public hearing on the proposed amendments was initiated at the November 5, 2008 Board of Directors meeting, and the hearing was continued in accordance with California Health and Safety Code Section 40726.

DISCUSSION

Since publication of the draft rule on October 6, 2008, staff has modified Section 8-20-306 due to an inadvertent drafting error. Not all of the proposed rule amendments were included in the draft rule even though they were described in the November 5, 2008 Board memo. New language provides until July 1, 2009 for manufacturers and suppliers of cleaning products and of digital printing inks, coatings, and adhesives to update VOC content on data sheets. The proposed time extension will provide manufacturers and suppliers of these

graphic arts products sufficient time to comply with this new requirement. The change to Section 8-20-306 is shown below, first separately, then incorporated into the rule with new language added in double strikethrough and double underline format. This new provision also clarifies staff's response to comment C in pages 1 and 2 of Appendix I, Comments and Responses.

Effective July 1, 2009, manufacturers and suppliers of cleaning products that are sold for use in graphic arts operations within the District and of all inks, coatings, and adhesives that are sold for use in digital printing subject to Section 8-20-503.3 within the District shall include a designation of their products' VOC content, less water, as supplied, expressed in grams per liter or pounds per gallon, on data sheets.

**8-20-306 Compliance Statement, VOC Label Requirement:** ~~The M~~manufacturers and suppliers of all inks, coatings, adhesives, and fountain solutions, ~~and cleaning products which that~~ are sold for use in graphic arts operations within the District ~~other than digital printing~~ shall include a designation of their products' VOC content of product, less water, as supplied ~~(as defined in Section 8-20-216)~~ expressed in grams per liter or pounds per gallon, ~~either by calculation or analysis~~, on data sheets. Effective July 1, 2009, manufacturers and suppliers of cleaning products that are sold for use in graphic arts operations within the District and of all inks, coatings, and adhesives that are sold for use in digital printing subject to Section 8-20-503.3 within the District shall include a designation of their products' VOC content, less water, as supplied, expressed in grams per liter or pounds per gallon, on data sheets. Effective July 1, 2009, manufacturers and suppliers, including manufacturers and suppliers of digital printing inks and solvents subject to Section 8-20-503.3, shall only distribute within the District inks, coatings, adhesives, fountain solutions, and cleaning products for use in graphic arts operations subject to VOC limits in Section 8-20-302, 307, and 309 in containers with a label that specifies the products' VOC content, expressed in grams per liter or pounds per gallon, and any recommended dilution factor or mix ratio.

Based on comments received at the public hearing and since then, staff does not propose any other changes to the proposed rule.

Respectfully submitted,

Jack P. Broadbent  
Executive Officer / APCO

Prepared by: William Saltz  
Reviewed by: Henry Hilken

Attachments:

Proposed amendments to Regulation 8, Rule 20: Graphic Arts Printing and Coating Operations;

Proposed amendments to Regulation 2 Permits, Rule 1 General Requirements;

Proposed amendments to Regulation 3: Fees, Schedule R, Equipment Registration Fees;

Staff Report including appendices

Appendix I: Comments and Responses

Appendix II: Socioeconomic Analysis

Appendix III: CEQA Initial Study and Negative Declaration

**REGULATION 2  
PERMITS  
RULE 1  
GENERAL REQUIREMENTS**

**INDEX**

**2-1-100 GENERAL**

2-1-101	Description
2-1-102	Applicable Requirements
2-1-103	Exemption, Source not Subject to any District Rule
2-1-104	Deleted October 7, 1998
2-1-105	Exemption, Registered Statewide Portable Equipment
2-1-106	Limited Exemption, Accelerated Permitting Program
2-1-109	Deleted June 7, 1995
2-1-110	Deleted June 7, 1995
2-1-111	Deleted June 7, 1995
2-1-112	Deleted June 7, 1995
2-1-113	Exemption, Sources and Operations
2-1-114	Exemption, Combustion Equipment
2-1-115	Exemption, Particulate Sources at Quarries, Mineral Processing and Biomass Facilities
2-1-116	Exemption, Furnaces, Ovens and Kilns
2-1-117	Exemption, Food and Agricultural Equipment
2-1-118	Exemption, Surface Preparation and Cleaning Equipment
2-1-119	Exemption, Surface Coating and Printing Equipment
2-1-120	Exemption, Dry Cleaning Equipment
2-1-121	Exemption, Material Working and Handling Equipment
2-1-122	Exemption, Casting and Molding Equipment
2-1-123	Exemption, Liquid Storage and Loading Equipment
2-1-124	Exemption, Semiconductor Manufacturing
2-1-125	Exemption, Printed Circuit Board Manufacturing Equipment
2-1-126	Exemption, Testing Equipment
2-1-127	Exemption, Chemical Processing Equipment
2-1-128	Exemption, Miscellaneous Equipment
2-1-129	Major Facility Review

**2-1-200 DEFINITIONS**

2-1-201	Emission Reduction Credits
2-1-202	Complete Application
2-1-203	Fugitive Emissions
2-1-204	Major Facility
2-1-205	National Ambient Air Quality Standards (NAAQS)
2-1-206	Organic Compound
2-1-207	Organic Compound, Non-Precursor (NPOC)
2-1-208	Organic Compound, Precursor
2-1-209	Reasonably Available Control Technology (RACT)
2-1-210	Start-Up Period
2-1-211	CEQA
2-1-212	EIR
2-1-213	Facility
2-1-214	Federally Enforceable
2-1-215	Hazardous Air Pollutant (HAP)
2-1-216	Major Facility Review (MFR)

2-1-217 Potential to Emit  
 2-1-218 Regulated Air Pollutant  
 2-1-219 Synthetic Minor Operating Facility  
 2-1-220 Portable Equipment  
 2-1-221 Source  
 2-1-222 Toxic Air Contaminant (TAC)  
 2-1-223 Year  
 2-1-224 Responsible Laboratory Management Practices  
 2-1-225 Health Risk Screening Analysis (HRSA)  
 2-1-226 Statewide Portable Equipment Registration Program  
 2-1-227 Substantial Use  
 2-1-228 Particulate Matter  
 2-1-229 PM<sub>10</sub>  
 2-1-230 Functionally Equivalent  
 2-1-231 Semiconductor Fabrication Area  
 2-1-232 New Source  
 2-1-233 Alter  
 2-1-234 Modified Source  
 2-1-235 Shutdown  
 2-1-236 Closure  
 2-1-237 BACT/TBACT Workbook  
 2-1-238 Clean Air Act  
 2-1-239 Agricultural Source

#### **2-1-300 STANDARDS**

2-1-301 Authority to Construct  
 2-1-302 Permit to Operate  
 2-1-303 Fees  
 2-1-304 Denial, Failure to Meet Emission Limitations  
 2-1-305 Conformance with Authority to Construct  
 2-1-306 Mandated Reductions Not Applicable  
 2-1-307 Failure to Meet Permit Conditions  
 2-1-308 Fugitive Emissions  
 2-1-309 Canceled Application  
 2-1-310 Applicability of CEQA  
 2-1-311 Ministerial Projects  
 2-1-312 Other Categories of Exempt Projects  
 2-1-313 Projects Not Exempt From CEQA Review  
 2-1-314 Case-by-Case CEQA Determinations  
 2-1-315 Denial, Failure to Mitigate Significant Adverse Environmental Impacts  
 2-1-316 New or Modified Sources of Toxic Air Contaminants or Hazardous Air Pollutants  
 2-1-317 Public Nuisance Sources  
 2-1-318 Hazardous Substances  
 2-1-319 Source Expressly Subject to Permitting Requirements

#### **2-1-400 ADMINISTRATIVE REQUIREMENTS**

2-1-401 Persons Affected  
 2-1-402 Applications  
 2-1-403 Permit Conditions  
 2-1-404 Changes in Throughput and Hours of Operation  
 2-1-405 Posting of Permit to Operate  
 2-1-406 Transfer  
 2-1-407 Authority to Construct Expiration  
 2-1-408 Action on Applications  
 2-1-409 Regulations in Force Govern  
 2-1-410 Appeal

- 2-1-411 Permit to Operate, Final Action
- 2-1-412 Public Notice, Schools
- 2-1-413 Portable Equipment Operated Within the District
- 2-1-414 Loss of Exemption, Public Nuisance
- 2-1-415 Source Pre-Certification Procedure
- 2-1-416 Temporary Amnesty for Unpermitted Sources
- 2-1-420 Suspension
- 2-1-421 Appeal from Suspension
- 2-1-422 Revocation
- 2-1-423 Hearings
- 2-1-424 Loss of Exemption
- 2-1-425 Sources of Toxic Air Contaminants
- 2-1-426 CEQA-Related Information Requirements
- 2-1-427 Procedure for Ministerial Evaluations
- 2-1-428 Criteria for Approval of Ministerial Permit Applications
- 2-1-429 Federal Emissions Statement
- 2-1-430 Maintenance of the Permit Handbook and BACT/TBACT Workbook
- 2-1-431 Date of Completion
- 2-1-432 Determination of Complete Application

**2-1-500 MONITORING AND RECORDS**

- 2-1-501 Monitors
- 2-1-502 Burden of Proof

**2-1-600 MANUAL OF PROCEDURES**

- 2-1-601 Engineering Permitting Procedures
- 2-1-602 CEQA Guidelines

**REGULATION 2**  
**PERMITS**  
**RULE 1**  
**GENERAL REQUIREMENTS**

(Adopted January 1, 1980)

**2-1-100 GENERAL**

**2-1-101 Description:** The purpose of Regulation 2 is to provide an orderly procedure for the review of new sources of air pollution, and of the modification and operation of existing sources, and of associated air pollution control devices, through the issuance of authorities to construct and permits to operate. The applicability of Regulation 2, Rule 1 is illustrated by Figure 2-1-101, Permit/Exemption Flow Chart. An applicant may choose to obtain a permit to operate for a source that is exempt from permit requirements. In that case, the affected source is deemed to be subject to the requirements of Section 2-1-302 until such time as an application for return to exempt status is approved.

*(Amended 7/17/91; 6/7/95; 5/17/00; 12/21/04)*

**2-1-102 Applicable Requirements:** The requirements of this Rule shall apply to Rules 2, 3, and 6 of this Regulation, unless superseded by specific requirements in Rules 2, 3, and 6.

*(Amended November 3, 1993)*

**2-1-103 Exemption, Source not Subject to any District Rule:** Any source that is not already exempt from the requirements of Section 2-1-301 and 302 as set forth in Sections 2-1-105 to 2-1-128, is exempt from Section 2-1-301 and 302 if the source meets all of the following criteria:

- 103.1 The source is not in a source category subject to any of the provisions of Regulation 6<sup>(1)</sup>, Regulation 8<sup>(2)</sup> excluding Rules 1 through 4, Regulations 9 through 12; and
- 103.2 The source is not subject to any of the provisions of Sections 2-1-316 through 319; and
- 103.3 Actual emissions of precursor organic compounds (POC), non-precursor organic compounds (NPOC), nitrogen oxides (NOx), sulfur dioxide (SO<sub>2</sub>), PM<sub>10</sub> and carbon monoxide (CO) from the source are each less than 10 pounds per highest day. A source also satisfies this criterion if actual emissions of each pollutant are greater than 10 lb/highest day, but total emissions are less than 150 pounds per year, per pollutant.  
Note 1: Typically, any source may be subject to Regulation 6, Particulate Matter and Visible Emissions. For the purposes of this section, Regulation 6 applicability shall be limited to the following types of sources that emit PM<sub>10</sub>: combustion source; material handling/processing; sand, gravel or rock processing; cement, concrete and asphaltic concrete production; tub grinder; or similar PM<sub>10</sub>-emitting source, as deemed by the APCO.  
Note 2: If an exemption in a Regulation 8 Rule indicates that the source is subject to Regulation 8, Rules 1 through 4, then the source must comply with all applicable provisions of Regulation 8, Rules 1 through 4, to qualify for this exemption.
- 103.4 The source is not an ozone generator (a piece of equipment designed to generate ozone) emitting 1 lb/day or more of ozone.

*(Adopted 6/7/95; Amended 5/17/00; 12/21/04)*

**2-1-104 Deleted October 7, 1998**

**2-1-105 Exemption, Registered Statewide Portable Equipment:** The following portable equipment is exempt from the requirements of Sections 2-1-301 and 302, provided that the equipment complies with all applicable requirements of the Statewide Portable Equipment Registration Program (California Code of Regulations Title 13, Division 3, Chapter 3, Article 5).

- 105.1 Confined abrasive blasting
- 105.2 Portland concrete batch plants

- 105.3 Spark ignition or diesel fired internal combustion engines used in conjunction with the following types of operations:
  - 3.1 Well drilling service or workover rigs;
  - 3.2 Power generation, excluding cogeneration;
  - 3.3 Pumps;
  - 3.4 Compressors;
  - 3.5 Pile drivers;
  - 3.6 Welding;
  - 3.7 Cranes; and
  - 3.8 Wood chippers
- 105.4 Sand and Gravel screening, rock crushing, pavement crushing and recycling operations;
- 105.5 Unconfined abrasive blasting.

*(Adopted 6/7/95; Amended 10/7/98; 5/17/00)*

**2-1-106 Limited Exemption, Accelerated Permitting Program:** Unless subject to any of the provisions of Sections 2-1-316 through 319, any new or modified source is exempt from the Authority to Construct requirements of Section 2-1-301, provided that the owner or operator submits a complete application under the Accelerated Permitting Program. A complete permit application under this program consists of: a completed permit application form and source data form(s); payment of applicable fees (the minimum permit fee required to install and operate each source); and certification that the source meets all of the criteria set forth in Sections 2-1-106.1 through 106.3. Such a source is still subject to the Permit to Operate requirements of Section 2-1-302, but will be evaluated under the Accelerated Permitting Program, as described in Section 2-1-302.2.

- 106.1 Uncontrolled emissions of POC, NPOC, NOx, SO2, PM<sub>10</sub>, and CO are each less than 10 pounds per highest day; or the source is pre-certified per Section 2-1-415; and
- 106.2 Emissions of toxic compounds do not exceed the trigger levels identified in Table 2-5-1 of Regulation 2, Rule 5; and
- 106.3 The source is not subject to the public notice requirements of Section 2-1-412.

In addition to the above, the replacement of any abatement device is exempt from the Authority to Construct requirements of Section 2-1-301 and will be evaluated under the Accelerated Permitting Program in Section 2-1-302.2, provided that the owner or operator certifies for all pollutants that the abatement device is as efficient as, or more efficient than, the abatement device being replaced. In addition to the above, any alteration of a source is exempt from the Authority to Construct requirements of Section 2-1-301 and will be evaluated under the Accelerated Permitting Program in Section 2-1-302.2, provided that the owner or operator certifies for all pollutants that the alteration does not result in an increase in emissions.

*(Adopted 6/7/95; Amended 10/7/98; 5/17/00; 6/15/05)*

**2-1-109 Deleted June 7, 1995**

**2-1-110 Deleted June 7, 1995**

**2-1-111 Deleted June 7, 1995**

**2-1-112 Deleted June 7, 1995**

**2-1-113 Exemption, Sources and Operations:**

- 113.1 The following sources and operations are exempt from the requirements of Sections 2-1-301 and 302, in accordance with the California Health and Safety Code:
  - 1.1 Single and multiple family dwellings used solely for residential purposes.
  - 1.2 Agricultural sources with actual emissions of each regulated air pollutant, excluding fugitive dust, less than 50 tons per year, except for large confined animal facilities subject to Regulation 2, Rule 10.
  - 1.3 Any vehicle. Equipment temporarily or permanently attached to a vehicle is not considered to be a part of that vehicle unless the combination is a vehicle as defined in the Vehicle Code. Specialty

vehicles may include temporarily or permanently attached equipment including, but are not limited to, the following: oil well production service unit; special construction equipment; and special mobile equipment.

- 1.4 Tank vehicles with vapor recovery systems subject to state certification, in accordance with the Health and Safety Code.
- 113.2 The following sources and operations are exempt from the requirements of Sections 2-1-301 and 302:
  - 2.1 Road construction, widening and rerouting.
  - 2.2 Restaurants, cafeterias and other retail establishments for the purpose of preparing food for human consumption.
  - 2.3 Structural changes which do not change the quality, nature or quantity of air contaminant emissions.
  - 2.4 Any abatement device which is used solely to abate equipment that does not require an Authority to Construct or Permit to Operate.
  - 2.5 Architectural and industrial maintenance coating operations that are exclusively subject to Regulation 8, Rules 3 or 48, because coatings are applied to stationary structures, their appurtenances, to mobile homes, to pavements, or to curbs. This does not apply to coatings applied by the manufacturer prior to installation, nor to the coating of components removed from such structures and equipment.
  - 2.6 Portable abatement equipment exclusively used to comply with the tank degassing control requirements of Regulation 8, Rule 5 and/or Regulation 8, Rule 40.
  - 2.7 Equipment that transports, holds or stores California Public Utilities Commission regulated natural gas, excluding drivers.
  - 2.8 Deleted May 17, 2000
  - 2.9 Deleted May 17, 2000
  - 2.10 Deleted May 17, 2000
  - 2.11 Teaching laboratories used exclusively for classroom experimentation and/or demonstration.
  - 2.12 Laboratories located in a building where the total laboratory floor space within the building is less than 25,000 square feet, or the total number of fume hoods within the building is less than 50, provided that Responsible Laboratory Management Practices, as defined in Section 2-1-224, are used. Buildings connected by passageways and/or corridors shall be considered as separate buildings, provided that structural integrity could be maintained in the absence of the passageways and/or corridors and the buildings have their own separate and independently operating HVAC and fire suppression systems. For the purposes of this subsection, teaching laboratories that are exempt per Section 2-1-113.2.11 are not included in the floor space or fume hood totals. In addition, laboratory units for which the owner or operator of the source can demonstrate that toxic air contaminant emissions would not occur, except under accidental or upset conditions, are not included in the floor space or fume hood totals.
  - 2.13 Maintenance operations on natural gas pipelines and associated equipment, provided that emissions from such operations consist solely of residual natural gas that is vented after the equipment is isolated or shut down.
  - 2.14 Space heating units that are not subject to Regulation 9, Rule 7, where emissions result solely from the combustion of natural gas or liquefied petroleum gas (e.g. propane, butane, isobutane, propylene, butylenes, and their mixtures) of less than 20 million BTU per hour heat input. Incinerators operated in conjunction with such sources are not exempt.
  - 2.15 Asbestos and asbestos containing material renovation or removal conducted in compliance with Regulation 11, Rule 2 and Regulation 3.

- 2.16 Closed landfills that have less than 1,000,000 tons of decomposable solid waste in place and that do not have an operating landfill gas collection system.
- 2.17 Closed landfills that have not accepted waste for at least 30 years and that never had a landfill gas collection system.
- 2.18 Construction of a building or structure that is not itself a source requiring a permit.

*(Adopted 10/19/83; Amended 7/17/91; 6/7/95; 5/17/00; 11/15/00; 5/2/01; 7/19/06)*

**2-1-114 Exemption, Combustion Equipment:** The following equipment is exempt from the requirements of Sections 2-1-301 and 302, only if the source does not emit pollutants other than combustion products, and those combustion products are not caused by the combustion of a pollutant generated from another source, and the source does not require permitting pursuant to Section 2-1-319.

114.1 Boilers, Heaters, Steam Generators, Duct Burners, and Similar Combustion Equipment:

- 1.1 Any of the above equipment with less than 1 million BTU per hour rated heat input.
- 1.2 Any of the above equipment with less than 10 million BTU per hour rated heat input if fired exclusively with natural gas (including compressed natural gas), liquefied petroleum gas (e.g. propane, butane, isobutane, propylene, butylenes, and their mixtures), or any combination thereof.

114.2 Internal Combustion Engines and Gas Turbines:

- 2.1 Internal combustion (IC) engines and gas turbines with a maximum output rating less than or equal to 50 hp.
- 2.2 Internal combustion (IC) engines and gas turbines used solely for instructional purposes at research, teaching, or educational facilities.
- 2.3 Portable internal combustion engines which are at a location for less than 72 consecutive hours.
- 2.4 Any engine mounted on, within, or incorporated into any vehicle, train, ship, boat, or barge used to provide propulsion for the vehicle, train, ship, boat, or barge. Facilities which include cargo loading or unloading from cargo carriers other than motor vehicles shall include the cargo carriers as part of the source which receives or loads the cargo.
- 2.5 Any engine mounted on, within, or incorporated into any vehicle, train, ship, boat, or barge used to provide propulsion for the vehicle, train, ship, boat, or barge and which is also used to supply mechanical or electrical power to ancillary equipment (e.g., crane, drill, winch, etc.) which is affixed to or is a part of the vehicle, train, ship, boat, or barge. Facilities which include cargo loading or unloading from cargo carriers other than motor vehicles shall include the cargo carriers as part of the source which receives or loads the cargo.

*(Adopted 10/19/83; Amended 7/17/91; 6/7/95; 5/17/00; 8/1/01)*

**2-1-115 Exemption, Particulate Sources at Quarries, Mineral Processing and Biomass Facilities:** The following potential PM<sub>10</sub> sources are exempt from the requirements of sections 2-1-301 and 302, provided that the source does not require permitting pursuant to Section 2-1-319.

- 115.1 Sources located at quarrying; mineral or ore handling or processing; concrete production; asphaltic concrete production; marine bulk transfer stations; concrete or asphaltic concrete recycling; vehicle shredding; glass manufacturing; handling or processing of cement, coke, lime, flyash, fertilizer, or catalyst; or other similar facility which meets one of the following:
  - 1.1 Mixer and other ancillary sources at concrete or aggregate product production facilities with a maximum rated production capacity less than 15 cubic yards (yd<sup>3</sup>) per hour;
  - 1.2 Other source at a facility with a maximum throughput less than 5000 tons per year;

- 1.3 Operating, loading and unloading a crusher or grinder which processes exclusively material with a moisture content greater than or equal to 20 percent by weight;
- 1.4 Operating, loading and unloading the following sources which process exclusively material with a moisture content greater than or equal to 5 percent by weight:
  - 1.4.1 Screen or other size classification;
  - 1.4.2 Conveyor, screw, auger, stacker or bucket elevator;
  - 1.4.3 Grizzly, or other material loading or unloading;
  - 1.4.4 Storage silos;
  - 1.4.5 Storage or weigh hopper/bin system.
- 1.5 Haul or access roads;
- 1.6 Drilling or blasting.
- 115.2 Sources located at biomass recycling, composting, landfill, POTW, or related facilities specializing in the operation of, but not limited to, the following:
  - 2.1 Tub grinder powered by a motor with a maximum output rating less than 10 horsepower;
  - 2.2 Hogger, shredder or similar source powered by a motor with a maximum output rating less than 25 horsepower;
  - 2.3 Other biomass processing/handling sources at a facilities with a total throughput less than 500 tons per year.

*(Amended 6/7/95; 5/17/00)*

**2-1-116 Exemption, Furnaces, Ovens and Kilns:** The following equipment is exempt from the requirements of Sections 2-1-301 and 302, provided that the source does not require permitting pursuant to Section 2-1-319.

- 116.1 Porcelain enameling furnaces, porcelain enameling drying ovens, vitreous enameling furnaces or vitreous enameling drying ovens.
- 116.2 Crucible furnaces, pot furnaces, induction furnaces, cupolas, electric arc furnaces, reverberatories, or blast furnaces with a capacity of 1000 lbs or less each.
- 116.3 Crucible furnaces, pot furnaces, or induction furnaces for sweating or distilling that process 100 tons per year of all metals or less.
- 116.4 Drying or heat-treating ovens with less than 10 million BTU per hour capacity provided that a) the oven does not emit pollutants other than combustion products and b) the oven is fired exclusively with natural gas (including compressed natural gas), liquefied petroleum gas (e.g. propane, butane, isobutane, propylene, butylenes, and their mixtures), or any combination thereof.
- 116.5 Ovens used exclusively for the curing of plastics which are concurrently being vacuum held to a mold, or for the softening and annealing of plastics.
- 116.6 Ovens used exclusively for the curing of vinyl plastisols by the closed mold curing process.
- 116.7 Ovens used exclusively for curing potting materials or castings made with epoxy resins.
- 116.8 Kilns used for firing ceramic ware, heated exclusively by natural gas, liquefied petroleum gas, electricity or any combination thereof.
- 116.9 Parts cleaning, bake-off, and similar ovens that meet both of the following:
  - 9.1 Oven is equipped with a secondary combustion chamber or abated by a fume incinerator; and
  - 9.2 Internal oven volume is 1 cubic yard or less.
- 116.10 Electric ovens used exclusively for curing or heat-treating where no significant off-gassing or evaporation of any air contaminants occurs.

*(Adopted 10/19/83; Amended 7/17/91; 6/7/95; 5/17/00)*

**2-1-117 Exemption, Food and Agricultural Equipment:** The following equipment is exempt from the requirements of Sections 2-1-301 and 302, provided that the source does not require permitting pursuant to Section 2-1-319.

- 117.1 Smokehouses or barbecue units in which the maximum horizontal inside cross sectional area does not exceed 20 square feet.

- 117.2 Equipment at facilities other than restaurants, cafeterias or other retail operations, which is used to dry, cook, fry, bake, or grill less than 1000 tons per year of food products.
- 117.3 Any oven with a total production of yeast leavened bakery products of less than 10,000 pounds per operating day, averaged over any period of seven consecutive days, and which is heated either electrically or exclusively by natural gas firing with a maximum capacity of less than 10 million BTU per hour.
- 117.4 Equipment used exclusively to grind, blend, package, or store tea, cocoa, spices, or coffee.
- 117.5 Equipment used to dry, mill, grind, blend, or package less than 1000 tons per year of dry food products such as seeds, grains, corn, meal, flour, sugar, and starch.
- 117.6 Equipment used to convey, transfer, clean, or separate less than 1000 tons per year of dry food products or waste from food production operations.
- 117.7 Storage equipment or facilities containing dry food products; which are not vented to the outside atmosphere, or which handle less than 1000 tons per year.
- 117.8 Coffee, cocoa and nut roasters with a roasting capacity of less than 15 pounds of beans or nuts per hour; and any stoners or coolers operated in conjunction with these roasters.
- 117.9 Containers, reservoirs, tanks, or loading equipment used exclusively for the storage or loading of beer, wine or other alcoholic beverages.
- 117.10 Fermentation tanks for beer or wine. Fermentation tanks used for the commercial production of yeast for sale are not exempt.
- 117.11 Brewing operations at facilities producing less than 3 million gallons per year of beer.
- 117.12 Fruit sulfuring operations at facilities producing less than 10 tons per year of sulfured fruits and vegetables.

*(Adopted 10/19/83; Amended 4/16/86; 7/1791; 6/7/95; 5/17/00)*

**2-1-118 Exemption, Surface Preparation and Cleaning Equipment:** The following equipment is exempt from the requirements of Sections 2-1-301 and 302, provided that the source does not require permitting pursuant to Section 2-1-319.

- 118.1 Permanent abrasive blasting source, as defined by Regulation 12, Rule 4, that has a confined volume less than 100 cubic feet (ft<sup>3</sup>) and is abated by a particulate filter.
- 118.2 Blast cleaning equipment using a suspension of abrasive in water.
- 118.3 Portable abrasive blasting equipment used on a temporary basis within the District.
- 118.4 Equipment, including solvent cold cleaners using an unheated solvent mixture for surface preparation, cleaning, wipe cleaning, fluxing or stripping by use of solutions with a VOC content less than or equal to 50 grams per liter (0.42 lb/gal).
- 118.5 Equipment using a heated solvent mixture for steam cleaning, surface preparation, fluxing, stripping, wipe cleaning, washing or drying products, provided that a) only solutions containing less than 2.5 percent VOC (wt) are used; and b) any combustion sources used in the process are exempt under Section 2-1-114.
- 118.6 Equipment or operations which use unheated solvent and which contain less than 1 gallon of solvent or have a liquid surface area of less than 1 ft<sup>2</sup>. This exemption does not apply to solvent stations at semiconductor manufacturing operation fabrication areas or aerospace stripping operations.
- 118.7 Deleted December 21, 2004
- 118.8 Batch solvent recycling equipment where all of the following apply:
  - 8.1 Recovered solvent is used primarily on site (more than 50% by volume); and
  - 8.2 Maximum heat input (HHV) is less than 1 million BTU per hour; and
  - 8.3 Batch capacity is less than 150 gallons.

- 118.9 Wipe cleaning at a facility with a net solvent usage less than 20 gallons per year, or which emits to the atmosphere less than 150 lb/year of VOC from all wipe cleaning operations. At a facility with total wipe cleaning emissions greater than 150 lb/yr, wipe cleaning operations may be grouped per Section 2-1-401.4.
- 118.10 Any solvent cleaning or surface preparation source which employs only non-refillable hand held aerosol cans.
- 118.11 Spray gun cleaning performed in compliance with Regulation 8, provided the cleaning is associated with a source, such as a spray booth, subject to the requirements of Section 2-1-301 and 302.

*(Adopted 10/19/83; Amended 4/16/86; 8/2/89; 7/17/91; 6/7/95; 5/17/00; 12/21/04)*

**2-1-119 Exemption, Surface Coating and Printing Equipment:** The following equipment and operations are ~~is~~ exempt from the requirements of Sections 2-1-301 and 302, provided that the source does not require permitting pursuant to Section 2-1-319.

- 119.1 Any powder coating operation, or radiation cured coating operation where ultraviolet or electron beam energy is used to initiate a reaction to form a polymer network.
- 119.2 Any coating, adhesive, dipping, laminating, ~~printing~~, screening, masking, electrodeposition, resist application, or similar source or operation at any facility that is not operated or conducted as part of a graphic arts operation, which:
  - 2.1 Consumes a total of less than 30 gallons of coating, adhesive, laminate or resist ~~and ink~~ per year on a facility wide basis, or emits less than 150 pounds per year of uncontrolled VOC on a facility wide basis, resulting from the application of these materials ~~coatings and ink~~;
  - or
  - 2.2 Uses exclusively materials that contain less than one percent VOC (wt).

At a facility with ~~coating~~ emissions from these sources or operations of greater than 150 lb/yr, coating these sources or operations may be grouped per Section 2-1-401.3.
- 119.3 Any coating source which employs only non-refillable hand held aerosol cans.
- 119.4 An oven associated with an exempt coating source, provided that the oven is electrically heated, or the oven is fired exclusively with natural gas, liquefied petroleum gas (e.g. propane, butane, isobutane, propylene, butylenes, and their mixtures) and the maximum firing rate is less than 10 million BTU per hour.
- 119.5 Any graphic arts operation that emits less than 400 pounds of VOC emissions per month on a facility-wide basis.

*(Adopted 10/19/83; Amended 4/16/86; 7/17/91; 6/7/95; 5/17/00; 12/21/04)*

**2-1-120 Exemption, Dry Cleaning Equipment:** Any dry cleaning facility which uses less than 700 gallons of petroleum solvents or any other non-halogenated solvent in any single year is exempt from the requirements of Sections 2-1-301 and 302, provided that the source does not require permitting pursuant to Section 2-1-319. Equipment which uses perchloroethylene or any other halogenated solvent is not exempt.

*(Adopted 10/19/83; Amended 7/17/91; 6/7/95; 5/17/00)*

**2-1-121 Exemption, Material Working and Handling Equipment:** The following equipment is exempt from the requirements of Sections 2-1-301 and 302, provided that the source does not require permitting pursuant to Section 2-1-319.

- 121.1 Equipment used for buffing, carving, cutting, drilling, grinding, machining, planing, routing, sanding, sawing, shredding, stamping or turning of wood, ceramic artwork, ceramic precision parts, leather, metals, plastics, rubber, fiberboard, masonry, glass, silicon, semiconductor wafers, carbon or graphite, provided that organic emissions from the use of coolant, lubricant, or cutting oil are 5 ton/yr or less.
- 121.2 Equipment used for pressing or storing sawdust, wood chips or wood shavings.

- 121.3 Equipment used exclusively to mill or grind coatings and molding compounds in a paste form provided the solution contains less than one percent VOC (wt).
- 121.4 Tumblers used for the cleaning or deburring of metal products without abrasive blasting.
- 121.5 Batch mixers with a rated working capacity of 55 gallons or less.
- 121.6 Mixing equipment provided no material in powder form is added and mixture contains less than one percent VOC (wt).
- 121.7 Equipment used exclusively for the mixing and blending of materials at ambient temperature to make water based adhesives.
- 121.8 Equipment used exclusively for the mixing and packaging of lubricants or greases.
- 121.9 Presses used exclusively for extruding metals, minerals, plastics or wood.
- 121.10 Presses used for the curing of rubber products and plastic products. The use of mold release products or lubricants is not exempt unless the VOC content of these materials is less than or equal to 1 percent, by weight, or unless the total facility-wide uncontrolled VOC emissions from the use of these materials are less than 150 lb/yr.
- 121.11 Platen presses used for laminating.
- 121.12 Roll mills or calendars for rubber or plastics.
- 121.13 Equipment used exclusively for forging, pressing, rolling, stamping or drawing metals or for heating metals immediately prior to forging, pressing, rolling, stamping or drawing, provided that: (1) maximum fuel use rate is less than 10 million BTU/hr; (2) no lubricant with an initial boiling point less than 400°F is used; and (3) organic emissions are 5 ton/yr or less.
- 121.14 Atmosphere generators used in connection with metal heat treating processes.
- 121.15 Equipment used exclusively for the sintering of glass or metals.
- 121.16 Equipment used exclusively for the melting or applying of wax containing less than one percent VOC (wt).
- 121.17 Equipment used exclusively for conveying and storing plastic pellets.
- 121.18 Solid waste transfer stations that receive or load out a total of all material less than 50 tons/day.
- 121.19 Inactive solid waste disposal sites which do not have an operating landfill gas collection system.

*(Adopted 10/19/83; Amended 7/17/91; 6/7/95; 5/17/00)*

**2-1-122 Exemption, Casting and Molding Equipment:** The following equipment is exempt from the requirements of Sections 2-1-301 and 302, provided that the source does not require permitting pursuant to Section 2-1-319.

- 122.1 Molds used for the casting of metals.
- 122.2 Foundry sand mold forming equipment to which no heat is applied, except processes utilizing organic binders yielding in excess of 0.25% free phenol by weight of sand.
- 122.3 Shell core and shell-mold manufacturing machines.
- 122.4 Equipment used for extrusion, compression molding and injection molding of plastics. The use of mold release products or lubricants is not exempt unless the VOC content of these materials is less than or equal to 1 percent, by weight, or unless the total facility-wide uncontrolled VOC emissions from the use of these materials are less than 150 lb/yr.
- 122.5 Die casting machines.

*(Adopted 10/19/83; Amended 7/17/91; 6/7/95; 5/17/00)*

**2-1-123 Exemption, Liquid Storage and Loading Equipment:** The following equipment is exempt from the requirements of Sections 2-1-301 and 302, provided that the source does not require permitting pursuant to Section 2-1-319.

- 123.1 Storage tanks and storage vessels having a capacity of less than 260 gallons.
- 123.2 Tanks, vessels and pumping equipment used exclusively for the storage or dispensing of any aqueous solution which contains less than 1 percent (wt)

organic compounds. Tanks and vessels storing the following materials are not exempt.

- 2.1 Sulfuric acid with an acid strength of more than 99.0% by weight.
  - 2.2 Phosphoric acid with an acid strength of more than 99.0% by weight.
  - 2.3 Nitric acid with an acid strength of more than 70.0% by weight.
  - 2.4 Hydrochloric acid with an acid strength of more than 30.0% by weight.
  - 2.5 Hydrofluoric acid with an acid strength of more than 30.0% by weight.
  - 2.6 More than one liquid phase, where the top phase contains more than one percent VOC (wt).
- 123.3 Containers, reservoirs, tanks or loading equipment used exclusively for:
- 3.1 Storage or loading of liquefied gases.
  - 3.2 Storage or loading of organic liquids or mixtures containing organic liquids; where the initial boiling point of the organics is greater than 302°F and exceeds the actual storage temperature by at least 180°F. This exemption does not apply to the storage or loading of asphalt or asphalt emulsion with a sulfur content equal to or greater than 0.5 wt%.
  - 3.3 The storage or loading of petroleum oils with an ASTM D-93 (PMCC) flash point of 130°F or higher, when stored or loaded at a temperature at least 36°F below the flash point.
  - 3.4 The storage or loading of lubricating oils.
  - 3.5 The storage of fuel oils with a gravity of 40 API or lower and having a capacity of 10,000 gallons or less.
  - 3.6 The storage or loading of liquid soaps, liquid detergents, tallow, or vegetable oils, waxes or wax emulsions.
  - 3.7 The storage of asphalt or asphalt emulsion with a sulfur content of less than 0.5 wt%. This does not include the storage of asphalt cutback with hydrocarbons having an initial boiling point of less than 302°F.
  - 3.8 The storage of wine, beer or other alcoholic beverages.
  - 3.9 The storage of organic salts or solids in an aqueous solution or suspension, provided that no liquid hydrocarbon layer forms on top of the aqueous phase.
  - 3.10 The storage or loading of fuel oils with a gravity of 25 API or lower.
  - 3.11 The storage and/or transfer of an asphalt-water emulsion heated to 150°F or less.
- 123.4 Tank seal replacement. For any tank subject to Regulation 8, Rule 5, any new seal must comply with the applicable provisions of Regulation 8, Rule 5, and the District must receive written notification of the tank source number and seal type at least three days prior to the installation.

*(Adopted 10/19/83; Amended 7/11/84; 7/17/91; 6/7/95; 5/17/00)*

**2-1-124 Exemption, Semiconductor Manufacturing:** Semiconductor fabrication area(s) at a facility which complies with all of the following are exempt from the requirements of Sections 2-1-301 and 302, provided that the source does not require permitting pursuant to Section 2-1-319.

- 124.1 Net solvent usage is less than 20 gallons of VOC per year on a facility wide basis; or uncontrolled VOC emissions to the atmosphere resulting from the usage of solvent are less than 150 pounds per year of VOC on a facility wide basis, and
- 124.2 Maskant and/or coating usage is less than 30 gallons per year, on a facility wide basis; or uncontrolled VOC emissions from the application of maskant and coatings are less than 150 pounds per year on a facility wide basis.

*(Adopted 10/19/83; Amended 1/9/85; 4/16/86; 7/17/91; 6/7/95; 10/20/99; 5/17/00)*

**2-1-125 Exemption, Printed Circuit Board Manufacturing Equipment:** The following equipment is exempt from the requirements of Sections 2-1-301 and 302, provided that the source does not require permitting pursuant to Section 2-1-319.

- 125.1 Equipment used exclusively for:
  - 1.1 Plating of printed circuit boards.
  - 1.2 Buffing, polishing, carving, cutting, drilling, machining, routing, sanding, sawing, surface grinding or turning of printed circuit boards.

- 1.3 Soldering. This section does not exempt fluxing and finger cleaning (see Section 2-1-118.4).

*(Adopted 10/19/83; Amended 7/17/91; 6/7/95; 5/17/00)*

**2-1-126 Exemption, Testing Equipment:** The following equipment is exempt from the requirements of Sections 2-1-301 and 302, provided that the source does not require permitting pursuant to Section 2-1-319.

- 126.1 Equipment used for hydraulic or hydrostatic testing.
- 126.2 Bench scale laboratory equipment or processes used exclusively for chemical or physical analyses or experimentation, quality assurance and quality control testing, research and development, or similar bench scale equipment, excluding pilot plants.
- 126.3 Equipment used for inspection of metal products.

*(Adopted 10/19/83; Amended 7/17/91; 6/7/95; 5/17/00)*

**2-1-127 Exemption, Chemical Processing Equipment:** The following equipment is exempt from the requirements of Sections 2-1-301 and 302, provided that the source does not require permitting pursuant to Section 2-1-319.

- 127.1 Equipment used exclusively for the dyeing or stripping (bleaching) of textiles provided that only solutions containing less than one percent VOC (wt) are used.
- 127.2 Photographic process equipment by which an image is reproduced upon material sensitized to radiant energy.
- 127.3 Containers, reservoirs, or tanks used exclusively for electrolytic plating with, or electrolytic polishing of, or electrolytic stripping of the following metals: aluminum, brass, bronze, cadmium, copper, iron, nickel, tin, zinc and precious metals.
- 127.4 Containers, reservoirs, or tanks used exclusively for etching (not chemical milling), except where ammonia or ammonium-based etchants are used.

*(Adopted 10/19/83; Amended 7/17/91; 6/7/95; 5/17/00)*

**2-1-128 Exemption, Miscellaneous Equipment:** The following equipment is exempt from the requirements of Sections 2-1-301 and 302, provided that the source does not require permitting pursuant to Section 2-1-319.

- 128.1 Comfort air conditioning or comfort ventilating systems which are not designed to remove air contaminants generated by or released from specific units of equipment.
- 128.2 Refrigeration units except those used as, or in conjunction with, air pollution control equipment.
- 128.3 Vacuum producing devices in laboratory operations which are used exclusively in connection with other equipment which is exempted by this Rule, and vacuum producing devices which do not remove or convey air contaminants from another source.
- 128.4 Water cooling towers and water cooling ponds not used for evaporative cooling of process water, or not used for evaporative cooling of water from barometric jets or from barometric condensers.
- 128.5 Natural draft hoods, natural draft stacks or natural draft ventilators.
- 128.6 Vacuum cleaning system used exclusively for industrial commercial or residential housekeeping purposes.
- 128.7 Equipment used to liquefy or separate oxygen, nitrogen or the rare gases from the air.
- 128.8 Equipment used exclusively to compress or hold dry natural gas, excluding drivers.
- 128.9 Equipment used exclusively for bonding lining to brake shoes.
- 128.10 Equipment used exclusively for the manufacture of water emulsions of waxes, greases or oils.
- 128.11 Brazing, soldering or welding equipment.
- 128.12 Pharmaceutical manufacturing equipment with annual VOC emissions less than 150 pounds per source. Material working and handling equipment such as mills, grinders, blenders, granulators, tablet presses, capsule fillers, packagers, and conveyors are only exempt if the source also processes less than 100 tons per year of pharmaceutical products.

- 128.13 Equipment used exclusively to blend or package cosmetics.
- 128.14 Any wastewater (oil-water) separator, as defined in Regulation 8, Rule 8, which processes less than 200 gallons per day of waste water containing organic liquids.
- 128.15 Exploratory drilling activities for methane recovery at waste disposal sites, for natural gas or for oil. Production wells for the above operations are not exempt.
- 128.16 Passive aeration of soil, only if:
  - 16.1 The duration of the passive aeration operation will not exceed three months, and
  - 16.2 The soil is not being used as a cover material at a landfill.
- 128.17 Ozone generators which produce less than 1 pound per day of ozone.
- 128.18 Any source or operation which exclusively uses consumer products regulated by the California Air Resources Board (California Code of Regulations Title 17, Article 2, Sections 94507-94517).
- 128.19 Any source or operation deemed by the APCO to be equivalent to a source or operation which is expressly exempted by Sections 2-1-113 through 128.
- 128.20 Wastewater pumping stations where no treatment is performed, excluding any drivers.
- 128.21 Modification, replacement, or addition of fugitive components (e.g. valves, flanges, pumps, compressors, relief valves, process drains) at existing permitted process units at petroleum refineries, chemical plants, bulk terminals or bulk plants, provided that the cumulative emissions from all additional components installed at a given process unit during any consecutive twelve month period do not exceed 10 lb/day, and that the components meet applicable requirements of Regulation 8 rules.
- 128.22 Fuel cells that use phosphoric acid, molten carbonate, proton exchange membrane, solid oxide or equivalent technologies.
- 128.23 Structure demolition that does not involve asbestos or asbestos containing materials.

*(Adopted 10/19/83; Amended 7/16/86; 7/17/91; 6/7/95; 5/17/00; 11/15/00; 12/21/04)*

**2-1-129 Major Facility Review:** Notwithstanding the exemptions listed in this section, every source exempted by this Rule shall be included in any application for a synthetic minor or major facility review permit required by Regulation 2, Rule 6.

*(Adopted 12/3/93; Amended 2/1/95; 5/17/00)*

**2-1-200 DEFINITIONS**

**2-1-201 Emission Reduction Credits:** An emission reduction, calculated in accordance with Regulation 2-2-605, which exceeds the emission reductions required by measures in the Air Quality Management Plan or the Clean Air Plan approved by the BAAQMD or required by federal, state, or District laws, rules, and regulations. To qualify as an emission reduction credit the emission reduction must be in excess of the reductions achieved by the source using Reasonably Available Control Technology (RACT), and must also be real, permanent, quantifiable, and enforceable.

201.1 Unless calculated in accordance with the procedures of Regulation 2-2-605, that portion of an NSR emission cap, which was part of an APCO approved alternative baseline, shall not qualify as an emission reduction credit.

201.2 All emission reduction credits shall be enforceable by permit conditions in the authority to construct and permit to operate, except that in the case of source closures where no permit is required for the source being shut down, the emission reduction credit shall be enforceable through appropriate contractual provisions in a legally binding and irrevocable written agreement which provisions will be made expressly for the benefit of the District. The permanence of a closure shall be identified in a letter from the source and/or in a Banking Certificate.

*(Amended 7/17/91; 6/15/94)*

**2-1-202 Complete Application:** An application that contains the following:

- 202.1 Sufficient information for the APCO to determine the emissions from such new or modified source and to quantify emissions from the proposed source(s) of offsets or credits.
- 202.2 Any information requested by the APCO in order to determine the air quality impact of the application.
- 202.3 All applicable fees, as described in Regulation 3.
- 202.4 The information required by Regulation 2-2-414 and 417 provided the application is subject to the PSD requirements of Regulations 2-2-304, 305, 306, or 308.
- 202.5 CEQA-related information that satisfies the requirements of Section 2-1-426.
- 202.6 A certification, stating whether the source triggers the requirements of Section 2-1-412.
- 202.7 A specific designation of any information contained in the application which is asserted to be a trade secret pursuant to Section 6254.7 of the Government Code and not a public record. The applicant shall submit two copies of each page containing trade secret information. One copy shall be clearly labeled "Trade Secret," and each trade secret item shall be clearly marked. The second copy shall be clearly labeled "Public Copy," and each trade secret item shall be redacted. The applicant shall include, for each item which is asserted to be a trade secret, a statement signed by a responsible representative of the applicant identifying that portion of Government Code Section 6254.7 (d) upon which the assertion is based and a brief statement setting forth the basis for this assertion.

*(Amended 7/17/91; 11/20/91; 5/17/00; 12/21/04)*

**2-1-203 Fugitive Emissions:** Fugitive emissions are all emissions from unintended openings in process equipment, emissions occurring from miscellaneous activities relating to the operation of a facility, and those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening.

*(Adopted October 19, 1983)*

**2-1-204 Major Facility:** A major facility is any of the following:

- 204.1 Major Facility, MFR (Regulated Air Pollutants): A facility that has the potential to emit 100 tons per year or more of any regulated air pollutant except total suspended particulate. For fugitive emissions of regulated air pollutants, only the fugitive emissions from facility categories listed in 40 CFR 70.2 "Definitions - Major source (2)" shall be included in determining whether the facility is a major facility. Once any facility is determined to be a major facility, all fugitive emissions from the facility shall be included in calculating the facility's emissions.
- 204.2 Major Facility, MFR (Hazardous Air Pollutants): A facility that has the potential to emit 10 tons per year or more of a single hazardous air pollutant, 25 tons per year or more of a combination of hazardous air pollutants, or such lesser quantity as the EPA Administrator may establish by rule. All fugitive emissions of hazardous air pollutants are included in determining a facility's potential to emit. For radionuclides, the definition of a major facility shall be specified by the EPA Administrator by rule.
- 204.3 A facility with permit conditions that limit emissions to a level that is greater than the above thresholds is defined as a major facility.

*(Amended 7/17/91; 11/3/93; 5/17/00)*

**2-1-205 National Ambient Air Quality Standards (NAAQS):** Levels of air pollution that have been established by the Environmental Protection Agency. All references to NAAQS shall be interpreted to include state ambient air quality standards.

*(Amended 10/7/81; 4/6/88)*

**2-1-206 Organic Compound:** Any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate and methane.

**2-1-207 Organic Compound, Non-Precursor (NPOC):** The following are considered non-precursor organic compounds:

- methylene chloride; chloropentafluoroethane (CFC-115); 1,1,1-trichloroethane; 1,1,1-trifluoro 2,2-dichloroethane (HFC-123); 2-chloro-

1,1,1,2-tetrafluoroethane (HCFC-124); trichlorofluoromethane(CFC-11); 1,1,2-trichloro 1,2,2-trifluoroethane (CFC-113); pentafluoroethane (HFC-125); 1,1,2,2-tetrafluoroethane (HFC-134); 1,1,1,2-tetrafluoroethane (HFC-134a); dichlorodifluoromethane (CFC-12); 1,1-dichloro 1-fluoroethane (HFC-141b); 1-chloro 1,1-difluoroethane (HCFC-142b); 1,1,1-trifluoroethane (HFC-143a); 1,2-dichloro 1,1,2,2-tetrafluoroethane (CFC-114); 1,1-difluoroethane (CFC-152a); chlorodifluoromethane (HCFC-22); trifluoromethane (HFC-23), and perfluorocarbons which fall into these classes:

- (1) Cyclic, branched, or linear, completely fluorinated alkanes,
- (2) Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations,
- (3) Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations, and
- (4) Sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

In addition, any compound designated as having a negligible contribution to photochemical reactivity by the U.S. Environmental Protection Agency as published in the Federal Register shall be considered a Non-Precursor Organic Compound.

*(Amended 7/17/91; 6/15/94)*

**2-1-208 Organic Compound, Precursor:** Any organic compound as defined in Regulation 1-233 excepting the non-precursor organic compounds, defined in Section 2-1-207.

*(Adopted 3/17/82; Amended 7/17/91)*

**2-1-209 Reasonably Available Control Technology (RACT):** For sources that are to continue operating, RACT is the lowest emission limit that can be achieved by the specific source by the application of control technology taking into account technological feasibility and cost-effectiveness, and the specific design features or extent of necessary modifications to the source. For sources which are or will be shut-down, RACT is the lowest emission limit that can be achieved by the application of control technology to similar, but not necessarily identical categories of sources, taking into account technological feasibility and cost-effectiveness of the application of the control technology to the category of sources only and not to the shut-down source.

*(Adopted 3/17/82, Amended 10/19/83; 12/21/04)*

**2-1-210 Start-Up Period:** The period of time between initial operation and the issuance or denial of a permit to operate of a source or facility.

*(Adopted October 19, 1983)*

**2-1-211 CEQA:** The California Environmental Quality Act, Public Resources Code, Section 21000, et seq.

*(Adopted July 17, 1991)*

**2-1-212 EIR:** Environmental Impact Report, as defined in Public Resources Code Section 21000 et seq.

*(Adopted 7/17/91; Amended 5/17/00)*

**2-1-213 Facility:** Any property, building, structure or installation (or any aggregation of facilities) located on one or more contiguous or adjacent properties and under common ownership or control of the same person that emits or may emit any air pollutant and is considered a single major industrial grouping (identified by the first two-digits of the applicable code in *The Standard Industrial Classification Manual*). In addition, facilities that include cargo loading or unloading from cargo carriers other than motor vehicles shall include the cargo carriers as part of the source which receives or loads the cargo. Accordingly, all emissions from such carriers while operating in the District, or within California Coastal Waters adjacent to the District, shall be included as part of the source emissions.

*(Adopted 11/3/93; Amended 12/21/04)*

**2-1-214 Federally Enforceable:** All limitations and conditions which are enforceable by the Administrator of the U. S. EPA, including requirements developed pursuant to 40 CFR Parts 60 (NSPS), 61 (NESHAPS), 63 (HAP), 70 (State Operating Permit Programs) and 72 (Permits Regulation, Acid Rain), requirements contained in the State Implementation Plan (SIP) that are applicable to the District, any District permit requirements established pursuant to 40 CFR 52.21 (PSD) or District regulations approved pursuant to 40 CFR Part 51, Subpart I (NSR), and any operating permits

issued under an EPA-approved program that is a part of the SIP and expressly requires adherence to any permit issued under such program.

*(Adopted November 3, 1993)*

**2-1-215 Hazardous Air Pollutant (HAP):** Any pollutant that is listed pursuant to Section 112(b) of the federal Clean Air Act.

*(Adopted 11/3/93; Amended 5/17/00)*

**2-1-216 Major Facility Review (MFR):** Plantwide review of sources, emissions and regulatory requirements at facilities including, but not limited to, major facilities, phase II acid rain facilities, subject solid waste incinerator facilities, and designated facilities, which are potentially subject to the permitting requirements of Regulation 2, Rule 6, and Title V of the federal Clean Air Act.

*(Adopted November 3, 1993)*

**2-1-217 Potential to Emit:** The maximum capacity of a source or facility to emit a pollutant based on its physical and operational design. Any physical or operational limitation on the capacity of the source or facility to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as a part of its design only if the limitation, or the effect it would have on emissions, is enforceable by the District or EPA. A source or facility that exceeds an enforceable limitation is considered to have a potential to emit that is unconstrained by any such exceeded limit.

*(Adopted 11/3/93; Amended 5/17/00)*

**2-1-218 Regulated Air Pollutant:** The following air pollutants (as defined in Regulation 1) are regulated:

- 218.1 Nitrogen oxides and volatile organic compounds;
- 218.2 Any pollutant for which a national ambient air quality standard has been promulgated;
- 218.3 Any Class I or Class II ozone depleting substance subject to a standard promulgated under Title VI of the federal Clean Air Act;
- 218.4 Any pollutant that is subject to any standard promulgated under Section 111 of the federal Clean Air Act; and
- 218.5 Any pollutant that is subject to any standard promulgated under Section 112 of the federal Clean Air Act, except that a pollutant that is subject solely to Section 112(r) is not a regulated air pollutant.

*(Adopted 11/3/93; Amended 5/17/00)*

**2-1-219 Synthetic Minor Operating Facility:** A facility which by imposition of facilitywide federally enforceable permit conditions has its potential to emit limited to below the threshold levels for a major facility as defined by Sections 204.1 and 204.2 of this rule and in Section 212 of Regulation 2, Rule 6, and is not otherwise required to apply for a major facility review permit under Regulation 2, Rule 6.

*(Adopted November 3, 1993)*

**2-1-220 Portable Equipment:** This definition is provided exclusively for determining applicability of Section 2-1-413: Portable Equipment Operated Within the District. "Portable equipment" means any emission unit that, by itself or, in or on a piece of equipment, is portable, meaning designed to be and capable of being carried or moved from one location to another. Indications of portability include, but are not limited to, wheels, skids, carrying handles, dolly trailer, platform or mounting. A piece of equipment is portable, for purposes of obtaining a portable permit under Section 2-1-413, if all of the following are met:

- 220.1 The equipment will not remain at any single location for a period in excess of twelve consecutive months, following the date of initial operation. Any emission unit, such as back up or standby unit, which replaces an emission unit at that location and is intended to perform the same function as the unit being replaced, will be counted toward the time limitation.
- 220.2 The source (emission unit) remains or will remain at a location for no more than twelve months, following the date of initial operation, where such a period does not represent the full length of normal annual source operations, such as operations which are seasonal.
- 220.3 The equipment is not removed from, or stored at, one location for a period and then returned to the same location in an attempt to circumvent the portable equipment residence time requirement.

- 220.4 The equipment is not operated within 1000 feet of the outer boundary of any K-12 school site, unless the applicable notice requirements of Health and Safety Code Section 42301.6 have been met.
- 220.5 The operation complies with Regulation 2, Rule 5.
- 220.6 No air contaminant is released into the atmosphere in sufficient quantities as to cause a public nuisance per Regulation 1-301.
- 220.7 The operation of the portable equipment in the Air District shall emit no more than 10 tons per year of each pollutant, including POC, CO, NO<sub>x</sub>, PM<sub>10</sub>, NPOC or SO<sub>2</sub>. For PM<sub>10</sub>, fugitive particulate emissions from haul road traffic shall not be counted toward the annual limit.
- 220.8 The operation must be exempt from CEQA, or must be covered by a chapter in the District's Permit Handbook.
- 220.9 The equipment will not cause a Synthetic Minor Facility to exceed a federally enforceable emission limit.
- 220.10 If this equipment remains at any fixed location for more than twelve months, the portable permit will automatically revert to a conventional permanent location permit and will lose its portability. To obtain another portable permit for the equipment, the owner must re-permit the equipment for the next location of intended operations. Upon written request, the APCO may exclude reasonable storage periods before the date of initial operation and/or following the date of final operation from the twelve-month time limitation.

*(Adopted 6/7/95; Amended 10/7/98; 6/15/05)*

**2-1-221 Source:** Any article, machine, equipment, operation, contrivance or related groupings of such which may produce and/or emit air pollutants.

*(Adopted June 7, 1995)*

**2-1-222 Toxic Air Contaminant (TAC):** An air pollutant that may cause or contribute to an increase in mortality or in serious illness or that may pose a present or potential hazard to human health. For the purposes of this rule, TACs consist of the substances listed in Table 2-5-1 of Regulation 2, Rule 5.

*(Adopted 6/7/95; Amended 5/17/00; 6/15/05)*

**2-1-223 Year:** Unless otherwise specified by an operating rule of the District or by a permit condition, a year shall be defined by an applicant or permit holder as one of the following:

- 223.1 Any consecutive 12 month period;
- 223.2 Any consecutive 4 quarter period, where a quarter is 3 consecutive months;
- 223.3 Any consecutive 52 week period;
- 223.4 Any consecutive 365 day period;
- 223.5 Any company fiscal year, provided the fiscal year is 12 consecutive months;
- 223.6 Calendar year;
- 223.7 Any other mutually acceptable period.

In the absence of a rule requirement, permit condition or other information to determine which yearly period applies, the District shall use Section 2-1-223.1.

*(Adopted June 7, 1995)*

**2-1-224 Responsible Laboratory Management Practices:** For the purposes of meeting the laboratory exemption of Section 2-1-113.2.12, Responsible Laboratory Management Practices include all of the following measures for minimizing the emissions of toxic air contaminants:

- 224.1 Open container procedures involving materials that contain volatile toxic air contaminants (TACs) shall be avoided where feasible.
- 224.2 Open container storage of volatile hazardous chemical wastes shall be avoided.
- 224.3 Training for laboratory employees handling hazardous materials shall include information about minimizing the emissions of volatile TACs. These employees shall be directed to avoid open container procedures involving volatile TACs where feasible, and to avoid open container storage of hazardous chemical waste.
- 224.4 Fume hoods shall be posted with notices reminding employees to avoid open container procedures using volatile TACs where feasible. Laboratories shall

be inspected periodically, but not less than annually, to confirm that these notices are present.

- 224.5 Laboratory fume hoods shall be monitored periodically to assure proper face velocity.
- 224.6 Evaporation of any hazardous chemical waste containing TACs as a means of disposal shall be expressly forbidden.

*(Adopted June 7, 1995)*

**2-1-225 Health Risk Screening Analysis (HSRA):** An analysis that estimates the increased likelihood of health risk for individuals in the affected population that may be exposed to emissions of one or more toxic air contaminants, determined in accordance with Regulation 2-5-603.

*(Adopted 6/7/95; Amended 6/15/05)*

**2-1-226 Statewide Portable Equipment Registration Program:** A uniform system for statewide registration and regulation of portable internal combustion and associated equipment, implemented by the Air Resources Board pursuant to Section 41750 et seq. of the Health and Safety Code.

*(Adopted October 7, 1998)*

**2-1-227 Substantial Use:** Substantial use of an Authority to Construct consists of one or more of the following: purchase or acquisition of the equipment that constitutes the source; ongoing construction activities other than grading or installation of utilities or foundations; a contract or commitment to complete construction of the source within two years.

*(Adopted October 7, 1998)*

**2-1-228 Particulate Matter (PM):** Any airborne finely divided solid or liquid material with an aerodynamic diameter smaller than 100 microns.

*(Adopted October 7, 1998)*

**2-1-229 PM<sub>10</sub>:** Particulate matter with aerodynamic diameter smaller than or equal to a nominal 10 microns.

*(Adopted October 7, 1998)*

**2-1-230 Functionally Equivalent:** Performing the same, or equivalent, function as the object of comparison. A functionally equivalent replacement source performs the same function for the process as the source being replaced, although emissions and other characteristics may differ. A replacement that performs additional functions is not considered to be functionally equivalent.

*(Adopted October 7, 1998)*

**2-1-231 Semiconductor Fabrication Area:** A physically identifiable area in a semiconductor manufacturing facility where one or more specific operations in the fabrication of semiconductors or related solid state devices occurs and the equipment used to perform those operations. The semiconductor fabrication area shall not include crystal growth, circuit separation, or encapsulation. All semiconductor fabrication equipment may be grouped into a single fabrication area, or multiple fabrication areas may be established to correspond to product lines or clean room environments.

*(Adopted October 20, 1999)*

**2-1-232 New Source:** Any source that meets at least one of the following criteria, except sources which lose a permit exemption or exclusion in accordance with Regulation 2-1-424, shall be considered a new source:

- 232.1 Any source constructed or proposed to be constructed after March 7, 1979 but which never had a valid District authority to construct or permit to operate.
- 232.2 Any source which was not in operation for a period of one year or more and did not hold a valid District permit to operate during this period of non-operation, occurring after March 7, 1979.
- 232.3 Any relocation of an existing source to a non-contiguous property, except for a portable source.
- 232.4 Any replacement of a source, including an identical replacement of a source, occurring after March 7, 1979, regardless of when the original source was constructed.

- 232.5 Any replacement of an identifiable source within a group of sources permitted together under a single source number for the purpose of District permitting convenience.
- 232.6 "Rebricking" of a glass furnace where changes to the furnace design result in a change in heat generation or absorption.

*(Adopted May 17, 2000)*

**2-1-233 Alter:** To make any physical change to, or change in the method of operation of, a source which may affect emissions. Such changes require a permit to operate, and may require permit conditions, whether or not the alteration results in an emission increase. A change in process stream composition is not an alteration if the source's description in the permit and permit conditions allow for the change in process stream composition, and the change does not increase emissions beyond permitted levels. The following activities are specifically identified as "alterations."

- 233.1 Replacement of burners with non-identical burners.
- 233.2 Maintenance of glass furnaces involving component replacement, unless all replacements are with identical components.
- 233.3 Expansion of the physical boundaries of a semiconductor fabrication area.

*(Adopted 5/17/00; Amended 11/15/00)*

**2-1-234 Modified Source:** Any existing source that undergoes a physical change, change in method of operation, increase in throughput or production, or addition and that results or may result in any of the following:

- 234.1 An increase in either the daily or annual emission level of any regulated air pollutant, or an increase in the production rate or capacity that is used to estimate the emission level, that exceeds emission or production levels approved by the District in any authority to construct.
- 234.2 An increase in either the daily or annual emission level of any regulated air pollutant, or the production rate or capacity that is used to estimate the emission level, above levels contained in a permit condition in any current permit to operate or major facility review permit.
- 234.3 For sources that have never been issued a District authority to construct and that do not have conditions limiting daily or annual emissions, an increase in either daily or annual emission level of any regulated air pollutant, or the production rate or capacity that is used to estimate the emission level, above the lower of the following:
  - 3.1 The highest of the following:
    - 3.1.1 The highest attainable design capacity, as shown in pre-construction design drawings, including process design drawings and vendor specifications.
    - 3.1.2 The capacity listed in the District permit to operate.
    - 3.1.3 The highest documented actual levels attained by the source prior to March 1, 2000.
  - 3.2 The capacity of the source, as limited by the capacity of any upstream or downstream process that acts as a bottleneck (a grandfathered source with an emission increase due to debottlenecking is considered to be modified).

For the purposes of applying Section 234.3, only increases in annual emission levels shall be considered for storage vessels.

- 234.4 The emission of any regulated air pollutant or toxic air contaminant not previously emitted in a quantity that would result in a cancer risk (as defined in Regulation 2-5-206) greater than 1.0 in a million ( $10^{-6}$ ) or a chronic hazard index (as defined in Regulation 2-5-208) greater than 0.20.

For the purposes of applying this definition, an hourly limit or capacity may be converted to a daily limit or capacity by multiplication by 24 hours/day; a daily capacity may be converted to an annual capacity or limit by multiplication by 365 days/year.

*(Adopted 5/17/00; Amended 11/15/00; 6/15/05)*

**2-1-235 Shutdown:** An action that either:

- 235.1 Causes an emission source to be removed from service temporarily; or

235.2 Results in a transfer of an emission source's emitting activity to another source within the control of the same operator.

*(Adopted May 17, 2000)*

**2-1-236 Closure:** Permanent removal of a source from service.

*(Adopted May 17, 2000)*

**2-1-237 BACT/TBACT Workbook:** The District guidelines, which set forth emission limitations and/or control technologies constituting BACT and TBACT for a number of source types or categories.

*(Adopted June 15, 2005)*

**2-1-238 Clean Air Act:** The federal Clean Air Act, as amended in 1990, including the implementing regulations.

*(Adopted June 15, 2005)*

**2-1-239 Agricultural Source:** A source of air pollution, or group of sources, used in the production of crops, or the raising of fowl or animals located on contiguous property under common ownership or control that meets the following criteria:

239.1 Is a confined animal facility as defined under Regulation 2, Rule 10;

239.2 Is an internal combustion engine used in the production of crops or the raising of fowl or animals, including, but not limited to, an engine subject to Article 1.5 (commencing with Section 41750) of Chapter 3 of Part 4 of Division 26 of the California Health and Safety Code, except an engine that is used to propel implements of husbandry as that term is defined in Section 36000 of the Vehicle Code, as that section existed on January 1, 2003;

239.3 Is a Major Facility, as that term is defined in Regulation 2, Rule 6, or that is a source that is otherwise subject to regulation by the District pursuant to Division 26 of the California Health and Safety Code or the federal Clean Air Act (42 U.S.C. Sec. 7401 eq.).

*(Adopted July 19, 2006)*

**2-1-240 Graphic Arts Operation:** Any gravure, flexographic printing, digital printing, screen printing, letterpress, and lithographic printing operation; any associated coating laminating, and adhesive operation to produce a printed product; and the use of solvents for any surface preparation and cleanup for any operation stated above.

## **2-1-300 STANDARDS**

**2-1-301 Authority to Construct:** Any person who, after July, 1972, puts in place, builds, erects, installs, modifies, modernizes, alters or replaces any article, machine, equipment or other contrivance, the use of which may cause, reduce or control the emission of air contaminants, shall first secure written authorization from the APCO in the form of an authority to construct. Routine repairs, maintenance, or cyclic maintenance that includes replacement of components with identical components is not considered to be an alteration, modification or replacement for the purpose of this Section unless the APCO determines the changes to be non-routine. The use or operation of the source shall initiate the start-up period in accordance with Section 2-1-411.

*(Amended 3/17/82; 10/19/83; 7/17/91; 5/17/00)*

**2-1-302 Permit to Operate:** Before any person, as described in Section 2-1-401, uses or operates any article, machine, equipment or other contrivance, the use of which may cause, reduce or control the emission of air contaminants, such person shall first secure written authorization from the APCO in the form of a permit to operate.

302.1 Permit to Operate, MFR: Any facility subject to the requirements of Regulation 2-6, Major Facility Review, shall comply with the permitting requirements included herein in addition to securing a permit to operate under this rule.

302.2 Permit to Operate, Accelerated Permitting Program: Installation and operation of a new or modified source or abatement device which qualifies for the Accelerated Permitting Program under Section 2-1-106 may commence immediately following the submittal of a complete permit application. A temporary Permit to Operate will be issued as soon as the APCO determines that the application is complete. Action shall be taken on the application within 35 working days of receipt of a complete application, in

accordance with Section 2-1-408, provided that the applicable offset provisions of Regulation 2, Rule 2, Sections 302 and 303 are satisfied. During periods that the source is operating without a Permit to Operate, the operator shall keep records sufficient to demonstrate that emissions do not exceed qualifying levels for the Accelerated Permitting Program.

302.3 **Permit to Operate, Temporary Operation:** A temporary permit may be obtained to allow an operator to test equipment, processes, or new formulations. A temporary permit may also be obtained for a temporary source which replaces critical equipment during scheduled maintenance. The APCO may issue a non-renewable temporary Permit to Operate a temporary operation at any source, subject to the following:

- 3.1 The proposed operation will comply with all requirements of Regulation 1 and Regulations 5 through 12.
- 3.2 The permit shall expire 3 months after issuance.
- 3.3 The operator shall provide offsets, at a ratio of 1.15 to 1, for all increased emissions of NO<sub>x</sub>, POC, and PM<sub>10</sub> resulting from the use of the temporary permit.
- 3.4 The operator shall certify that the temporary operation is for one of the following purposes:
  - 4.1 Equipment testing
  - 4.2 Process testing, including new formulations
  - 4.3 Temporary replacement of an existing permitted source with an identical or functionally equivalent source

*(Amended 11/3/93; 6/7/95; 10/7/98; 11/15/00)*

**2-1-303 Fees:** Persons subject to this Regulation shall pay the fees required, as set forth in Regulation 3.

**2-1-304 Denial, Failure to Meet Emission Limitations:** The APCO shall deny an authority to construct or a permit to operate if the APCO finds that the subject of the application would not or does not comply with the emission limitations of the District, or with applicable permit conditions, federal or California laws or regulations. Such denial shall not be based solely on type of construction or design of equipment.

*(Amended March 17, 1982)*

**2-1-305 Conformance with Authority to Construct:** A person shall not put in place, build, erect, install, modify, modernize, alter or replace any article, machine, equipment, or other contrivance for which an authority to construct has been issued except in a manner substantially in conformance with the authority to construct. If the APCO finds, prior to the issuance of a permit to operate, that the subject of the application was not built substantially in conformance with the authority to construct, the APCO shall deny the permit to operate.

*(Amended December 21, 2004)*

**2-1-306 Mandated Reductions Not Applicable:** Emission reductions resulting from requirements of federal, state or District laws, rules or regulations shall not be banked or allowed as emission offsets or emission reduction credits unless a complete application for such banking or emission reduction credits was filed with the District at least 90 days prior to the adoption date of such laws, rules or regulations. Only emission reduction credits exceeding the emission reductions required by measures described in the Air Quality Management Plan or required by permits or orders; and reductions achieved by measures not specified in the Air Quality Management Plan shall be banked or allowed as emission offsets or emission reduction credits.

*(Amended 10/7/81; 7/17/91; 6/15/94)*

**2-1-307 Failure to Meet Permit Conditions:** A person shall not operate any article, machine, equipment or other contrivance, for which an authority to construct or permit to operate has been issued, in violation of any permit condition imposed pursuant to Section 2-1-403.

*(Adopted 3/17/82; Amended 7/17/91)*

**2-1-308 Fugitive Emissions:** Fugitive emissions shall be included as emissions from a facility. Fugitive emissions shall be subject to all requirements of District Rules and Regulations, including BACT, RACT, offsets, PSD requirements, and Class I Air

Quality Related Values and increment protection, to the same extent as emissions that are not fugitive in nature.

*(Adopted 10/19/83; Amended 7/17/91)*

**2-1-309 Canceled Application:** The APCO may cancel an application for an authority to construct and a permit to operate if, within 90 days after the application was deemed incomplete, the applicant fails to furnish the requested information or pay all appropriate fees. The 90 day period may be extended for an additional 90 days upon receipt of a written request from the applicant and written approval thereof by the APCO. The APCO shall notify the applicant in writing of a cancellation, and the reasons therefore. A cancellation shall become effective 10 days after the applicant has been notified. The cancellation shall be without prejudice to any future applications.

*(Adopted April 6, 1988)*

**2-1-310 Applicability of CEQA:** Except for permit applications which will be reviewed as ministerial projects under Section 2-1-311 or which are exempt from CEQA pursuant to Section 2-1-312, all proposed new and modified sources for which an authority to construct must be obtained from the District shall be reviewed in accordance with the requirements of CEQA.

310.1 For those District permit applications which must be reviewed in accordance with the requirements of CEQA, the District will not normally be a Lead Agency under CEQA. Rather, pursuant to CEQA, the Lead Agency will normally be an agency with general governmental powers, such as a city or county, rather than a special purpose agency such as the District.

310.2 The issuance of an authority to construct and of a permit to operate for the same new or modified source or stationary source are considered to be parts of the same project for the purposes of CEQA.

310.3 The APCO shall not authorize, on an interim basis or otherwise, the installation or operation of any proposed new or modified source, the permitting of which is subject to the requirements of CEQA, until all of the requirements of CEQA have been satisfied.

*(Adopted 7/17/91; Amended 10/21/92)*

**2-1-311 Ministerial Projects:** An application for a proposed new or modified source or stationary source will be classified as ministerial and will accordingly be exempt from the CEQA requirement of Section 2-1-310 if the District's engineering evaluation and basis for approval or denial of the permit application for the project is limited to the criteria set forth in Section 2-1-428 of this rule and to the specific procedures, fixed standards and objective measurements set forth in the District's Permit Handbook and BACT/TBACT Workbook. The method for determining whether a given permit application will be classified as ministerial is set forth in Section 2-1-427.

*(Adopted 7/17/91; Amended 10/7/98)*

**2-1-312 Other Categories of Exempt Projects:** In addition to ministerial projects, the following categories of projects subject to permit review by the District will be exempt from the CEQA review, either because the category is exempted by the express terms of CEQA (subsections 2-1-312.1 through 312.9) or because the project has no potential for causing a significant adverse environmental impact (subsections 2-1-312.10 and 312.11). Any permit applicant wishing to qualify under any of the specific exemptions set forth in this Section 2-1-312 must include in its permit application CEQA-related information in accordance with subsection 2-1-426.1. In addition, the CEQA-related information submitted by any permit applicant wishing to qualify under subsection 2-1-312.11 must demonstrate to the satisfaction of the APCO that the proposed project has no potential for resulting in a significant environmental effect in connection with any of the environmental media or resources listed in Section II of Appendix I of the State CEQA Guidelines.

312.1 Applications to modify permit conditions for existing or permitted sources or facilities that do not involve any increases in emissions or physical modifications.

312.2 Permit applications to install air pollution control or abatement equipment.

- 312.3 Permit applications for projects undertaken for the sole purpose of bringing an existing facility into compliance with newly adopted regulatory requirements of the District or of any other local, state or federal agency.
- 312.4 Permit applications submitted by existing sources or facilities pursuant to a loss of a previously valid exemption from the District's permitting requirements.
- 312.5 Permit applications submitted pursuant to the requirements of an order for abatement issued by the District's Hearing Board or of a judicial enforcement order.
- 312.6 Permit applications relating exclusively to the repair, maintenance or minor alteration of existing facilities, equipment or sources involving negligible or no expansion of use beyond that previously existing.
- 312.7 Permit applications for the replacement or reconstruction of existing sources or facilities where the new source or facility will be located on the same site as the source or facility replaced and will have substantially the same purpose and capacity as the source or facility replaced.
- 312.8 Permit applications for cogeneration facilities which meet the criteria of Section 15329 of the State CEQA Guidelines.
- 312.9 Any other project which is exempt from CEQA review pursuant to the State CEQA Guidelines.
- 312.10 Applications to deposit emission reductions in the emissions bank pursuant to Regulation 2, Rule 4 or Regulation 2, Rule 9.
- 312.11 Permit applications for a proposed new or modified source or sources or for process changes which will satisfy the "No Net Emission Increase" provisions of District Regulation 2, Rule 2, and for which there is no possibility that the project may have any significant environmental effect in connection with any environmental media or resources other than air quality. Examples of such projects include, but are not necessarily limited to, the following:
  - 11.1 Projects at an existing stationary source for which there will be no net increase in the emissions of air contaminants from the stationary source and for which there will be no other significant environmental effect;
  - 11.2 A proposed new source or stationary source for which full offsets are provided in accordance with Regulation 2, Rule 2, and for which there will be no other significant environmental effect;
  - 11.3 A proposed new source or stationary source at a small facility for which full offsets are provided from a small facility bank established by the APCO pursuant to Regulation 2-4-414, and for which there will be no other significant environmental effect;
  - 11.4 Projects satisfying the "no net emission increase" provisions of District Regulation 2, Rule 2 for which there will be some increase in the emissions of any toxic air contaminant, but for which the District staff's health risk screening analysis shows that the project will not result in a cancer risk (as defined in Regulation 2-5-206) greater than 1.0 in a million ( $10^{-6}$ ) and will not result in a chronic hazard index (as defined in Regulation 2-5-208) greater than 0.20, and for which there will be no other significant environmental effect.

*(Adopted 7/17/91; Amended 5/17/00; 12/21/04; 6/15/05)*

**2-1-313 Projects Not Exempt From CEQA Review:** Notwithstanding the exemptions from CEQA review set forth in Section 2-1-312, such exemptions shall not apply to any project covered by the categories set forth in subsections 2-1-312.1 through 312.9 where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances, or due to cumulative impacts of successive projects of the same type in the same place over time. Such projects shall be reviewed in accordance with the requirements of CEQA.

*(Adopted 7/17/91; Amended 6/15/05)*

**2-1-314 Case-by-Case CEQA Determinations:** Notwithstanding the requirement of Section 2-1-311, the District shall, for any permit applications which were deemed complete

by the District on or before July 17, 1991, review said permit applications on a case-by-case basis in order to determine whether the District's evaluation of the permit application will involve any element of discretion. If as a result of this case-by-case-review, the District determines that the evaluation of the permit application will not involve any element of discretion on its part, then the application may be treated as a ministerial project so long as all of the following conditions are met:

- 314.1 The District makes a specific written finding to this effect as part of its determination that the permit application is complete;
- 314.2 The District will merely apply the law to the facts as presented in the permit application; and
- 314.3 The District's evaluation of the permit application and its decision regarding whether to issue the permit will be limited to the criteria set forth in Section 2-1-428.

*(Adopted July 17, 1991)*

**2-1-315 Denial, Failure to Mitigate Significant Adverse Environmental Impacts:** For any application for which the District is a Lead Agency under CEQA, where significant adverse environmental impacts have been identified in the District's review of, or in the course of the public comment period on, said application, the APCO shall deny an authority to construct to such new or modified stationary source, as proposed, unless:

- 315.1 The applicant agrees to implement or carry out such available alternatives or mitigation measures which would, to the extent feasible, avoid or substantially lessen any such significant adverse environmental impacts as a condition for issuance of an authority to construct; or
- 315.2 The APCO finds that any such available, feasible alternatives or mitigation measures are within the responsibility and jurisdiction of another public agency, and such measures have been adopted by such other agency, or can and should be adopted by such other agency; or
- 315.3 The APCO finds that there are no feasible alternatives or measures to substantially mitigate the unavoidable adverse environmental effects associated with the project, but that the benefits of the project outweigh such unavoidable adverse environmental effects, and the APCO states in writing the reasons and overriding considerations to support the issuance of the authority to construct based on the Final EIR and other information in the record notwithstanding the unavoidable adverse environmental effects associated with the project.

*(Adopted November 20, 1991)*

**2-1-316 New or Modified Sources of Toxic Air Contaminants or Hazardous Air Pollutants:** Notwithstanding any exemption contained in Section 2-1-103 or Section 114 through 128, any new or modified source meeting any of the following criteria shall be subject to the requirements of Regulation 2, Rule 1, Section 301 and/or 302.

- 316.1 If a new or modified source emits one or more toxic air contaminants in quantities that exceed the trigger levels listed in Table 2-5-1 of Regulation 2-5 and the source did not have a valid exemption from Regulation 2-1-302 when the source was constructed or modified, then the source shall be subject to the requirements of Sections 2-1-301 and 302, unless the owner or operator of the source can demonstrate to the satisfaction of the APCO that the source:
  - 1.1 Will comply with the TBACT requirement of Regulation 2-5-301 (if applicable); and
  - 1.2 Will comply with the project risk limits of Regulation 2-5-302 (if applicable).
- 316.2 If a new or modified source, or group of related sources in a proposed construction or modification will emit 2.5 or more tons per year of any single hazardous air pollutant or 6.25 or more tons per year of any combination of hazardous air pollutants, then the source or group of sources shall be subject to the requirements of Sections 2-1-301 and 302.

*(Adopted 4/16/86; Amended 7/17/91; Renumbered and Amended 6/7/95; Amended 5/17/00; 6/15/05)*

**2-1-317 Public Nuisance Sources:** Notwithstanding any exemption contained in Section 2-1-103 or Section 114 through 128, any new or modified source meeting any of the following criteria shall be subject to the requirements of Regulation 2, Rule 1, Section 301 and/or 302. If any exempt source receives two or more public nuisance violations, under Regulation 1, Section 301 or Section 41700 of the California Health & Safety Code, within any consecutive 180-day period, then the source shall be subject to the requirements of Section 2-1-301 and 302. Such a source will be treated as loss of exemption source under Section 2-1-414, and will be subject to the annual permit to operate fee specified in Regulation 3. This section does not apply to a source that is exempt per section 2-1-113.

*(Adopted 6/7/95; Amended 5/17/00)*

**2-1-318 Hazardous Substances:** Notwithstanding any exemption contained in Section 2-1-103 or Section 114 through 128, any new or modified source meeting any of the following criteria shall be subject to the requirements of Regulation 2, Rule 1, Section 301 and/or 302. If a new or modified source at a PSD Major Facility, as defined in Regulation 2, Rule 2, Section 220.3, emits the following air contaminants in excess of the quantities listed below, then it is subject to the requirements of Sections 2-1-301 and 302.

- 318.1 0.6 ton per year of lead,
- 318.2 0.007 ton per year of asbestos (excepting demolition, renovation, and waste disposal),
- 318.3 0.0004 ton per year of beryllium,
- 318.4 0.1 ton per year of mercury,
- 318.5 1 ton per year of vinyl chloride,
- 318.6 3 tons per year of fluorides,
- 318.7 7 tons per year of sulfuric acid mist, and
- 318.8 10 tons per year of reduced sulfur compounds (including hydrogen sulfide).

*(Adopted 10/19/83; Renumbered and Amended 6/7/95; Amended 5/17/00)*

**2-1-319 Source Expressly Subject to Permitting Requirements:** Notwithstanding any exemption contained in Section 2-1-103 or Section 114 through 128, any source meeting any of the following criteria shall be subject to the requirements of Section 2-1-302:

- 319.1 The emission rate of any regulated air pollutant from the source is greater than 5 tons per year, after abatement.
- 319.2 The source is subject to the requirements of Section 2-1-316, 317, or 318.

*(Adopted May 17, 2000)*

**2-1-400 ADMINISTRATIVE REQUIREMENTS**

**2-1-401 Persons Affected:** Any person who has been granted or requires an authority to construct shall secure a permit to operate. Any person who is not required to obtain an authority to construct and who is required to obtain a permit to operate shall secure a permit to operate. In addition, the following shall apply for a permit to operate for any source which is not subject to an exemption per Sections 2-1-103, 105, or 113 through 2-1-129:

- 401.1 On or before July 1, 1980, persons who operate a facility causing emissions of 2.5 tons per year or more of a regulated air pollutant.
- 401.2 On or before July 1, 1980, persons who operate gasoline terminals, bulk plants and facilities that dispense gasoline for sale or dispense more than 60,000 gallons of gasoline per year.
- 401.3 Persons who operate coating, adhesive, dipping, laminating, printing, screening, masking, electrodeposition, resist application, or similar source or equipment at any facility whose coating, adhesive, dipping, laminating, printing, screening, masking, electrodeposition, resist application, or similar source or equipment consume greater than 30 gallons of coating and emit 150 pounds of VOC per year or more on a facility wide basis, resulting from the applications of coatings. Upon request of the applicant, the APCO may group coating operations which individually emit less than 150 lb/yr into a single facility-wide source, or other convenient grouping.

- 401.4 Persons who operate surface preparation and cleaning equipment or operations which use unheated solvent solutions containing more than 10 percent VOC and which contain more than 1 gallon of solvent or have a liquid surface area of more than 1 ft.<sup>2</sup>, including wipe cleaning operations with a net solvent usage greater than 20 gallons per year, and that emit 150 pounds of VOC per year or more, on a facility-wide basis. Upon request of the applicant, the APCO may group wipe cleaning operations into a single facility-wide source, or other convenient groupings.
- 401.5 Persons who plan to modify an existing source or install a new source which qualifies for the Accelerated Permitting Program in Section 2-1-106 shall first submit a complete permit application, in accordance with Section 2-1-302.2.
- 401.6 Persons who operate a source that is subject to either loss of exemption or exclusion per section 2-1-414 or 2-1-424.
- 401.7 Persons who operate a source constructed after July 1, 1972.
- 401.8 On or before July 1, 2005, any person who operates a crematorium for the cremation of human remains.

*(Amended 4/16/86; 1/7/87; 7/17/91; 6/7/95; 10/7/98; 5/17/00; 12/21/04)*

**2-1-402 Applications:** Every application for an authority to construct or a permit to operate shall be submitted to the APCO on the forms specified, and shall contain all of the information required. Sufficient information must be received to enable the APCO to make a decision or a preliminary decision on the application and/or on any exemptions authorized by this Regulation. The APCO may consult with appropriate local and regional agencies to determine whether the application conforms with adopted plans and with local permit requirements.

**2-1-403 Permit Conditions:** Except as to permit applications reviewed in accordance with Section 2-1-311, the APCO may impose any permit condition that he deems reasonably necessary to insure compliance with federal or California law or District regulations. For any permit application which was reviewed as a ministerial project in accordance with Section 2-1-311, the APCO shall only impose permit conditions as set forth in the District's Permit Handbook for the type of source being permitted. The APCO may require the installation of devices for measurement or analysis of source emissions or ground-level concentrations of air contaminants.

*(Amended 7/17/91; 10/7/98)*

**2-1-404 Changes in Throughput and Hours of Operation:** After a permit to operate has been issued, in accordance with subsections 2-1-401.1 through 401.4, changes in hours of operation, fuels, process materials or throughput are allowed only if emissions resulting from such changes are not of such quantity as would cause denial of an authority to construct after an air quality permit analysis made pursuant to the provisions of Rule 2 of this Regulation. "Change" is the use of a process or fuel not used in the prior 12 months, or a throughput level higher than the highest level in the prior 12 months or total monthly operating hours higher than any month in the prior 12 months.

404.1 The holder of a permit to operate shall advise the APCO not more than 30 days after any changes in hours of operation, fuels, process materials or throughput which might increase emissions.

404.2 The APCO shall act to revoke the permit to operate of any person who fails to comply with the requirements of this Section.

*(Amended July 17, 1991)*

**2-1-405 Posting of Permit to Operate:** A copy of the permit to operate, including all relevant permit conditions, shall be accessible to personnel who operate the equipment for which the permit has been issued. These documents shall be included on site in the operator's manual, or shall be accessible to the operators electronically.

*(Amended 5/17/00; 11/15/00)*

**2-1-406 Transfer:** An authority to construct or a permit to operate shall not be transferable from one facility to another. An authority to construct or a permit to operate shall not be transferable from one person to another without obtaining written permission of the APCO.

**2-1-407 Authority to Construct Expiration:** An authority to construct shall expire two years after the date of issuance, unless the authority to construct has been renewed. Upon

receipt of a written request and any required fees prior to the expiration of the authority to construct, the APCO shall renew the authority to construct in writing if the APCO determines that the renewal complies with this section and that the holder of the authority to construct is not violating any provision or condition of the authority. If the APCO does not act on such a request prior to expiration of the authority to construct, the authority shall remain in effect until the APCO has acted to approve or deny the renewal request.

- 407.1 The following requirements shall apply to renewals:
- 1.1 Except as provided in Sections 2-1-407.2 and 407.3, an authority to construct may be renewed one time for an additional two years;
  - 1.2 Except for renewals pursuant to Section 2-1-407.3, renewal is contingent upon meeting the current BACT and offset requirements of Regulation 2-2-301, 302 and 303; and
  - 1.3 Except as provided in Sections 2-1-407.2 and 407.3, an authority to construct that has been renewed shall expire four years after the date of original issuance.
- 407.2 If the authority to construct was issued pursuant to an environmental impact report (EIR) that explicitly covered a construction period longer than four years, the authority to construct shall, upon request by the applicant, be renewed for additional two-year terms throughout the construction period covered by the EIR.
- 407.3 If substantial use of the authority to construct has begun, either during the initial term or during a renewal term, the authority to construct shall, upon request by the applicant, be renewed for additional two-year terms until the permit to operate is issued, or, if a term of less than two years is requested, for such term as is requested.

*(Amended 7/17/91; Amended 10/7/98; 6/1/05)*

**2-1-408 Action on Applications:** Except for applications subject to Section 2-1-412, the publication and public notice requirements of Section 2-2-405 or Section 2-10-402, or to the provisions of Rule 6 of this Regulation, the APCO shall notify the applicant in writing of approval, approval with conditions, or denial of the application within 35 working days of receipt of a completed application, unless the time is extended with the written consent of the applicant.

- 408.1 Notwithstanding this 35-working-day limit, the APCO shall not take final action for any project for which an Environmental Impact Report or a Negative Declaration has been prepared until a Final EIR for that project has been certified or a Negative Declaration for that project has been approved, and the APCO has considered the information in that Final EIR or Negative Declaration. For cases in which the 35 working-day time period has elapsed, the APCO shall take final action on the application within 30 days after the certification of the Final EIR or approval of the Negative Declaration. This subsection shall not apply to any project that is exempt from the District's CEQA requirements pursuant to Section 2-1-311 or 2-1-312. Any substantive change to an application which occurs after the evaluation period has commenced shall allow the APCO to start a new completeness review period, and to reset the 35 working-day limit after the application has been deemed complete.

*(Amended 11/1/89; 7/17/91; 11/20/91; 11/3/93; 6/7/95; 10/7/98; 12/21/04; 7/19/06)*

**2-1-409 Regulations in Force Govern:** The decision as to whether an authority to construct shall be granted or denied shall be based on federal, state and District BACT, offset, TBACT, and project risk regulations or standards in force on the date the application is declared by the APCO to be complete.

*(Amended June 15, 2005)*

**2-1-410 Appeal:** The following actions of the APCO may be appealed:

- 410.1 In accordance with Section 42302 of the Health and Safety Code an applicant for an authority to construct which has been denied may request, within 30 days after receipt of the written notice to deny, the Hearing Board of the District to hold a hearing on whether or not the authority to construct was properly denied.

- 410.2 In accordance with Section 42302.1 of the Health and Safety Code, within 30 days of any decision of the APCO, pertaining to the issuance of an authority to construct, any aggrieved person who, in person or through a representative, appeared, submitted written testimony, or otherwise participated in the action before the District may request the Hearing Board of the District to hold a public hearing to determine whether the authority to construct was properly issued or for an order modifying or reversing that decision. Such appeals shall be filed in writing and contain a summary of the issues to be raised. The Hearing Board shall consider the appeal at a public hearing within 30 days of the filing of the appeal. The Hearing Board may reverse or modify the decision of the APCO if it determines that the decision was erroneous.
- 410.3 In accordance with Section 40724.6(g) of the Health and Safety Code, a permit holder of a large confined animal facility may appeal any District determination or decision made under Regulation 2, Rule 10, in accordance with Section 2-1-410.2.

*(Amended 7/17/91; 11/20/91; 5/17/00; 7/19/06)*

**2-1-411 Permit to Operate, Final Action:** The APCO shall take final action to approve, approve with conditions, or disapprove a permit to operate a facility subject to this rule within 90 days after the initial date of the start-up period of the new or modified source. This time period may be extended upon the written request of the applicant stating the reasons why further start-up time is needed. In no case shall the APCO allow the start-up period to be greater than 180 days. All conditions, specific or implied, of the authority to construct are in effect during the entire start-up period.

411.1 Notwithstanding the above, final action taken on permits issued pursuant to Rule 6 of this Regulation shall be in accordance with the provisions of Section 2-6-410.

411.2 A permit approved under this section must be signed by the permit holder or by a person authorized to sign on behalf of the permit holder.

*(Adopted 10/19/83; Amended 7/17/91; 11/3/93; 10/7/98; 12/21/04)*

**2-1-412 Public Notice, Schools:** Prior to approving an application for an authority to construct or permit to operate for a new or modified source located within 1000 feet of the outer boundary of a K-12 schoolsite and which results in the increase in emissions of any substance into the ambient air which has been identified by the California Air Resources Board or the APCO as a toxic air contaminant or a hazardous air contaminant or which is on the list required to be prepared pursuant to subdivision (a) of Section 25532 or Section 44321 subsections (a) to (f) inclusive of the Health and Safety Code, the APCO shall:

412.1 Prepare a public notice in which the proposed new or modified source, and the proposed emissions, are fully described.

412.2 Distribute the notice, prepared in accordance with subsection 2-1-412.1 at the expense of the applicant, to the parents or guardians of children enrolled in any school within one-quarter mile of the source and to each address within a radius of 1000 feet of the source. This notice shall be distributed at least 30 days prior to the date final action on the application is to be taken by the APCO. The APCO shall review and consider all comments received during the 30 days after the notice is distributed, and shall include written responses to the comments in the permit application file prior to taking final action on the application.

412.3 Failure of any person to receive the notice shall not affect the validity of the authority to construct or permit to operate issued by the APCO, if the APCO or applicant responsible for giving the notice has made a good faith effort to follow the procedures for giving the notice prescribed by law.

*(Adopted 11/1/89; Amended 10/7/98; 5/17/00)*

**2-1-413 Portable Equipment Operated Within the District:** Any person required to obtain an authority to construct and permit to operate under Sections 2-1-301 and 302 for a portable source can elect to receive a single portable permit which will allow the source to operate anywhere in the District, provided the APCO approves the permit, and the source meets the definition of portable equipment set forth in Section 2-1-

220. Such a source is subject to the standard filing, initial and permit to operate fees in Regulation 3.

*(Adopted June 7, 1995)*

**2-1-414 Loss of Exemption, Public Nuisance:** Any source subject to Section 2-1-317 shall be subject to permit conditions deemed necessary by the District to minimize the potential for future violations. If the owner/operator can demonstrate that the source has neither received a public nuisance violation nor received a confirmed complaint for a two year period after the permit was issued, then the owner/operator may submit a written petition to the APCO to remove the permit requirement. Such a petition is subject to APCO approval.

*(Adopted June 7, 1995)*

**2-1-415 Source Pre-Certification Procedure:** Any person may submit a written request to pre-certify a source, for the purposes of qualifying the source for the Accelerated Permitting Program. Such a request will be evaluated within 60 days of receipt of the information listed below. The APCO may also independently pre-certify a source. The APCO shall maintain a list of pre-certified equipment, and shall make this list available to industry through the Public Information & Education Division. A pre-certification request shall include all of the following:

415.1 A complete description of the source, including make, model number, rated capacity and emission calculations at maximum operating rate;

415.2 Applicable BACT requirements;

415.3 Proposed permit conditions governing operation of the source; and

415.4 Applicable fees, as described in Regulation 3, Section 323.

*(Adopted June 7, 1995)*

**2-1-416 Temporary Amnesty for Unpermitted Sources:** The APCO has the authority to declare an amnesty period, during which the District may waive all or part of the penalty fees, including late fees and retroactive permit fees, for sources that are currently operating without valid Permits to Operate.

*(Adopted 6/7/95; 12/21/04)*

**2-1-420 Suspension:** The APCO may suspend a permit if, within a reasonable time, the holder of the permit willfully fails or refuses to furnish requested information, analyses, plans or specifications relating to emissions from the source for which the permit was issued. The APCO shall serve notice in writing of a suspension, and the reasons therefor, on the holder of the permit. A suspension shall become effective 5 days after notice has been served.

**2-1-421 Appeal from Suspension:** Within 10 days after the receipt of the notice of suspension, the permit holder may request the Hearing Board to hold a hearing to determine whether or not the permit was properly suspended.

**2-1-422 Revocation:** The APCO may request the Hearing Board to hold a hearing to determine whether an authority to construct and/or permit to operate should be revoked if it is found that the holder of an authority to construct or permit to operate is violating any applicable order, rule or regulation of the District, or is violating any provision or condition of the authority to construct or permit to operate.

*(Amended May 17, 2000)*

**2-1-423 Hearings:** Within 30 days after receipt of requests submitted pursuant to Sections 2-1-421 and 422, the Hearing Board shall hold a hearing as provided by Section 42308 of the California Health and Safety Code and may take action as authorized by Section 42309 of the California Health and Safety Code.

*(Amended July 17, 1991)*

**2-1-424 Loss of Exemption or Exclusion:** Within 90 days of written notification by the APCO of the need for a permit any person who operates a source which does not require a District permit or, for a large confined animal facility subject to Regulation 2, Rule 10 in existence on July 17, 2006, within 180 days of that date, who loses an exemption or exclusion because of changes in federal, California or District laws or regulations shall submit a complete permit application for the subject source, as defined Section 2-1-202. A person who holds a valid permit to operate for the subject source need not reapply.

*(Adopted 4/16/86; Amended 6/7/95; 10/7/98; 7/19/06)*

**2-1-425 Sources of Toxic Air Contaminants:** Any person who does not hold a valid permit to operate in accordance with Section 2-1-401 and emits, in quantities determined to

be appropriate by the APCO, any toxic air contaminant, shall within 90 days of written notice by the APCO of the need for a permit to operate, complete a permit application for the subject source, in accordance with the applicable requirements of Section 2-1-202 or Section 2-1-302.2.

*(Amended June 7, 1995)*

**2-1-426 CEQA-Related Information Requirements:** Unless a project for which an authority to construct is sought is exempt from the District's CEQA requirements pursuant to Section 2-1-311 or 2-1-312 of this Rule, applicants for authorities to construct shall provide, as part of a complete application, the following CEQA-related information:

426.1 A preliminary environmental study which shall describe the proposed project and discuss any potential significant adverse environmental impacts, alternatives to the project, and any necessary mitigation measures to minimize adverse impacts. The preliminary environmental study shall include all activities involved in the project and shall not be limited to those activities affecting air quality. In preparing the preliminary environmental study, the applicant may utilize the Environmental Information Form in Appendix H of the State CEQA Guidelines or an equivalent format specified by the APCO. (see also Appendix G, Significant Effects.) The preliminary environmental study shall list all other local, state and federal governmental agencies that require permits for the project and indicate any environmental documentation required by such agencies; or

426.2 When an agency other than the District is to be the Lead Agency under CEQA, either:

2.1 A Draft or Final Environmental Impact Report prepared by or under the supervision of the Lead Agency; or

2.2 A contract for the preparation of a Draft Environmental Impact Report executed by the Lead Agency together with the Initial Study prepared by the Lead Agency; or

2.3 A Negative Declaration prepared by the Lead Agency; or

2.4 A Notice of Preparation of a Draft EIR prepared by the Lead Agency;

2.5 A copy of the Initial Study prepared by the Lead Agency, or

2.6 A commitment in writing from another agency indicating that it has assumed the role of Lead Agency for the project in question.

*(Adopted 11/20/91; Amended 10/7/98)*

**2-1-427 Procedure for Ministerial Evaluations:** The District shall review each permit application prior to finding that it is complete in order to determine whether its evaluation of the permit application is covered by the specific procedures, fixed standards and objective measurements set forth in the District's Permit Handbook and BACT/TBACT Workbook. If the District determines that its evaluation of the permit application is covered by specific procedures, fixed standards and objective measurements set forth in the District's Permit Handbook and BACT/TBACT Workbook, the District's evaluation of that permit application will be classified as ministerial and the engineering evaluation of the permit application by the District will be limited to the use of said specific procedures, fixed standards and objective measurements. For such projects, the District will merely apply the law to the facts as presented in the permit application, and the District's decision regarding whether to issue the permit will be based only on the criteria set forth in Section 2-1-428 and in the District's Permit Handbook and BACT/TBACT Workbook.

*(Adopted 11/20/91; Amended 10/7/98)*

**2-1-428 Criteria for Approval of Ministerial Permit Applications:** If the District classifies a permit application as ministerial pursuant to Section 2-1-427, and as a result of its evaluation of that permit application, the District determines that all of the following criteria are met, the issuance by the District of an Authority to Construct for the proposed new or modified source will be a mandatory ministerial duty.

428.1 The proposed new or modified source will comply with all applicable provisions of the District's Rules and Regulations and with all applicable provisions of state and federal law and regulations which the District has the duty to enforce;

- 428.2 The emissions from the proposed project can be calculated using standardized emission factors from published governmental sources, District source test results, established formulas from published engineering and scientific handbooks, material safety data sheets or other similar published literature, manufacturer's warranties or other fixed standards as set forth in the District's Permit Handbook and BACT/TBACT Workbook;
- 428.3 Where Best Available Control Technology is required, BACT for the proposed new or modified source can be determined based on the latest edition of the ARB's BACT/LAER Clearinghouse, on the District's own compilations of BACT levels for specific types of sources as set forth in the District's Permit Handbook and BACT/TBACT Workbook or on a more stringent BACT level proposed by the project proponent; and
- 428.4 If the proposed new or modified source involves the shutdown of an existing source, the Reasonably Available Control Technology applicable to the source to be shut down can be determined from existing provisions of the District's Rules and Regulations or from the District's own compilations of BACT levels for specific types of sources as set forth in District's Permit Handbook and BACT/TBACT Workbook.
- 428.5 For proposed new and modified sources that are subject to Regulation 2, Rule 5, the project meets the project risk requirement of Regulation 2-5-302.
- 428-6 Where Best Available Control Technology for Toxics (TBACT) is required pursuant to Regulation 2-5-301, TBACT for the proposed new or modified source can be determined based on TBACT determinations in the District's BACT/TBACT Workbook, an EPA MACT standard, a CARB ATCM, or a more stringent TBACT level proposed by the applicant that is applicable to the specific source type or source category being evaluated.

In addition, when the District has issued an authority to construct for a proposed new or modified source as a ministerial project, the issuance of the permit to operate for that source will also be a mandatory ministerial duty if the source will meet all the conditions imposed in connection with the issuance of the authority to construct and all applicable laws, rules and regulations enforced by the District.

*(Adopted 11/20/91; Amended 10/7/98; 6/15/05)*

**2-1-429 Federal Emissions Statement:** The owner or operator of any source that emits or may emit oxides of nitrogen or volatile organic compounds shall provide the APCO with a written statement, in such form as the APCO prescribes, showing actual emissions of oxides of nitrogen and volatile organic compounds from that source. At a minimum the emission statement shall contain all of the information contained in the Air Resources Board's Emission Inventory Turn Around Document as described in Instructions for the Emission Data System Review and Update Report. The statement shall also contain a certification by a responsible official of the company or facility that the information contained in the statement is accurate to the best knowledge of the individual certifying the statement. Effective November 1, 1994, the statement shall be submitted to the District each year with the annual permit renewal. The APCO may waive this requirement for any class or category of sources that emit less than 25 tons per year of oxides of nitrogen and volatile organic compounds, each taken separately, if the District provides the Air Resources Board with emission inventories of sources emitting greater than 10 tons per year of either oxides of nitrogen or volatile organic compounds based on the use of emission factors acceptable to the Air Resources Board and the U.S. Environmental Protection Agency (EPA). A current list of classes and categories of stationary sources for which this requirement has been waived by the APCO will be kept by the District and made available upon request. Also, for purposes of reporting emission data to the Air Resources Board and to the EPA, the District will provide calendar year and peak ambient ozone season data determined through weighted averaging of current and prior year (if available) company/facility reported certified information. This Section is required by the provisions of Section 182(a)(3)(B) of the Clean Air Act.

*(Adopted 11/4/92; Amended 6/15/94; 6/7/95; 12/21/04)*

**2-1-430 Maintenance of the Permit Handbook and BACT/TBACT Workbook:** The APCO shall publish and maintain the Permit Handbook and BACT/TBACT Workbook as

needed to reflect the current procedure for review and issuance of permits, and the most recent determination of BACT/TBACT for a given source category.

*(Adopted October 7, 1998)*

**2-1-431 Date of Completion:** The APCO shall deem an application to be complete on the date that the information and fees required to complete the application were received by the District.

*(Adopted May 17, 2000)*

**2-1-432 Determination of Complete Application:** Except for an application which is subject to the publication and public comment requirements of Section 2-2-405, the APCO shall determine whether an application for an authority to construct is complete not later than 15 working days following receipt of the application, or after a longer time period agreed upon by both the applicant and the APCO. If the APCO determines that the application is not complete, the applicant shall be notified in writing of the decision, specifying the information that is required. Upon receipt of any resubmittal of the application a new 15 working day period to determine completeness shall begin. For an application which is subject to the publication and public comment requirements of Section 2-2-405 or Section 2-10-402, the completeness review period(s) shall be 30 days. The application shall be deemed complete on the date of receipt of all information required for completeness. Upon determination that the application is complete, the APCO shall notify the applicant in writing. If applicable, such written notification shall include the District's determination that its evaluation of the application will be covered by the specific procedures, fixed standards and objective measurements set forth in the District's Permit Handbook and that the District's evaluation of that permit application will be classified as ministerial and will accordingly be exempt from CEQA review. Thereafter only information regarding offsets, or information to clarify, correct or otherwise supplement the information submitted in the application may be requested.

*(Adopted 12/21/04; Amended 6/19/06)*

## **2-1-500 MONITORING AND RECORDS**

**2-1-501 Monitors:** Continuous emission monitors required pursuant to Section 2-1-403 shall comply with the provisions of Volume V of the Manual of Procedures.

*(Adopted March 17, 1982)*

**2-1-502 Burden of Proof:** Any person asserting that a source is exempt from the requirements of Regulation 2, Rule 1, Section 301 and/or 302, shall, upon the request of the APCO, provide substantial credible evidence proving to the APCO that the source meets all requirements necessary to qualify for the exemption.

*(Adopted May 17, 2000)*

## **2-1-600 MANUAL OF PROCEDURES**

**2-1-601 Engineering Permitting Procedures:** The specific procedures for the engineering evaluation of particular types of sources as well as specific fixed standards and objective measurements upon which the District will rely in its evaluation of ministerial permit applications are set forth in the District's Permit Handbook and BACT/TBACT Workbook.

*(Adopted 7/17/91; Amended 10/7/98)*

**2-1-602 CEQA Guidelines:** The District's Guidelines for Environmental Processes under CEQA for those cases in which the District assumes the role of Lead Agency are set forth in Volume VII to the District's Manual of Procedures and in the Permit Handbook.

*(Adopted 11/20/91; Amended 6/7/95)*

Regulation 2, Rule 1  
Permit / Exemption Flow Chart

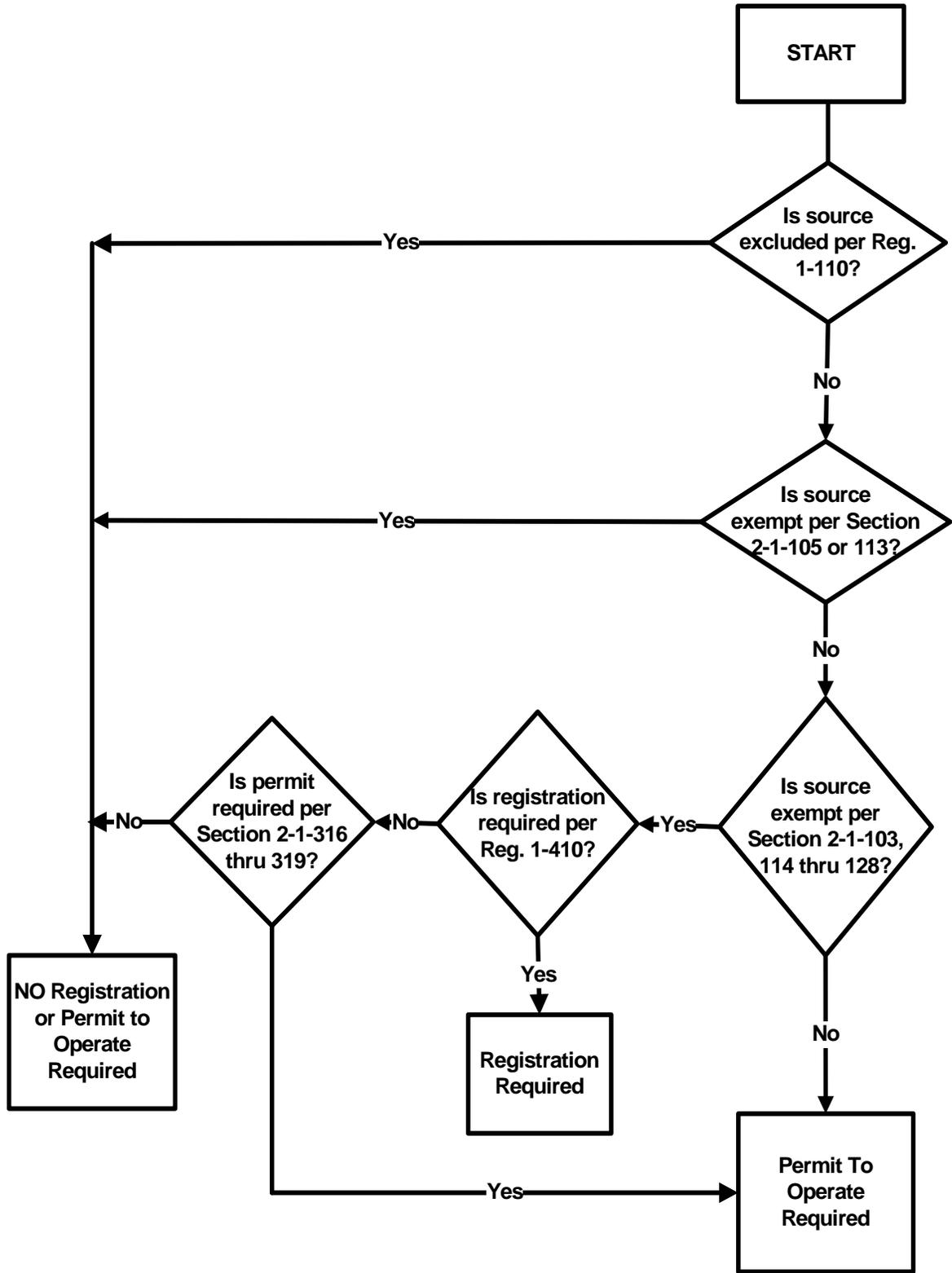


Figure 2-1-101

Table 2-1-316  
Toxic Air Contaminant Trigger Levels

This table has been superceded by Table 2-5-1 in Regulation 2, Rule 5.

*(Amended 5/17/00; 11/15/00; 6/15/05)*

**REGULATION 3: FEES**  
**SCHEDULE R**  
**EQUIPMENT REGISTRATION FEES**

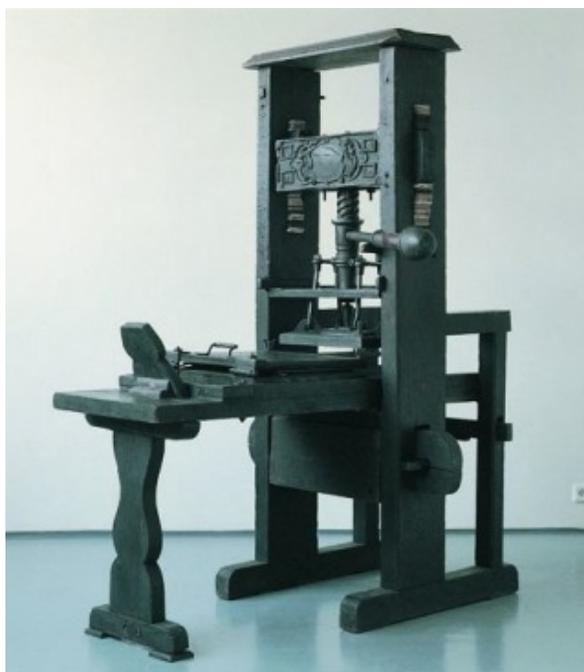
1. Persons operating commercial cooking equipment that are required to register equipment as required by District rules are subject to the following fees:
  - a. Conveyorized Charbroiler REGISTRATION FEE: \$360
  - b. Conveyorized Charbroiler ANNUAL RENEWAL FEE: \$100
  - c. Under-fired Charbroiler REGISTRATION FEE: \$360
  - d. Under-fired Charbroiler ANNUAL RENEWAL FEE: \$100
  
2. Persons operating non-halogenated dry cleaning equipment that are required to register equipment as required by District rules are subject to the following fees:
  - a. Dry Cleaning Machine REGISTRATION FEE: \$180
  - b. Dry Cleaning Machine ANNUAL RENEWAL FEE: \$125
  
3. Persons operating diesel engines that are required to register equipment as required by District or State rules are subject to the following fees:
  - a. Diesel Engine REGISTRATION FEE: \$120
  - b. Diesel Engine ANNUAL RENEWAL FEE: \$80
  
4. Persons operating boilers, steam generators and process heaters that are required to register equipment by District Regulation 9-7-404 are subject to the following fees:
  - a. Each facility operating a boiler, steam generator or process heater subject to Regulation 9-7-404 ONE-TIME REGISTRATION FEE \$425 per facility
  - b. Each boiler, steam generator or process heater subject to Regulation 9-7-404, after the first ONE-TIME REGISTRATION FEE \$50 per device
  
5. Persons owning or operating graphic arts operations that are required to register equipment by District Regulation 8-20-408 are subject to the following fees:
  - a. REGISTRATION FEE: \$215
  - b. ANNUAL RENEWAL FEE: \$135

*(Adopted 7/6/07; Amended 12/5/07; 5/21/08; 7/30/08)*

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

## **Staff Report**

### **Proposed Amendments to BAAQMD Regulation 8, Rule 20: GRAPHIC ARTS PRINTING AND COATING OPERATIONS**



**October 2008**

**Prepared by:**

**William Thomas Saltz  
Air Quality Specialist  
Planning, Rules and Research Division**

## STAFF REPORT

### Regulation 8, Rule 20: Graphic Arts Printing And Coating Operations

#### TABLE OF CONTENTS

	<u>Page</u>
I. Executive Summary	1
II. Background	2
A. Introduction	2
B. Graphic Arts Overview	3
C. Inks, Coatings, and Adhesives	7
D. Cleaning Products	7
III. Proposed Rule Amendments	8
A. Exemption: Low VOC-Emitting Facilities	8
B. Ink and Coating Standards	10
C. Cleaning Product Standards	10
D. Other Amendments	12
IV. Emissions and Emission Reductions	13
A. Emissions	13
B. Emission Reductions	14
V. Economic Impacts	15
A. Compliance Costs	15
B. Incremental Cost Effectiveness	17
C. Socioeconomic Impacts	17
VI. Environmental Impacts	18
A. California Environmental Quality Act	18
B. Greenhouse Gas Emissions	18
VII. Regulatory Impacts	19
A. California Health and Safety Code 40727.2 Impacts	19
B. Senate Bill 288 Conformity	19
VIII. Rule Development Process	20
IX. Conclusion	21
X. References	22
Appendices	
1. Responses to Public Comments	
2. Socioeconomic Analysis	
3. CEQA Analysis	

## I Executive Summary

The Bay Area Air Quality Management District (District or BAAQMD) staff is proposing amendments to Regulation 8, Rule 20: *Graphic Arts Printing and Coating Operations*, which limits emissions from graphic arts printing operations in the San Francisco Bay Area. The proposed amendments to Regulation 8, Rule 20 will implement Control Measure SS 2 of the 2005 Ozone Strategy. This control measure proposes to reduce volatile organic compound (VOC) emissions by lowering VOC limits for flexographic printing inks, by lowering VOC limits for graphic arts cleaning products, and by lowering the applicability limit in the rule to include more facilities. The majority of the VOC emission reductions will be achieved by tightening the VOC standards for existing graphic arts cleaning products and by adopting VOC standards for other cleaning products. Bay Area graphic arts operations currently emit approximately 5.25 tons per day (TPD) of VOC.

District staff also proposes a number of other amendments. They include the modification of numerous definitions, including that of “graphic arts operations,” and the addition of new definitions in order to clarify the scope and applicability of the rule. In addition, staff has corrected and updated other provisions, including modifications to Recordkeeping Requirements (Section 8-20-503) and Method of Determining VOC Emissions from graphic arts operations abated by an emission control system (Section 8-20-602) to verify compliance and enhance the enforceability of the rule. A new labeling requirement in Section 8-20-306 will assist both graphic arts operators and enforcement staff to determine compliance with VOC and permitting requirements. Staff also recommends deleting the Alternate Emission Control Plan (Section 8-20-304) and the Extreme Performance Screen Printing Petition for low-VOC emitters (Section 8-20-407).

Regulation 8, Rule 20 is an industry specific rule that applies to graphic arts operations that apply inks, coatings, and adhesives to substrates to create images. Currently, these operations include:

- Lithographic Printers
- Flexographic Printers
- Gravure Printers
- Screen Printers
- Letterpress Printers

The District is in non-attainment for both the state 1-hr and 8-hr ozone standards. The District is a marginal non-attainment area for the previous (0.08 ppm) national 8-hr ozone standard and has not yet been designated for the recently revised national standard. State law requires that the District implement all feasible measures to reduce emissions from ozone precursors, including VOC.

Currently, Regulation 8, Rule 20 does not apply to the digital printing industry. Under the proposed amendments, digital printers will continue to be exempt from Regulation 8, Rule 20, with the exception of record keeping requirements to track VOC emissions from commercial digital printing. These records will help the District develop an accurate emissions inventory and evaluate a potential future digital printing regulation.

The proposed amendments for Regulation 8, Rule 20 will reduce VOC emissions by at least 1.65 TPD – a 31% reduction from this source category. The proposed amendments are considered to be cost-effective and a socio-economic analysis has determined that these amendments can be implemented without significant economic dislocation or loss of jobs. A California Environmental Quality Act (CEQA) Initial Study has determined that there are no significant adverse environmental impacts associated with this project.

In conjunction with the proposed amendments to Regulation 8 Rule 20, amendments to *Regulation 2: Permits, Rule 1: General Requirements* will require only those facilities that emit 400 lbs VOC or more per month to obtain a permit to operate. Low emitting graphic arts operations may register with the District in lieu of obtaining a permit. The initial registration fee will be \$215.00 and an annual renewal fee will be \$135.00, as reflected in the proposed amendments to *Regulation 3: Fees, Schedule R: Equipment Registration Fees*.

## **II Background**

### **Introduction**

The District adopted Regulation 8, Rule 20 on April 12, 1980 and amended it five times thereafter. The rule has significantly reduced VOC emissions from Bay Area graphic arts operations by establishing VOC emission limits for inks, cleaning products, and other graphic arts products and by requiring the use of add-on control (abatement) devices for graphic arts operations using materials that exceed specified VOC limits.

The District adopted the last amendments in 1999. The District added VOC limits for cleaning materials used in graphic arts operations and lowered the threshold of VOC emissions that triggers subjecting a graphic arts operation to regulation under this rule.

The Bay Area 2005 Ozone Strategy's Stationary Source Measure SS 2 proposed that the District examine potential further emission reductions, based in part on the regulatory activities of other air districts. For example, the South Coast Air Quality Management District (SCAQMD) solvent cleaning rule, Rule 1171, and the San Joaquin Valley Unified Air Pollution Control District graphic arts printing rule, Rule 4607, have more stringent VOC limits for graphic arts cleaning solvents than does the District currently. Also, there are air districts that regulate graphic arts operations at a lower VOC-emissions threshold than the District's current exemption for 175 lbs of VOC emissions per month.

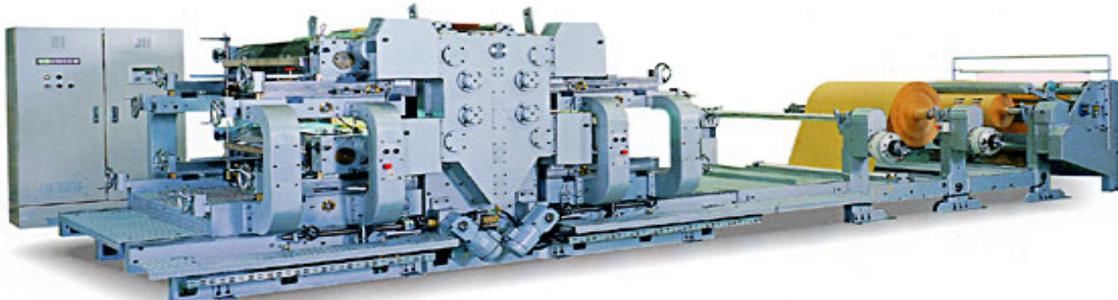
There are 261 permitted graphics arts facilities in the Bay Area. There are many additional facilities that do not have District permits. Printing establishments range in size from single-person print shops to large newspaper, packaging, and flexible packaging operations. Most graphic arts operations are low-emitting facilities, many of which are currently exempt from the requirements of Regulation 8, Rule 20 because they emit less than 175 lbs VOC per month. Some facilities use a single printing technology; others use a combination of printing technologies, including lithographic, flexographic, screen printing, and gravure.

## Graphic Arts Overview

Graphic arts facilities use printing presses to produce “images” on substrates. A substrate is the base material onto which images are printed. Each press is comprised of one or more printing units that print one color at a time. Substrates onto which images are printed are either continuous (web) or in pieces (sheets). The Bay Area’s graphic arts industry can be divided into six different printing technologies, five of which are currently subject to Regulation 8, Rule 20.

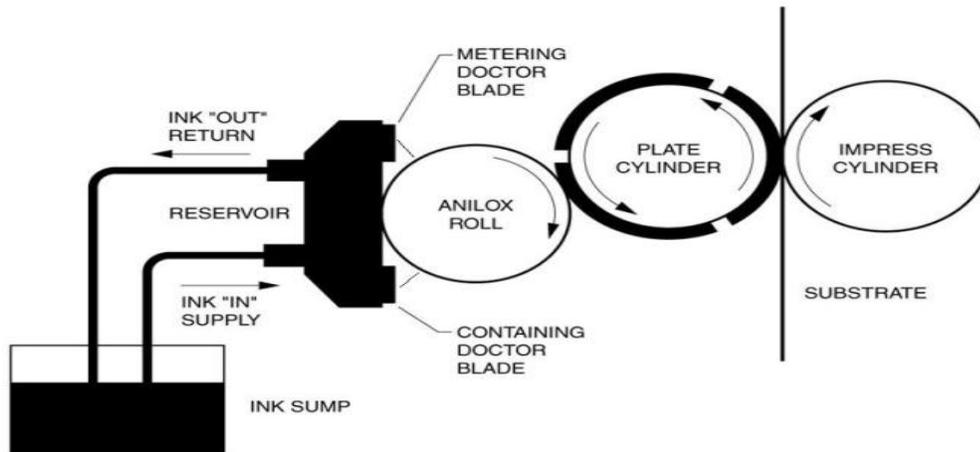
1. Letterpress – The oldest method of printing in which a raised inked surface prints directly onto the substrate. Letterpress printing was a common technique for periodicals and newspapers, but it is being replaced by other types of printing, such as lithography and digital printing.
2. Flexographic – A printing method in which the image carrier is made of rubber or other elastomeric material and the image is raised above the non-image areas. Typical substrates include textiles, paper, paperboard, plastic, acetate film, and foil. Figure 1 is a picture of a large flexographic press. Figure 2 is a schematic diagram of a flexographic press.

Figure 1  
Large Flexographic Press



Source: PIA Northern California

Figure 2  
Schematic of a Flexographic Press



Source: PIA Northern California

3. Gravure – A printing method in which the ink is transferred from minute etched wells in a plate to the substrate, which is supported by an impression roller. When a rotating drum or cylinder is used to transfer an image to the substrate, this process is called rotogravure printing.
4. Lithographic – A printing method in which the image and non-image areas are on the same plane. (Lithographic printing is also known as planographic printing.) Lithography is a technique in which the inked image is transferred (or "offset") from a plate to a rubber blanket, then to the printing surface. The lithographic process is based on the principle that water and oil do not mix. The non-image area is receptive to water, and the image area is receptive to ink and repellent to water.

There are two types of lithographic printing: sheet-fed and web. Sheet-fed presses run individual sheets of paper through the press, while web presses feed paper continuously from a large roll and can use either heatset or non-heatset inks. Once the image is printed onto the substrate, the paper is either fed back onto a roll or cut and/or trimmed into specific shapes and sizes. Web lithography is designed to print large jobs; it prints newspapers, books, catalogs, periodicals, advertising and business forms. Sheet-fed lithography is used mostly for short runs of books, periodicals, posters, advertising flyers, brochures, greeting cards, packaging and fine art reproduction.

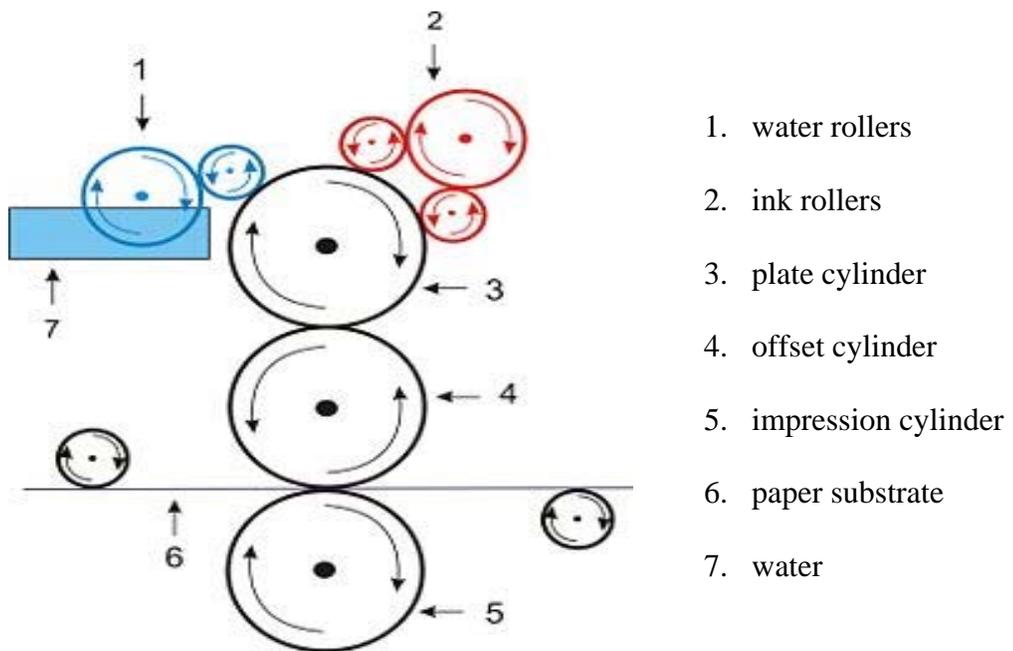
Lithographic printing operations account for over 50 percent of the permitted graphic arts operations in the Bay Area. Figure 3 is a picture of a small, sheet-fed lithographic press. Figure 4 is a schematic diagram of a lithographic transfer process.

Figure 3  
Small Lithographic Press



Source: Heidelberg

Figure 4  
Schematic of Lithographic Press



Source: Wikipedia

5. Screen Printing – A method of printing, also known as silk screening, which utilizes a stenciling technique. The ink is forced through the open areas of a stencil and deposited onto a substrate.
6. Digital Printing – A non-traditional, non-impact printing method that is not currently subject to the requirements of Regulation 8, Rule 20. Digital printing includes inkjet, electrophotographic, thermal transfer, and dye sublimation technologies. There are several differences between digital printing and traditional printing. First, most digital printing processes do not use a permanent or semi-permanent physical plate to create images. Rather, computer-generated electronic signals are sent to the printing press to create a temporary plate that may last for only one impression. Consequently, the digitally-created image plates are not static. The electronic signal can create images that can vary from one impression to the next. Digital printing requires considerably less time to set up a print job than the traditional printing methods. Traditional printing plates can only produce a single image for the length of the press run whereas digital printing can change an image with each impression. Second, digital printing can be used on a variety of substrates, and, unlike most traditional printing, is not limited to flat substrates, such as paper, cardboard, and other packaging materials. Digital printing is an evolving technology, which air districts are only now beginning to examine. Some digital printing methods utilize inks and solvents that contain significant amounts of VOC and that may produce significant VOC emissions.

Graphic arts operations can be further classified by the type of substrates that are printed on by the specific printing technologies. The graphic arts industry prints images onto a wide array of substrates. Substrates include foil, paper, cardboard, film, plastic, metal, and vinyl, and three-dimensional surfaces. Due to market demand, the types of printing substrates continue to increase. Consequently, graphics arts operations use an increasing variety of coatings, inks, and adhesives to keep up with the demand. Table 1 lists products that are typically printed on by specific printing technologies.

<b>Table 1 -- Products Printed By Each Graphic Arts Technology</b>	
<b>Printing Technology</b>	<b>Examples of Products</b>
Letterpress	announcements, business cards, letterhead, proofs, form documents, posters, embossing and hot-leaf stamping
Flexographic	flexible packaging materials, cups, cartons, bags, pressure sensitive labels, film, plastic, and foil
Gravure	books, greeting cards, and packaging materials
Lithographic	newspapers, books, business forms, financial and legal documents
Screen	clothing, textiles, flyers, billboard advertisements, and skate boards
Digital	documents, packaging material, medical devices, billboards, plastic, car seat foam, clothing, vinyl signs, rubber tubing, and metal

## **Inks, Coatings, and Adhesives**

Graphic arts operations use inks, coatings, and adhesive materials during printing processes. Some of these materials contain VOC.

Each graphic arts technology requires the use of inks that are specific to the printing process and the substrates. Therefore, the composition of inks varies significantly from one process to another. Inks are petroleum-based, water-based, or agriculturally-based materials (such as vegetable oils). As a result, the physical properties of inks vary, such as their viscosity, tackiness, and drying time. Further, each printing technology usually requires the application of a precise thickness of ink to a substrate to produce an optimum image.

Graphic arts inks also dry by various methods. Traditional inks, such as newspaper printing inks and sheetfed printing inks, dry by one of three methods: absorption into the substrate, evaporation, or oxidative polymerization. In the oxidative polymerization process, ink additives react with oils to speed up polymerization, thus turning wet inks into a solid. It is a process that improves the glossiness of an ink and can make the surface scratch and rub-resistant.

Lithographic, flexographic, gravure, and screen printing operations can use ultraviolet (UV) inks, coatings, and adhesives that are based on radiation curing technology. It is a technology that utilizes short wavelength UV, or high energy electrons from electron beam (EB) sources, to cure (cross-link) special reactive inks, coatings, and adhesive formulations. The benefits of UV and EB graphic arts products include: (1) very quick curing, which allows for higher press speeds, (2) improved adhesion to substrates; and (3) an ability to render final products with physical and chemical resistant properties. Ultraviolet and electron beam inks emit almost no VOC. However, many of the cleaners used to clean press equipment that apply UV and EB graphic arts products are solvent-based and contain VOC.

Graphic arts operations utilize coatings in a variety of ways. Coatings include varnishes, aqueous-based and solvent-based coatings, UV coatings, and laminates. Coatings can provide a background color onto which inks may be applied. Coatings also protect the surface of the final product from damage due to abrasion, water, or chemicals. One example of a chemical-resistant coating is the anti-corrosion coating applied to orange juice cartons to protect them against deterioration caused by the acid in the juice. Applications also include textiles, such as those used for hot and cold air inflatable advertising media, displays, and banners.

Graphic arts operations use adhesives in both the printing and production processes. Operators print on pressure-sensitive adhesive products, such as labels, decals, and tapes. Graphic arts operations use adhesives in production processes, including to bind books and magazines; to temporarily secure textile substrates during screen printing operations; and to manufacture flexible packaging products, such as boxes, cans, and wraps.

## **Cleaning Products**

The graphics arts industry uses a variety of cleaning products to remove excess printing inks, oils, grease, coatings, and adhesives and to remove unwanted dust, debris and other

pressroom contaminants.

Most Bay Area graphic arts operators use VOC-containing cleaning products to clean external parts of the printing press manually and to clean internal areas of the press manually and mechanically. Press operators apply small amounts of cleaning solvent to a cloth and then hand wipe blankets, rollers, cylinders, drums, and ink tools, ink trays, ink cans, ink rails, pipe rollers, and spray bars. Used cloths are disposed of as hazardous waste. Automated systems clean internal parts of the press, such as those that apply blanket washes on lithographic presses. One of the advantages of an automated press cleaning feature is the ability of a press operator to clean a press while simultaneously printing jobs.

Another source of VOC emissions relates to the cleaning of press parts that are not directly involved in the creation or application of images or that do not typically come into contact with printing inks (“other press parts”). Other press parts are cleaned with products containing solvents. Other press parts include, but are not limited to, non-image areas of printing plates, catwalks, motors, belts, die cutters, side frames, gripper bars, delivery units, ink pumps, dryer boxes, drip pans, and ink trays.

Cleaning products are available in a range of quantities, ranging from 1-gallon to 50-gallon drums. Distributors state that cleaning products that are purchased in large containers are transferred into smaller containers, such as squirt bottles, to clean printing presses.

### **III Proposed Rule Amendments**

The District proposes amendments to Regulation 8, Rule 20 that will reduce VOC emissions from the Bay Area’s printing industry in three ways: (1) lowering the exemption limit; (2) lowering the VOC limit for flexographic ink used on porous substrates; and (3) lowering the VOC limits for graphic arts cleaning products in three stages. The majority of the VOC emission reductions will be achieved by tightening the VOC standards for existing graphic arts cleaning products and by adopting VOC standards for other cleaning products.

#### **Exemption: Low VOC-Emitting Facilities**

Most California air districts provide an exemption from their graphic arts regulations for low-emitting graphic arts operations. There are 261 permitted graphic arts facilities within the District. Eighty-five of the 261 facilities emit less than 175 lbs of VOC per month and thus currently are exempt from the standards of Regulation 8, Rule 20. As a review of all feasible measures associated with the printing industry, staff considered lowering the threshold of graphic arts operations that are subject to Regulation 8, Rule 20 and eliminating the low-emitting operations exemption altogether. After reviewing the Bay Area’s graphic arts emissions inventory, staff determined that eliminating the low emissions exemption is not warranted because considerable District resources (engineering, inspection, and technical staff) would be required to address a minimal emission reduction. However, staff determined there would be a benefit to lowering the threshold.

Staff analyzed the emissions from those permitted graphic arts facilities that are currently exempt from Regulation 8, Rule 20. Staff identified a cluster of facilities emitting substantially more than 75 pounds per month of VOC and a second cluster of facilities emitting at least 10 pounds less than 75 pounds per month. Based on that break point at 75 pounds per month, staff proposes lowering the exemption threshold from 175 pounds VOC per month to 75 pounds VOC per month. The lower threshold will result in 77% of currently-exempt graphic arts facilities becoming subject to the standards of Reg. 8-20. Facilities that emit less than 75 lbs of VOC per month will be exempt from the rule except for specific recordkeeping requirements. Lowering the exemption limit would impact at least 48 known facilities but may impact up to 25 additional facilities that are currently not in the District's database.

The current low-emitting facilities exemption in Regulation 8, Rule 20 is based on the quantity of VOC emissions per month from graphic arts operations. Currently, some of these exempt facilities require a permit to operate because they either emit 150 lbs of VOC per year, or use 30 gallons of ink or coating per year, or use 20 gallons of solvent per year (see District Regulation 2, Rule 1). Proposed amendments to Regulation 2, Rule 1 will require only those facilities that emit 400 lbs VOC or more per month to obtain a permit to operate. Facilities that emit less than 400 lbs VOC per month but at least 75 lbs VOC per month (the level at which Regulation 8, Rule 20 standards will become effective) will be required to register with the District in lieu of obtaining a permit.

There are several reasons for this proposal. First, if a graphic arts operation is subject to the rule, they will be required to either register or obtain a permit, depending on the level of emissions. This correlation will help clarify the applicability of District requirements to the printing industry. Second, due to the administrative costs of obtaining a permit, permit fees do not fully recover the cost of permitting and enforcement for many low-emitting facilities. In addition, a low-emitting facility in this industry can incur substantial permitting costs, particularly under "Waters Bill" notification requirements for use of any amount of a toxic air contaminant or a hazardous air pollutant within 1,000 feet of a school.<sup>1</sup> Registration, a much simpler process, will recover estimated costs for administration and enforcement activities for affected facilities.

In addition to reducing emissions by requiring some low VOC-emitting facilities to comply with the standards in Reg. 8-20, registration will cost the smaller facilities less than the cost of obtaining a permit to operate, and in many cases result in a savings. Staff is proposing an initial registration fee of \$215.00 and an annual renewal fee of \$135.00. By contrast, currently, a low-emitting facility subject to permitting requirements will pay approximately \$500.00 for the initial permit to operate and related fees and will pay approximately \$260.00 each year thereafter for the permit renewal and related fees, depending on the number of sources. If a facility is subject to the Waters Bill, there may be a requirement to submit a public notice for schools that will cost between \$2,000.00 and \$3,000.00. The registration fees are included in a proposed amendment to Regulation 3: Fees, Schedule R: Equipment Registration Fees.

Some low VOC-emitting facilities that currently require permits to operate would become exempt from the permit requirement, although they would be required to register

---

<sup>1</sup> California Health and Safety Code 42301.6(b) and BAAQMD Regulation 3, Section 318.

as described above. These facilities have the option of retaining their permits or switching to the registration system. The District is currently developing a web-based registration system to simplify the registration procedure.

### **Ink and Coating Standards**

Currently, Regulation 8, Rule 20 contains a VOC limit of 300 grams/liter (g/l) for all flexographic ink. District staff proposes to divide flexographic printing into porous and non-porous categories by proposing a VOC limit of 225 g/l for flexographic inks applied to porous substrates while retaining the existing 300 g/l limit for non-porous substrates.

The purpose of this amendment is to align the rule with current printing industry practices and regulatory standards elsewhere in California. Flexographic inks containing less than 225 grams of VOC per liter have been used on porous substrates for several years. The District anticipates achieving a modest VOC emission reduction as a result of this amendment because our emissions data indicates that emissions from flexographic ink applied to porous substrates account for less than 5% of VOC emissions from all Bay Area graphic arts operations.

### **Cleaning Product Standards**

Currently, the cleaning products used in flexographic printing, specialty flexographic printing, and ultraviolet printing operations must comply with both a VOC standard of 800 to 880 g/l and composite partial pressure (CPP) limit of 21 mm to 33 mm Hg, whereas cleaning products used in lithographic printing, screen printing, and gravure printing operations must comply with either the applicable VOC limit or a CPP limit of 10 to 25 mm Hg. Cleaning products in this latter category that meet the CPP limit typically have a significantly higher VOC content than the 300 g/l option. Although lower CPP products evaporate more slowly, the use of low-VOC cleaning products are a much better way of reducing VOC emissions. Staff proposes the deletion of the CPP limits when proposed lower VOC standards become effective.

District staff proposes adopting VOC standards for cleaning products that have a lower VOC content but are effective in cleaning graphic arts equipment. Cleaning products with lower VOC contents, in the range of 450 g/l to 650 g/l, have been used successfully in other air districts. Staff recommends reducing the VOC limits in two phases – lowering the limit initially in 2009 and then again in 2010 or 2011 as described in more detail below. This approach will provide cleaning product manufacturers sufficient time to further refine low-VOC formulations and to ramp up production. An additional benefit of the phase-in period is that the printing industry will have time to adapt to using the new products. The final VOC limits will be the same as those required by the South Coast and the San Joaquin districts, and are being considered in other districts.

The implementation date for 100 g/l cleaning products for specialty and screen printing graphic arts operations will be delayed until July 2011 to allow further reformulation research and development. Industry representatives and two Bay Area specialty graphic arts operators that print on packaging substrates inform staff that low VOC cleaning products, less than 500 g/l, for specialty and screen printing graphic arts operations are not effective at this time. However, a 100 g/l VOC standard has been adopted in other California rules, so staff anticipates that low-VOC cleaning products will become

available for these operations. Staff estimates that the July 2011 date will allow sufficient time to develop and evaluate products for these operations, given the increasing need for such products. Staff will work with industry to ensure that effective products will be available by the proposed July 1, 2011 compliance date.

Proposed amendments also include VOC limits for cleaning products not currently subject to Regulation 8, Rule 20. This will further reduce VOC emissions from the graphic arts industry. VOC standards would be set on products that clean adhesive application equipment, letterpress printing parts and other press parts (maintenance and repairs for non imaging equipment). Table 2 summarizes the proposed VOC standards for cleaning products and corresponding compliance dates.

**Table 2 -- Proposed VOC Limits for Cleaning Products**

<b>Equipment</b>	<b>Effective 7/1/09</b>	<b>Effective 7/1/10</b>	<b>Effective 7/1/11</b>
Graphic Arts Operation	<u>VOC content g/l (lb/gal)</u>	<u>VOC content g/l (lb/gal)</u>	<u>VOC g/l (lb/gal)</u>
<b><u>For Press Equipment, except Other Press Parts</u></b>			
<u>Flexographic Press</u>	<u>500 (4.2)</u>	<u>25 (0.21)</u>	
<u>Specialty Flexographic or Lithographic Press*</u>	<u>500 (4.2)</u>		<u>100 (0.83)</u>
<u>Gravure Printing Press (Packaging)</u>	<u>450 (3.7)</u>	<u>25 (0.21)</u>	
<u>Gravure Printing Press (Publication)</u>	<u>450 (3.7)</u>	<u>100 (0.83)</u>	
<u>Letterpress Press</u>	<u>500 (4.2)</u>	<u>100 (0.83)</u>	
<u>Lithographic Press, by Manual Washing</u>	<u>500 (4.2)</u>	<u>100 (0.83)</u>	
<u>Lithographic Press, by Automated Washing</u>	<u>650 (5.0)</u>	<u>100 (0.83)</u>	
<u>Screen Printing Press</u>	<u>500 (4.2)</u>		<u>100 (0.83)</u>
<u>Adhesive Application Equipment</u>	<u>500 (4.2)</u>	<u>25 (0.21)</u>	
<u>Ultraviolet Ink Removal, Any Press Type</u>	<u>650 (5.0)</u>	<u>100 (0.83)</u>	
<b><u>Other Press Parts</u></b>	<u>450 (3.7)</u>	<u>25 (0.21)</u>	

\*A new category -- Specialty Lithographic -- has been added to the category of specialty cleaning products. Lithotype Press is a one-of-a-kind operation in the Bay Area that uses an offset lithographic process to print on packaging materials. Lithotype's offset printing operation requires the same VOC cleaning product limits as flexographic packaging printers.

## **Other Amendments**

Exemptions: Staff has proposed several new exemptions to the Rule: digital printing equipment, cleaning products used on ultraviolet lamps and reflectors, stripping of cured ultraviolet and electronic beam products, printing operations subject to other rules, and hand-screened wallpaper. The exemptions for digital printing, lamps and reflectors, and equipment subject to other rules merely clarify the applicability of the Rule where questions have arisen in the past. One operator in the District screen prints wallpaper by hand and has relied on the current low-emitting facilities exemption to use the materials needed for such operation. It is a labor intensive and nearly unique operation in the nation. There are no alternative inks for this type of operation on porous (paper) wallpaper and given the small size of this industry, staff do not anticipate there being a significant demand to lower VOC contents of necessary materials. The exemption would allow the source to operate at its current capacity but not let them increase emissions.

Regulation 2, Rule 1: Permits and Regulation 3: Fees: As discussed above, under Exemption: Low-Emitting Facilities, proposed changes to Regulation 2, Rule 1: Permits, would change the requirement for a permit from the current 30 gallons of ink, coating and adhesive or 150 lbs emissions from ink, coating and adhesive, to 400 lbs VOC emissions per month, which includes emissions from clean-up solvent and fountain solutions. Concurrent with the proposed requirement to register these low-emitting facilities, proposed amendments to Regulation 3: Fees, Schedule R: Equipment Registration Fees would assess a \$215 fee for an initial registration and an annual renewal fee of \$135.

Alternative Emission Control Plan: Staff has proposed deletion of the provision allowing press operators to use an alternate emissions control plan (AECp). The AECp was intended to allow large press operators to exceed VOC limits for some inks if the total emissions were less than the use of all complying inks. In practice, sources have either been abated if they are sufficiently large presses where the potential benefit of an AECp was not enough to ensure reductions to a complying level, or complying products have been found so that the lengthy emissions calculations required to show daily compliance have not been necessary. No sources have used the AECp provisions since 2000, so staff proposes deleting it.

VOC Labeling: A proposed amendment to Section 8-20-306 will require manufacturers to provide VOC information on the labels of graphic arts products, and prohibit distribution of non-labeled products. Doing so will help to ensure that press operators use compliant products. Some graphic arts cleaning products are sold in concentrated forms and are to be diluted before they are used on press equipment. As of July 1, 2009, VOC information on labels would require manufacturer recommended dilution ratios to ensure that the VOC limits for cleaning products are met as they are applied, not as they are stored in a container.

Digital Printing: Commercial Digital Printing (DP) is a relatively new graphic arts technology that is not currently regulated by any California air districts. Some digital printing operations create images by using dry toners, inks, and waxes that contain virtually no VOC. However, other DP operations, including inkjet printing and some newer technologies, use high-VOC content inks. The extent of VOC emissions from digital printing sources is not yet well known. Staff proposes an amendment to Regulation 8, Rule 20 to track VOC emissions from commercial digital printing

operations to determine the feasibility of developing a future rule specific to that industry.

Administrative requirements: A requirement has been added to label squirt bottles with the type of cleaning product they contain. This will allow District inspectors to ascertain the VOC standard that applies to the cleaning product and more easily enforce the Rule. As previously discussed, a registration requirement has been added in the Administrative Section of the rule for low-emitting facilities. Also, calculations have been added to clarify emissions calculations to determine exemptions.

In addition, based on input from affected industry and District enforcement, engineering and technical staff, numerous changes are proposed to the definitions, recordkeeping, and Manual of Procedures sections of the rule. These changes are intended to clarify the intent of the rule, and add VOC content calculations.

## **IV Emissions and Emission Reductions**

### **A. Emissions**

The total VOC emissions from permitted Bay Area graphic arts operations are 5.25 tons per day (TPD). The District's graphic arts emission inventory is derived from the sum of VOC emissions reported on annual update forms submitted by all permitted graphic arts facilities to the District prior to renewing their permits to operate. Update forms contain the throughput of various printing-related materials used by facilities during the previous twelve months. The sources of VOC emissions include inks, coatings, and certain cleaning solvents from letterpress, lithographic, gravure, screen and flexographic printing operations. Emissions from a relatively small number of permitted digital printing operations that use solvent cleaning products, such as inkjet and bubble jet printers, are also included in the emissions inventory.

The emissions inventory does not include VOC emissions from the following sources:

- Adhesive materials or from cleaning products used to clean adhesive application materials,
- Products used to clean press equipment that apply UV inks, coatings, and adhesives; and,
- Solvents and liquid inks used in most commercial digital printing operations in the Bay Area.

Based on the District's emissions inventory, and comparable information from other Districts, approximately 75 – 80% of the emissions come from lithographic presses. The remainder is split between flexography (about 10%) and screen printing (about 10%). Letterpress and gravure printing collectively make up less than 5% of the emissions inventory.

Digital printing operations are not regulated by Regulation 8, Rule 20. However, they currently require a permit to operate if they use more than 30 gallons of inks and coatings per year pursuant to Regulation 2, Rule 1. Based on emissions from permitted inkjet and electrophotographic printing operations in the Bay Area, staff estimates the emissions from digital printing operations to be between 0.07 TPD and 0.15 TPD. Accordingly, the estimated total of VOC emissions from graphic arts operations and printing operations in

the Bay Area, including digital, is between 5.32 TPD and 5.4 TPD.

## B. Emission Reductions

The calculations for estimated VOC emission reductions are based on the emissions inventories and reports from permitted Bay Area graphic arts operations. District staff calculated the estimated emission reductions based on the anticipated reduction of VOC emissions from the current VOC limits multiplied by the quantities of each type of product used. The estimated quantities and emissions reductions are based on industry data and District permit information. District staff also estimated the emissions reductions from the proposed amendment to lower the applicability limit of the Rule from 175 lbs VOC per month to 75 lbs VOC per month.

Table 3 summarizes the emission reductions the proposed rule amendments will yield for flexographic ink and cleaning products during calendar year 2009 and 2010 (2011 for specialty flexographic and lithographic cleaning products and screen cleaning products). The total emission reductions from the proposed amendments as shown in Table 3 are estimated to be 1.65 TPD.

<b>Table 3 -- Estimated VOC Emission Reductions</b>			
<b>Printing Technology</b>	<b>2009 Emission Reductions (TPD)</b>	<b>2010 (2011*) Emission Reductions (TPD)</b>	<b>Total Emissions Reduction</b>
Flexographic Porous Ink	0.1	--	0.1
Adhesive Cleaning Products	0.022	0.034	0.056
Flexographic Cleaning Products	0.013	0.0182	0.0312
Gravure Cleaning Products	0.0009	0.0001	0.0010
Letterpress Cleaning Products	0.013	0.018	0.031
Lithographic Hand Cleaning Products	0.26	0.52	0.78
Lithographic Automated Cleaning Products	0.113	0.41	0.523
Ultraviolet Ink Cleaning Products	0.0005	0.008	0.0085
Specialty Flexographic and Lithographic Cleaning Products	0.007	0.0098*	0.017
Screen Printing Cleaning Products	0.029	0.05*	0.08
New Exemption Limit	0.023	--	0.023
<b>Emission Reductions</b>	<b>0.58 TPD</b>	<b>1.07 TPD</b>	<b>1.65 TPD</b>

\* The second phase of emissions reductions from Specialty Flexographic and Lithographic Cleaning Products and Screen Printing Cleaning Products achieved in 2011.

## V Economic Impacts

### A. Compliance Costs

#### Flexographic Ink

On average, the cost for each pound of the most commonly used flexographic ink that is applied to a porous substrate is between \$1.00 -- \$5.00. The price can be higher for custom-formulated specialty ink. Ink that has been reformulated from 300 g/l of VOC content to 225 g/l should cost, on average, 3.5% more than 300 g/l ink, according to ink manufacturers. The price range differential is shown Table 4.

**Table 4**

<b>Compliance Cost for Flexographic Ink Applied to Porous Substrates</b>			
<b>Flexographic Ink</b>	<b>Cost at current VOC Limit 300 g/l</b>	<b>Cost when VOC Limit is 225 g/l</b>	<b>Cost Effectiveness</b>
Flexographic Ink for Porous Substrate	\$1.00 - \$5.00 per pound	\$1.035 - \$5.18 per pound	\$112 - \$576 per ton VOC reduced

#### Cleaning Products

Staff developed costs for cleaning products currently in use from discussions with manufacturers, vendors and users of these products. The cost of most graphic arts cleaning products used in the Bay Area range from \$10.00 - \$20.00 per gallon. Cleaning products used to clean specialty inks and some adhesives may cost a little more. In 1999, the South Coast AQMD developed lower VOC standards for printing presses and projected costs assuming that the lower VOC products would be formulated by replacing conventional solvents with exempt solvents (solvents that EPA has determined to be negligibly reactive), including acetone, parachlorobenzotrifluoride (PCBTF), and methyl acetate. In technology updates in 2003 and 2006, however, the South Coast found that the majority of low-VOC products developed were water based, or made from methyl ester-based products that have a very low VOC content. Acetone based products are available for some applications, but are not used for rubber-based printing plates or rollers due to the corrosive or warping effects on rubber. PCBTF has not been widely used due to the cost of the solvent.

District staff based its compliance costs on information provided by the San Joaquin and South Cost air districts and the District's own telephone survey and research. The San Joaquin district evaluated the prices of lower VOC cleaning products, concurrent with BAAQMD efforts, and projects no price increase. On the other hand, a 2006 report to the South Coast AQMD by the Printing Industries of California and Graphic Arts Technical Foundation found price increases up to 300% for some cleaners that were tested for efficacy, but found other concentrated water-based cleaning products that, when diluted for use, were 65% to 88% cheaper. District staff then conducted a telephone survey to determine the price of cleaning products. Staff surveyed 11 suppliers and press operators, and found that the projected price increases averaged 3.5%. In many cases, the cleaning products are the same products as are currently used mixed with exempt solvent or water. Moreover, staff found that, as the costs of petroleum based cleaners have increased, the cost of methyl ester-based cleaners (derived from soy) and the cost of

water based cleaners have increased at a lesser rate. The compliance costs for various graphic arts cleaning products are shown in Table 5. In this evaluation, staff assumed that the 3.5% cost increase reported by vendors applies to each of the proposed VOC limit reduction phases, in 2009 and in 2010 or 2011 (where applicable).

**Table 5**

<b>Current and Projected Costs for Cleaning Products</b>			
<b>Graphic Arts Cleaning Product</b>	<b>Cost at Current VOC Limits</b>	<b>Estimated Cost Increase</b>	<b>Cost Effectiveness *</b>
Lithographic Printing Hand Press Wash	\$10 - \$12 per gallon	7%	\$245 - \$295 per ton
Lithographic Printing Automated Press Wash	\$11 - \$13 per gallon	7%	\$285 - \$335 per ton
Rotogravure Publication Cleaning Product	\$9.75 - \$10.75 per gallon	No change	\$0
Rotogravure Packaging Cleaning Product	\$10.20 - \$10.90 per gallon	No change	\$0
Flexographic Press Cleaning Product	\$11 - \$13 per gallon	No change	\$0
Letterpress Cleaning Product	\$10.50 - \$11.50 per gallon	7%	\$295 - \$325 per ton
Adhesive Application Cleaning Product	\$20.25 - \$21.75 per gallon	- 25% (decrease)	Cost savings
UV and EB Cleaning Products	\$13.65 - \$13.95 per gallon	No change	\$0
Other Press Parts Cleaning Products	\$9.55 - \$10.25 per gallon	No change	\$0
Specialty Flexo and Litho Press Wash	\$13.75 - \$16.25 per gallon	No change	\$0
Screen Printing Press Wash	\$18.10 - \$18.90 per gallon	- 16% (decrease)	Cost savings

\* The range given includes cost effectiveness for both the interim (July 2009) and final (July 2010 and July 2011) VOC standards.

In addition, in proposed amendments to Regulation 3, Schedule R: Equipment Registration fees, there are costs for registration of printing equipment from facilities that emit at least 75 lbs VOC emissions per month but less than 400 lbs VOC emissions per month. The amendments propose an initial cost of \$215.00 for a low-emitting facility to register. The cost to re-register annually is \$135.00. This is less than the current cost to permit comparable equipment. It is expected that costs for low-emitting facilities that are currently permitted will be reduced.

## B. Incremental Cost Effectiveness

Section 40920.6 of the California Health and Safety Code requires air districts to perform an incremental cost analysis for any proposed Best Available Retrofit Control Technology rule or feasible measure. Air districts 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 dollar costs divided by the difference in the emission reduction potentials between each progressively more stringent potential control option.”

No discernable increments have been determined for lower VOC limits for flexographic ink applied to porous substrates. For the purposes of the analysis, staff used the interim and final limits for graphic arts cleaning products and calculated the cost effectiveness for each by dividing the incremental product cost by the incremental tons of VOC reduced. The incremental cost effectiveness for the proposed VOC amendments is shown in Table 6.

**Table 6**

<b>Incremental Cost Effectiveness (CE) for Cleaning Products, Interim and Final Limits</b>			
<b>Graphic Arts Cleaning Product</b>	<b>Current Product Costs</b>	<b>Interim Limit CE - 2009</b>	<b>Final Limit CE - 2010*</b>
Lithographic Printing Hand Press Wash	\$10 - \$12 per gallon	\$20 - \$560 per ton	\$170 - \$180 per ton
Lithographic Printing Automated Press Wash	\$11 - \$13 per gallon	\$910 - \$1100 per ton	\$170 - \$195 per ton
Rotogravure Publication Cleaning Product	\$9.75 - \$10.75 per gallon	\$0	\$0
Rotogravure Packaging Cleaning Product	\$10.20 - \$10.90 per gallon	\$0	\$0
Flexographic Press Cleaning Product	\$11 - \$13 per gallon	\$0	\$0
Letterpress Cleaning Product	\$10.50 - \$11.50 per gallon	\$445 - \$505 per ton	\$220 - \$435 per ton
Adhesive Application Cleaning Product	\$20.25 - \$21.75 per gallon	Cost savings	Cost savings
UV and EB Cleaning Products	\$13.65 - \$13.95 per gallon	\$0	\$0
Other Press Parts Cleaning Products	\$9.55 - \$10.25 per gallon	\$0	\$0
Specialty Flexo and Litho Press Wash*	\$13.75 - \$16.25 per gallon	\$0	\$0
Screen Printing Press Wash*	\$18.10 - \$18.90 per gallon	Cost savings	Cost savings

\* Final Limits effective in 2011 for Specialty Flexography and Screen Printing Press Wash

## C. Socioeconomic 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 Economic Development of Walnut Creek, California has prepared a socioeconomic analysis of the proposed amendments to Regulation 8, Rule 20. For the purpose of the analysis, it was assumed that flexographic ink used on porous substrates and all cleaning products had an increase in price of 3.5% for both the interim and final cleaning product limits, so as to assess the maximum potential impact on small printing operations. The analysis concludes that the proposed amendments would not have a significant economic impact or cause regional job loss. District staff have reviewed and accepted this analysis. The socioeconomic analysis is attached as Appendix II.

## **VI Environmental Impacts**

### **A. California Environmental Quality Act**

Pursuant to the California Environmental Quality Act, the District has caused an initial assessment study for the proposed amendments to Regulation 8, Rule 20 to be prepared by Environmental Audit, Inc., of Placentia, CA. The assessment concludes that the proposed amendments would not result in adverse environmental impacts. A copy of the study and draft Negative Declaration is provided in the appendix of this staff report. No comments were received during the comment period on the draft Negative Declaration. The CEQA analysis is attached as Appendix III.

### **B. Greenhouse Gas Emissions**

In June 2005, the District’s Board of Directors adopted a resolution recognizing the link between global climate change and localized air pollution impacts. Climate change, or global warming, is the process whereby emissions of anthropogenic pollutants, together with other naturally-occurring gases, absorb infrared radiation in the atmosphere, leading to increases in the overall average global temperature.

While carbon dioxide (CO<sub>2</sub>) is the largest contributor to global warming, methane, halogenated carbon compounds, nitrous oxide, and other compounds also contribute to climate change. Gases in the atmosphere can contribute to the greenhouse effect both directly and indirectly. Direct effects occur when the gas itself is a greenhouse gas (GHG). While there is relative agreement on how to account for these direct effects of GHG emissions, accounting for indirect effects is more problematic. Indirect effects occur when chemical transformations of the original compound produce other GHGs, when a gas influences the atmospheric lifetimes of CH<sub>4</sub>, and/or when a gas affects atmospheric processes that alter the radiative balance of the earth (e.g., affect cloud formation).

VOCs have some direct global warming effects. However, they are primarily considered greenhouse gases due to their indirect effects. VOC react chemically in the atmosphere to increase concentrations of ozone and may prolong the life of methane. The magnitude of the indirect effect of VOC is poorly quantified and depends on local air quality. Global warming not only exacerbates ozone formation, but ozone formation exacerbates global warming. Consequently, reducing VOC to make progress towards meeting California air quality standards for ozone will help reduce global warming.

District VOC rules typically allow a facility to reduce emissions to the atmosphere through the use of air pollution abatement equipment as an alternative to the use of low-VOC products. The use of abatement equipment versus low-VOC products varies considerably depending on the source category. Such abatement equipment may be thermal or catalytic oxidizers or carbon adsorption. These devices are rarely a cost-effective solution except in the largest facilities. If oxidizers were employed, emissions of CO<sub>2</sub> would be expected to increase due to the use of natural gas to fire an oxidizer. Historically, low-VOC products have been successfully implemented. Increased use of oxidizers to comply with the proposed amendments is very unlikely. Overall, these proposed amendments will not cause emissions of greenhouse gases to measurably increase or decrease.

## **VII Regulatory Impacts**

### **A. California Health and Safety Code 40727.2 Impacts**

Section 40727.2 of the Health and Safety Code requires an air district, in adopting, amending, or repealing an air district regulation, to identify existing federal and district air pollution control requirements for the equipment or source type affected by the proposed change in district rules. The district must then note any differences between these existing requirements and the requirements imposed by the proposed change.

Adoption of amendments to Regulation 8, Rule 20; Regulation 2, Rule 1; and Regulation 3: Fees, would not conflict with any existing federal or District requirement. Under the federal air pollution requirements, one facility, Pechiney Plastic Packaging, Inc. of Newark, CA is classified as a major source and subject to 40 CFR 63, Subpart KK, National Emission Standard for Hazardous Air Pollutants for the Printing and Publishing Industry. The facility's Title V permit requires Pechiney to keep emissions of any hazardous air pollutant (HAP) to less than 10 tons per year, and to keep emissions of all HAP to less than 25 tons per year (40CFR63 KK, §63.820(a)(2)(i) and (ii)) to avoid limitations imposed by the standard, to keep records and calculate emissions (§63.829(d)) and make reports (§63.830(b)(1)). The proposed amendments would not affect or be affected by these permit requirements. The District does not have any other rules that are applicable to graphic arts operations except those of general applicability such as Regulation 8: Organic Compounds, Rule 4: General Solvent and Coating Operations and Regulation 2, Rule 1.

### **B. Senate Bill 288 Conformity**

Senate Bill (SB) 288, later codified in the California Health and Safety Code commencing at §42500, prohibits air districts from making changes to their new source review rules that would make the rule less stringent than it was on December 30, 2002, unless certain conditions are met. The changes to Regulation 2, Rule 1 are not in conflict with the provisions of SB 288. The existing permit requirements allow a graphic arts facility to be exempt if it uses less than 30 gallons of ink and coating per year or emits less than 150 lbs VOC per year from ink and coating usage. The Air District has reviewed permit applications for facilities utilizing lithographic presses that emit less than 20 lbs per year VOC from ink usage yet emit in excess of 2000 lbs VOC emissions per year, the remainder being from solvent clean-up and fountain solutions. These facilities are currently exempt from permits. A collection of such presses with a similar

ink/clean-up profile, as might be typical for a company that specialized in small press runs with short turn-around times, could have 10 presses, still not trigger a permit requirement and emit as much as 20,000 lbs VOC emissions per year. The proposed amendments to Regulation 2, Rule 1 would require graphic arts operations to obtain a permit if they emit 400 lbs VOC per month from ink, coating and all solvent uses combined. This totals 4800 lbs per year, or 2.4 tons. At this level of emissions, compliance with the provisions of the Rule is considered Best Available Control Technology (BACT). Under Air District BACT guidelines, and based on permitting experience, printing sources may have to consider more stringent abatement technology at about 5.5 tons emissions per year. Consequently, sources that could possibly trigger more stringent requirements than compliance with the Rule because of BACT would always be permitted.

## **VIII Rule Development Process**

District staff from the planning, legal, technical, engineering, and compliance and enforcement divisions developed proposed amendments and documented rationale for them in the workshop report. The proposals were based on staff reports and regulations in the South Coast and San Joaquin Valley air districts; email and phone conversations with staff from both air districts as well as the Sacramento Metro and Yolo Solono APCDs; email exchange and telephone discussions with manufacturers and distributors of graphic arts products; phone conversations and meetings with manufacturers of digital printing equipment; email and phone conversations with various graphic arts associations; site visits to various graphic arts facilities in the Bay Area; and technical documents from all of the sources mentioned above. These sources of technical and economic information include Sun Chemical, Day International International, Moquin Press, Pechinay Packaging, Specialty Graphic Imaging Association, Flexographic Technical Association, INX Ink Manufacturing, RadTech, PINC, Valley Ink and Printing Supply, HP INDIGO Press Division, Hewlett-Packard Company, Graphic Science Inks, California Film Extruders Association Ms. Carita Inc., Graphic Arts Technical Foundation, Bradbury & Bradbury, and The Flint Group.

The workshop notice was posted on the District's web site on June 16, 2008, and the notice was mailed to 2,200 Bay Area businesses that are known to undertake graphic arts operations. The first public workshop was conducted at the District offices on July 14, 2008 and the second was held in Oakland in the evening on July 15, 2008 to solicit comments on the draft amendments. Fifteen parties attended the first workshop and ten parties attended the second workshop. Seven parties submitted written comments following the July 2008 workshops. Most parties were contacted to discuss their comments. A meeting was held with one of the parties and a site visit was conducted with another party to better ascertain their concerns. Workshop comments were provided by the following parties:

- Printing Industries of California,
- EPA, Region 9,
- Specialty Graphic Imaging Association,
- Hewlett-Packard (HP) Company,
- Pechinay Plastic Packages,
- RadTech Association for UV and EB Technology; and,
- Bradbury and Bradbury Wallpaper Screen Printing.

Comments pertained to the following issues:

- The proposed implementation date for lower VOC standards,
- Recordkeeping for digital printing equipment and labeling requirements for digital ink,
- A unique wallpaper hand-screening facility; and,
- Availability of 100 gram/liter VOC cleaning products for specialty flexographic package printing and for some screen printing cleaning.

Staff incorporated responses to these comments into the current proposed amendments, as appropriate. After the workshops, staff continued discussions with HP to further identify appropriate categories within the digital printing industry appropriate for recordkeeping requirements. Discussions with HP also related to the applicability of proposed labeling requirements to the digital printing industry.

Final proposed amendments to Regulation 8, Rule 20, a staff report, a CEQA initial analysis and Negative Declaration, and a socioeconomic analysis were posted for public review and comment on October 6, 2008. Comments and responses are described in Appendix I.

## **IX Conclusion**

Pursuant to Section 40727 of the California Health and Safety Code, the proposed rule amendments must meet findings of necessity, authority, clarity, consistency, non-duplication, and reference. The proposed Rule amendments are:

- Necessary to protect public health by reducing ozone precursors to meet the commitment of Control Measure SS 2 of the Bay Area 2005 Ozone Strategy;
- Authorized by California Health and Safety Code Sections 40000, 40001, 40702, and 40725 through 40728;
- Clear, in that the amended rule specifically delineates the affected industry, compliance options, and administrative requirements for industry subject to this rule, so that its meaning can be easily understood by the persons directly affected by it;
- Consistent with other California air district rules, and not in conflict with state or federal law;
- Non-duplicative of other statutes, rules, or regulations; and,
- Implementing, interpreting and making specific and the provisions of the California Health and Safety sections 40000 and 40702.

The proposed Rule amendments have met all legal noticing requirements, have been discussed with the regulated community and other interested parties, and reflect the input and comments of many affected and interested parties. District staff recommends adoption of proposed amendments to Regulation 8, Rule 20: Graphic Arts Printing and Coating Operations; proposed amendments to Regulation 2, Rule 1: Permits; proposed amendments to Regulation 3: Fees, Schedule R: Equipment Registration Fees; and adoption of the CEQA Negative Declaration.

## X References

1. 2005 BAAQMD, Graphic Arts Emissions Inventory,
2. 1998 BAAQMD, Graphic Arts Staff Report,
3. South Coast AQMD, 1999 Graphic Arts Staff Report,
4. South Coast AQMD, Rule 1130 Graphic Arts,
5. South Coast AQMD, Rule 1171 Solvent Cleaning Staff Report, 1999
6. South Coast AQMD, Rule 1130.1 Screen Printing,
7. Joaquin Valley APCD 2007 Draft Staff Report Rule 4607 Graphic Arts,
8. San Joaquin Valley APCD 2007 Draft Graphic Arts Rule 4607,
9. Digital Printing: The Reference Handbook 2004 Uri Levy & Gilles Biscos,
10. Today's Digital Imaging: Version 5.0, 2005, Smart Papers,
11. EPA Office of Compliance sector Notebook Project: Profile of the Printing & Publishing Industry, 1995,  
<http://www.epa.gov/compliance/resources/publications/assistance/sectors/notebooks/printpt1.pdf>,
12. Consultation with the Printing Industries of Northern California, March 29, 2007, and August 5, 2008,
13. Multiple consultations with the Specialty Graphic Imaging Association beginning in April 2, 2007,
14. Consultation with Flint Ink July 2006,
15. Consultation with Sun Chemicals April 20, 2007,
16. Consultation with Valley Ink July 28, 2008,
17. Flint Ink Group, August, 22, 2007,
18. American Ultraviolet Company/Aetek UV Systems/Lesco, July 2007,
19. Consultation with Alcan/Pechinay Packaging Company December 19, 2006 and April 17, 2007,
20. Consultation with Moquin Press, January 16, 2007 and May 8, 2007,
21. Consultation with the San Francisco Department of Health Green Business Program August 6, 2008
22. Consultation with Lithotype Packaging Company August 18, 2008,
23. YUPO USA, Technical Resources and Printing Inks Discussion,  
<http://www.yupousa.com/content/view/46/116>,
24. Several consultations with Hewlett-Packard during July 2008 and August 2008.
25. Consultation with Bradbury and Bradbury Antique Wallpaper August 5, 2008; and,
26. Consultation with Medtronic CardioVascular September 3, 2008.
27. Morris, M. and Wolf, K. Assessment, Development and Demonstration of Low-VOC Cleaning Systems for South Coast Air Quality Management District Rule 1171, IRTA, August 2003

28. Compatibility Testing of Low VOC Alternative Cleaning Solvents for Lithographic Printing Applications, University of Tennessee Center for Clean Products and Clean Technologies, April 12, 2006
29. Bohan, M. and Lind, J. Assessment, Development and Demonstration of Low VOC Solvents for Cleaning of Lithographic Printing Ink Application Equipment, Printing Industries of America/Graphic Arts Technical Foundation, March 13, 2006
30. Rules 450, 451, 452, 454, 456, 463, 464, 465, 466 Staff Report, Sacramento Metropolitan AQMD, March 28, 2008
31. Consultation with PRISCO Solvent Suppliers September, 8, 2008

**APPENDIX I**

**COMMENTS AND RESPONSES**



## Appendix I – Comments and Responses

Written comments were received from staff at the California Air Resources Board and representatives of Printing Industries of California; Specialty Graphics Imaging Association; Hewlett Packard Company; Pechiney Plastic Packaging, Inc.; and 3M.

### A. California Air Resources Board, letter via e-mail dated October 8, 2008

**Comment:** ARB noted that the proposed VOC content limit for ultraviolet inks is a technology forcing limit and that the South Coast Air Quality Management District (SCAQMD) had recently extended the effective date of the same limit from January 1, 2008 to January 1, 2009. ARB recommended that the District revisit this limit when the SCAQMD limit takes effect.

**Response:** Comment noted. The proposed effective date for the VOC limit for ultraviolet inks is currently January 1, 2010. At the time that the SCAQMD ultraviolet ink VOC limit becomes effective, District staff will review whether the ultraviolet inks being manufactured can meet the new limits.

### B. Printing Industries of California, Jerry Bonetto, e-mail dated October 9, 2008

**Comment:** Printing Industries of California supported the final proposed amendments, dated October 1, 2008.

**Response:** Comment noted.

### C. Hewlett Packard, Jeff Obert, Chemical Engineer, Environmental Platform and Technology Team, e-mails dated October 20 and 23, 2008

**Comment:** HP asked, in two e-mails, for clarifications regarding the compliance date for record keeping at printing facilities, the date by which digital printing ink manufacturers would have to include VOC information on labels, how that will be changed in the draft amendments, whether VOC content can be determined by formulation of compounds with boiling points greater than 250°C, whether all digital inks would require VOC labels or only those subject to record keeping, and whether digital facilities that emit less than 75 lbs of emissions per month would be required to register.

**Response:** Staff does not propose to change the proposed compliance date for record keeping requirements for facilities, however, because manufacturers and suppliers of digital ink will not be required to supply VOC information, we will not expect facilities to record it. Staff proposes a minor change to allow ink manufacturers and suppliers until July 1, 2009 to produce labels that include VOC information. The proposed change to Section 8-20-306 is included in the final board package (and explained in the Board memo). Staff agreed with their method of VOC determination, clarified that the VOC information would only be required for inks for those digital printing equipment iterated in Section 8-20-503.3 of rule, and verified that only those facilities that emit 75 lbs of VOC per month (including digital equipment printers) would be required to register.

Staff proposes the following language to address the effective compliance date, included with the Board package:

**8-20-306 Compliance Statement, VOC Label Requirement:** ~~The M~~ Manufacturers and suppliers of all inks, coatings, adhesives, and fountain solutions, ~~and cleaning products~~ which that are sold for use in graphic arts operations within the District other than digital printing shall include a designation of their products' VOC content of product, less water, as supplied ~~(as defined in Section 8-20-216)~~ expressed in grams per liter or

pounds per gallon, either by calculation or analysis, on data sheets. Effective July 1, 2009, manufacturers and suppliers, including manufacturers and suppliers of digital printing inks and solvents subject to Section 8-20-503.3 shall only distribute within the District inks, coatings, adhesives, fountain solutions, and cleaning products for use in graphic arts operations subject to VOC limits in Section 8-20-302, 307, and 309 in containers with a label that specifies the products' VOC content, expressed in grams per liter or pounds per gallon, and any recommended dilution factor or mix ratio.

**D. Pechiney Plastic Packaging, Inc., J. Brian Galley, Manager, Environmental Engineering, letter dated October 24, 2008**

**Comment:** Pechiney Plastic Packaging, Inc. (PPPI) manufactures flexible packaging for food, healthcare and industrial products on a variety of substrates. PPPI supports the proposed definition of Specialty Flexographic Printing in Section 8-20-232, and supports the overall abatement efficiency limit of 75%, consistent with the existing rule.

**Response:** Comment noted.

**Comment:** PPPI opposes VOC content limit reductions for cleaning products for specialty flexographic facilities, and states that the emissions are insignificant. According to PPPI, water-based low VOC cleaning products are not effective for cleaning its flexographic presses and requests that the District continue allowing PPPI to use of high-VOC organic solvent-based products. PPPI states that it captures, distills and re-uses solvents at its Newark facility. PPPI also comments that its extruder laminator process line also uses high-VOC solvent to clean and requests continued permitted use of this solvent. It comments further that, in the future, PPPI may want to use a high-VOC solvent cold cleaner that utilizes a low vapor pressure solvent to clean removable parts.

**Response:** Pechiney currently abates emissions from flexographic presses in the Newark facility. This press equipment is located in a permanent total enclosure (PTE) that is vented to two catalytic oxidizers and a thermal oxidizer that operate depending on press load at the time. This is required under Pechiney's Title V Synthetic Minor Operating Permit. Wipe cleaning done on these presses is done in the PTE, and is abated as is the ink and coating from the press operation. In spite of the lower VOC content proposed for specialty flexographic cleaning products, the amendments do not preclude abatement of wipe cleaning emissions, which is the current practice. Pechiney can continue to use high VOC solvent to wipe clean flexographic presses if these emissions are abated.

Pechiney's use of distillation equipment to recycle solvent is admirable. It reduces the waste stream and disposal costs. However, it does not reduce air emissions, which are related to the VOC content of the cleaning product used, the amount of use, and the evaporation rate of the product. As stated, use of high-VOC solvents in abated areas will continue to be acceptable under the proposed amendments.

The extruder laminator line, with associated gravure presses at the Newark facility is also vented to the same abatement equipment as are the flexographic presses. As with the flexographic presses, high-VOC wipe cleaning emissions vented to the abatement equipment are allowed in lieu of the use of low-VOC cleaning products under the proposed amendments.

**Comment:** Pechiney requests that U.S. EPA's "Guidelines for Determining Capture Efficiency" be included in addition to capture efficiency test methods specified in 40 CFR 51.

**Response:** District staff will consult with US EPA Region IX staff on these methods. District staff intends to review this rule to consider recent EPA guidance for the printing industry. District staff will consider this request at that time.

**E. Specialty Graphics Imaging Association (SGIA), Marcia Y. Kinter, Vice President – Government & Business Information, letter via e-mail, October 27, 2008**

**Comment:** SGIA comments that the language in Section 8-20-120 for cleaning products used to clean inks, coatings, and adhesives cured under UV light or electron beam does not allow cleaning of emulsions used to create stencil images and proposes South Coast language.

**Response:** The proposed amendment (Section 8-20-120) states, “The requirements of Section 8-20-309 (VOC limits for cleaning products) shall not apply to products used to clean.....or to the stripping of ultraviolet or electron beam-cured inks, coatings or adhesives.” Ms. Kinter states that the emulsions are cured with UV light sources. Staff believes that cleaning of these emulsions is exempt from the VOC limits by the language in Section 8-20-120 because cured emulsions are viewed as a cured coating.

**Comment:** SGIA supports the recent changes that clarify the VOC labeling requirements and inquires whether or not VOC information on technical data sheets would be sufficient to satisfy the labeling requirements.

**Response:** It is the intent of this provision to require VOC data on labels of ink and other materials, including cleaning products. VOC information, required currently on material safety data sheets or other technical literature would not be sufficient to comply with this section of the rule after July 1, 2009.

**Comment:** SGIA concurs with the proposed changes that allow the use of cleaning products that contain no more than 500 grams of VOC per liter until July 1, 2011 when the limit drops to 100 grams per liter, and states that they believe that the record keeping provisions for digital printers are reasonable.

**Response:** Comment noted.

**F. 3M Company, Catherine F. Jacobson, PhD., Advanced Toxicology Specialist, letter via e-mail, October 27, 2008**

**Comment:** 3M states that the proposed requirements in Section 8-20-306 to include VOC content on labels for graphic arts operations materials are not necessary because the VOC content is already included on material safety data sheets (MSDSs) or other technical data sheets. 3M states that facilities must keep MSDSs in the workplace, and 3M’s MSDSs can be obtained via the internet.

With respect to the new requirement to designate the VOC content of cleaning products for use in graphic arts operations, 3M stated that it would not oppose providing the VOC content for these cleaning products if the information could be provided on data sheets and if the District provides a future compliance date to allow industry sufficient time to comply.

**Response:** District staff experience is that MSDSs do not consistently include VOC content and are sometimes outdated. The purpose of this requirement is to make the VOC information easily available to the operator in order to facilitate compliance with the rule. Operators do not consult MSDSs and similar literature on a daily basis, and recommended dilution ratios are not always paramount in the operator’s mind. This requirement helps

ensure that an operator is responsible for non-compliance. Staff also notes that some graphic art products containers already list VOC content on their labels. Staff is requiring all graphic arts products subject to the provisions of Regulation 8, Rule 20 to list VOC content on container labels.

**Comment:** 3M comments that it is impossible to put “mix ratio” information on data sheets because different inks are mixed (or thinned) differently between facilities.

**Response:** The primary purpose of the use of the term “mix ratio” is to designate the dilution ratio of cleaning products, many of which are sold in concentrated form. Beyond that, it is the manufacturer’s responsibility to provide advice to the user on compliance. Insofar as inks are designed to be diluted with solvent thinner, a press operator should know what is the maximum amount of solvent thinner that may be added so as not to violate the VOC standard in the rule. The VOC limits in all District rules are “as applied.” Although it cannot be the manufacturer’s responsibility to prevent over-thinning of ink, staff believes that it is reasonable to provide sufficient information so that a press operator can know how to use the ink in a compliant manner.

**Comment:** 3M does not believe the proposed amendment allows sufficient time for compliance, nor does it believe that July 1, 2009 is sufficient time to change product labels for their complete ink line.

**Response:** For inks and other materials purchased before July 1, 2009, staff will not expect press operators to be using labeled material. However, VOC content information is already required for these products, to be included on either a MSDS or other technical literature. Labels can be added as stickers, stamps or other devices to ink containers, either by the manufacturer or at the point of distribution.

**Comment:** 3M states that the proposed amendment would require some companies to label their entire global inventory, and points out that other jurisdictions allow VOC content on data sheets.

**Response:** A variety of other companies label products for California, including global paint companies. It is acceptable to label product in the distribution chain rather than at the manufacturing level, by use of a stamp or sticker, if that is more convenient. As California districts have typically lower VOC limits than other jurisdictions, and variable VOC limits within California, a manufacturer or supplier must be knowledgeable already of a product’s shipping destination to prevent shipping a non-compliant product into a jurisdiction where the use is not allowed. Consequently, staff believes that global manufacturers are able to comply with local requirements.

**Comment:** 3M further comments that the proposed amendment does not have an appropriately set effective date or sell-through provision, and provide suggested regulatory language.

**Response:** Staff believes that Section 8-20-306 regarding labeling is crucial to enhance compliance with the rule. District staff have found that companies have complied with such provisions historically, and the provisions have led to easier and better compliance on the part of facility operators. As noted above (Comment C) a minor change in the proposed language has been added to set a July 1, 2009 effective date for labeling.

**G. Jeff Obert, Chemical Engineer, Hewlett Packard Environmental Platform and Technology Team, letter via e-mail, October 27, 2008**

**Comment:** Thanked staff for working with HP on recordkeeping, analysis and labeling requirements related to digital printing inks.

**Response:** Comment noted.



**APPENDIX II**

**SOCIOECONOMIC ANALYSIS**



**BAY AREA OZONE STRATEGY  
CONTROL MEASURES SS-2  
BAAQMD REGULATION 8, RULE 20:  
GRAPHIC ARTS  
PRINTING & COATING OPERATIONS:  
SOCIOECONOMIC ANALYSIS**

**SEPTEMBER 19, 2008**

**Prepared for  
Bay Area Air Quality Management District**

**Prepared by  
Applied Development Economics**  
100 Pringle Avenue, Suite 560 ♦ Walnut Creek, California 94596 ♦ (925) 934-8712  
2151 River Plaza Drive, Suite 150 ♦ Sacramento, CA 95833 ♦ (916) 923-1562  
[www.adeusa.com](http://www.adeusa.com)

# CONTENTS

1. Description of the Proposed Rule .....	1
2. Impact of Proposed Rule Amendments.....	2
Methodology .....	3
Regional Demographic Trends.....	3
Regional Economic Trends.....	4
Description of Affected Industries .....	6
3. Socioeconomic Impact Analysis .....	10
Annual Compliance Cost.....	13

# 1. DESCRIPTION OF THE PROPOSED RULE

---

The Bay Area Air Quality Management District (“District”) seeks to amend Regulation 8, Rule 20 (Graphic Art Operations) to 1) lower VOC cleaning solvents, which will shift these products from solvent based to water based; 2) lower VOC standard for flexographic ink used on porous substrates; and 3) lower applicability limit, such that more small emitting facilities will be subject to the rule. As part of the rule-amending process, the District will require smaller facilities to register with the District (including some that now require permits). According to the District, this requirement will save the smallest facilities some money, even though the rule will impact smaller facilities than are currently impacted.

Currently, the District permits printing facilities that emit more than 150 lbs VOC per year. Under the proposed amendments to Regulation 8, Rule 20, printing facilities that emit 75 lbs or more per month would be subject to the rule and be required to register; a facility that emits 400 lbs per month would be required to have a permit, which is approximately twice the cost of registration.

District staff estimates that proposed amendments to the graphic arts rule will result in total reductions of VOC emissions of approximately 1.6 TPD, based on estimated reductions of 0.6 TPD attributable to controls that would take effect in 2008-2009 and additional reductions of 1.9 TPD attributable to further control that would take effect in 2010.

## 2. IMPACT OF PROPOSED RULE AMENDMENTS

---

This section of the socioeconomic analysis describes demographic and economic trends in the San Francisco Bay Area (Bay Area) region. Following an overview of the socioeconomic analysis methodology, the first part of this section compares the Bay Area against California and provides a context for understanding demographic and economic changes that have occurred within the Bay Area between 1997 and 2007. After an overview of Bay Area industries, we focus on industries impacted by the proposed amendments to Regulation 8, Rule 20.

For the purposes of this report, the Bay Area region is defined as Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties.

## METHODOLOGY

The socioeconomic analysis of the proposed amendments to Regulation 8, Rule 20 involves the use of information provided directly by BAAQMD, as well as secondary data used to describe the industries affected by the proposed rule amendments.

Based on information provided by BAAQMD staff, ADE determined that the impacts would affect businesses in a narrow set of related industries, namely printing. With this information we profiled impacted businesses and industries, analyzing data on the number of jobs, sales levels, the typical profit ratios and other economic indicators for Bay Area businesses.

With data from the US Economic Census and other sources such as US IRS, California Employment Development Department, and County Business Patterns, ADE was able to estimate revenues and profit ratios for industries impacted by the proposed rule amendments. In calculating aggregate revenues generated by Bay Area businesses in affected industries, ADE first estimated annual revenue based upon available data, particularly the US Economic Census. ADE calculated ratios of profit per dollar of sales for the businesses and industries on which the analysis focused. ADE also used a regional IMPLAN input-output model to calculate certain inputs such as printing ink and cleaning solvents used by industries subject to the proposed amendments to Regulation 8, Rule 20.

The result of the socioeconomic analysis shows what proportion of profit the compliance costs represent. Based on a given threshold of significance, ADE discusses in the report whether the affected businesses and industries are likely to reduce jobs as a means of recouping the cost of compliance or as a result of reducing business operations. Where applicable, ADE also examines whether affected industries can pass costs to consumers. To the extent that such job losses appear likely and significant, the indirect multiplier effects of the job losses area estimated using a regional IMPLAN input-output model.

## REGIONAL DEMOGRAPHIC TRENDS

The Bay Area experienced moderate population growth from 1997 to 2007. In the five-year period between 1997 and 2002, the nine-county region increased by 1.1 percent annually, from 6.6 million in 1997 to almost 6.9 million in 2002. From 1997 to 2007, the population increase was from 6.6 million to 7.2 million for an increase of slightly less than one percent annually. In other words, the Bay Area grew at a slower pace between 2002 and 2007 relative to 1997 and 2002. Over the ten-year period stretching from 1997 to 2007, California grew at a faster rate of 1.4 percent per year.

Within the Bay Area, the greatest percentage increase occurred in Contra Costa County. From 1997 to 2007 Contra Costa increased its population by 1.6 percent annually. All other Bay Area counties had population increases slower than Contra Costa County and the State. The smallest percentage increase occurred in San Mateo County where population grew

annually by 0.4 percent from 1997 to 2007.

**TABLE 1  
POPULATION TRENDS: SAN FRANCISCO BAY AREA**

	Population			Annual Percent Change		
	1997	2002	2007	97-02	02-07	97-07
California	32,670,019	35,088,671	37,662,518	1.4%	1.4%	1.4%
Bay Area	6,566,939	6,943,440	7,217,424	1.1%	0.8%	0.9%
Alameda County	1,381,705	1,483,623	1,526,148	1.4%	0.6%	1.0%
Contra Costa County	887,065	983,360	1,042,341	2.1%	1.2%	1.6%
Marin County	241,412	250,090	255,982	0.7%	0.5%	0.6%
Napa County	120,095	128,282	135,969	1.3%	1.2%	1.2%
San Francisco County	772,834	788,971	808,844	0.4%	0.5%	0.5%
San Mateo County	704,834	715,072	733,496	0.3%	0.5%	0.4%
Santa Clara County	1,654,833	1,716,105	1,808,056	0.7%	1.0%	0.9%
Solano County	375,512	408,923	424,823	1.7%	0.8%	1.2%
Sonoma County	428,649	469,014	481,765	1.8%	0.5%	1.2%

Source: ADE, Inc., based California Department of Finance

## REGIONAL ECONOMIC TRENDS

The Bay Area is one of the world's greatest regional economies. It benefits from pre-eminent knowledge-based industries, with competitive strength flowing from an unmatched culture of entrepreneurship, world-leading research institutions, and some of the nation's best educated and most highly skilled workforce. However, in the five year period between 2002 and 2007, the Bay Area economy had not grown significantly with respect to employment, which contrasts with the relatively robust employment growth in the Bay Area between 1997 and 2002.

As Table 2 shows, as of 2007, the professional and business services sector was the largest employer in the region, at 581,742 jobs or 17.5 percent of all private and public sector jobs. In 1997, professional and business services also accounted for 17.5 percent of all Bay Area employment. While professional and business service decreased annually by a slight rate of 0.34 percent between 1997 and 2002, between 2002 and 2007 employment increased in this sector by an annual clip of 1.13 percent. In terms of share of total employment, healthcare\private education and manufacturing sectors are the next largest sector, boasting 11.1 percent and 10.4 percent of total jobs in the Bay Area. In the state as a whole, healthcare\private education and manufacturing comprise 10.4 percent and 9.3 percent of all jobs, meaning the Bay Area has a slightly greater advantage in these sectors that provide a wider breadth of career mobility opportunities relative to many other sectors and industries.

At 10.2 percent, retail is the fourth largest employing sector, followed by leisure and hospitality, all three of which tend to pay less than manufacturing and healthcare. While retail slightly declined by 0.2 percent per year between 2002 and 2007, leisure increased by a robust clip of almost two percent per year in the Bay Area.

Another large industry in the Bay Area is public service, or government, with 446,000 jobs, or 13.2 percent of the total. Within the public sector, employment had risen fastest since

2002 in state government, whereas local government employment actually declined by 0.3 percent annual pace between 2002 and 2007. Employment in federal agencies declined annually by a greater amount, at 1.68 percent annual clip over the five year period between 2002 and 2007.

Overall, since 2002, total public and private employment in the Bay Area changed slightly at 0.12 percent per year between 2002 and 2007, going from 3,312,548 workers in 2002 to 3,332,658 workers in 2007. In comparison, in the five-year period between 1997 and 2002, employment grew in aggregate from 3,182,044 to 3,312,548, for a yearly growth of 0.81 percent.

**TABLE 2  
EMPLOYMENT PROFILE OF THE SAN FRANCISCO BAY AREA, 1997-2007**

<b>Industry</b>	<b>1997</b>	<b>2002</b>	<b>2007</b>	<b>% of Total Private and Public Employment in 2007: Bay Area</b>	<b>% of Total Private and Public Employment in 2007: California</b>	<b>Annual Percent Chg, 97-02</b>	<b>Annual Percent Chg, 02-07</b>
<b>Total, all private industries</b>	<b>2,765,671</b>	<b>2,860,813</b>	<b>2,886,583</b>			<b>0.68%</b>	<b>0.18%</b>
Goods-Producing	637,975	612,864	559,837			-0.80%	-1.79%
Natural Resources and Mining	27,991	27,570	22,510	0.7%	2.6%	-0.30%	-3.97%
Construction	142,100	182,399	192,229	5.8%	5.7%	5.12%	1.06%
Manufacturing	467,884	402,895	345,098	10.4%	9.3%	-2.95%	-3.05%
Service-Providing	2,127,696	2,247,949	2,326,746			1.11%	0.69%
Trade, Transportation, and Utilities	580,609	580,925	576,997			0.01%	-0.14%
Retail	326,010	340,881	340,519	10.2%	10.8%	0.90%	-0.02%
Wholesale	131,533	129,192	124,943	3.7%	4.6%	-0.36%	-0.67%
Transportation\Warehouse\Utilities	123,066	110,852	111,535	3.3%	3.1%	-2.07%	0.12%
Information	103,464	124,190	113,082	3.4%	3.0%	3.72%	-1.86%
Financial Activities	188,631	209,626	206,370	6.2%	5.8%	2.13%	-0.31%
Professional and Business Services	559,140	549,827	581,742	17.5%	14.4%	-0.34%	1.13%
Education and Health Services	297,240	348,361	370,398	11.1%	10.4%	3.22%	1.23%
Leisure and Hospitality	278,231	300,502	330,689	9.9%	9.9%	1.55%	1.93%
Other Services	120,381	134,518	147,468	4.4%	4.9%	2.25%	1.86%
Federal Government	57,233	56,887	52,279	1.6%	1.6%	-0.12%	-1.68%
State Government	80,249	84,600	87,550	2.6%	2.9%	1.06%	0.69%
Local Government	278,891	310,248	306,246	9.2%	11.0%	2.15%	-0.26%
<b>Total, all public and private industries</b>	<b>3,182,044</b>	<b>3,312,548</b>	<b>3,332,658</b>	<b>100.00%</b>	<b>100.00%</b>	<b>0.81%</b>	<b>0.12%</b>

Source: ADE, Inc., from data supplied by the Labor Market Information Division of the California Employment Development Department

## DESCRIPTION OF AFFECTED INDUSTRIES

Proposed amendments to Regulation 8, Rule 20 potentially affects a narrow set of industries, namely those industries within printing (NAICS Code 32311). Table 3 below identifies economic trends for the printing industry and its sub-industries over the five-year period from 2002 to 2007. The table shows that this industry has contracted since 2002 in terms of number of businesses and employment, going from 1,083 establishments to 760 establishments. Data come from the California Employment Development Department (EDD), and are for businesses whose primary economic activity is any one of the ten printing sub-industries identified below in Table 3. The table also shows that, in inflation-adjusted terms, workers' respective average pay also went down for the most part. One area of growth was in digital printing (NAICS 323115), which increased in terms of employment by almost six percent a year. To be sure, the proposed amendments to Regulation 8, Rule 20 for the most part affects establishments in the other printing sub-industries, although District staff notes that a few are also subject to existing and new provisions.

**TABLE 3  
SAN FRANCISCO BAY AREA: PRINTING INDUSTRY TRENDS, 2002-2007**

		----- 2002 -----			----- 2007 -----			Annual Percent Change 02-07		
		Establishments	Employment	Average Pay	Establishments	Employment	Average Pay	Estab	Emp	Avg Pay
32311	Printing	1,083	13,601	\$52,181	760	8,624	\$49,572	-6.8%	-8.7%	-1.0%
323110	Commercial Lithographic Printing	421	6,694	\$57,476	248	3,507	\$56,466	-10.0%	-12.1%	-0.4%
323111	Commercial Gravure Printing	10	113	\$51,669	5	80	\$56,466	-12.6%	-6.7%	1.8%
323112	Commercial Flexographic Printing	41	765	\$48,476	31	375	\$50,281	-5.6%	-13.3%	0.7%
323113	Commercial Screen Printing	104	1,615	\$40,999	85	1,363	\$40,757	-3.9%	-3.3%	-0.1%
323114	Quick Printing	350	2,069	\$40,619	231	1,288	\$39,118	-8.0%	-9.0%	-0.8%
323115	Digital Printing	45	653	\$64,555	65	864	\$50,894	7.9%	5.8%	-4.6%
323116	Manifold Business Forms Printing	17	351	\$48,936	11	138	\$50,894	-8.6%	-17.0%	0.8%
323117	Books Printing	22	390	\$52,298	18	260	\$46,222	-4.3%	-7.8%	-2.4%
323118	Blankbook, Binders, etc.	4	30	\$66,121	1	8	\$46,222	-23.0%	-23.2%	-6.9%
323119	Other Commercial Printing	70	922	\$54,319	65	741	\$49,655	-1.3%	-4.3%	-1.8%

Source: ADE, Inc., based on California Employment Development Department

Similar to Table 3 above, Table 4 below further discusses the economic context within which District officials are contemplating amendments to the Graphic Arts Operations regulation. Table 4 includes estimates on revenues generated by existing printing businesses. Estimates are based on data from the 2002 Economic Census, particularly for the San Francisco Bay Area, which were then adjusted for inflation. That same source included data on cost of materials. The consultant utilized the IMPLAN input-output model for the Bay Area region to determine what share of materials are printing ink and cleaning materials. The table also includes estimates on impacted establishments' respective net profits, the rate of which comes from the US Internal Revenue Service for the five-period between 2000 and 2005.

As Table 4 shows, the printing industry in the Bay Area is a \$1.5 billion industry, with commercial lithographic printing (NAICS 323110) as the largest segment at \$687 million. Table 5 provides a breakdown on printing establishments that are right now subject to the rule, subject to the rule but exempt, and those that are not subject to Regulation 8, Rule 20. According to the District, there are 261 establishments that are permitted per Regulation 8, Rule 20, and, of these 85 are permitted but exempt from the existing rule. If the proposed amendments are adopted, of the 85, 48 will lose their exemption while 37 will remain permitted but exempt. An estimated 499 establishments whose primary economic activity is printing are not in the District's databases and, of these, District staff believes approximately 25 will be subject to the new requirements of Regulation 8, Rule 20. Thus, if the proposed amendments are adopted, approximately 63 establishments in the Bay Area will be covered by the rule and its new provisions. In addition, of the 261 establishments permitted per Regulation 8, 176 are already subject to the provisions of the regulation and will be impacted by the rule in terms of increases in cleaning costs that will also affect the 73 establishments discussed above (48 and 25). It is important to note that, of the 176 establishments, 56 will save money as they will be eligible for registration in lieu of permits, with the former considerably cheaper than the latter.

**TABLE 4  
SAN FRANCISCO BAY AREA: PRINTING INDUSTRY ECONOMIC PROFILE, 2007**

		----- Materials -----								
		Total Establishments	Employment	Average Pay	Estimated Revenues	Cost of Materials	Ink Materials (8%)	Cleaning Materials (1%)	Other Materials	After tax Net Profits
32311	Printing	760	8,624	\$49,572	\$1,510,360,462	\$550,191,991	\$44,015,359	\$5,501,920	\$500,674,712	\$64,945,500
323110	Commercial Lithographic Printing	248	3,507	\$56,466	\$687,822,134	\$278,883,706	\$22,310,696	\$2,788,837	\$253,784,172	\$29,576,352
323111	Commercial Gravure Printing	5	80	\$56,466	\$14,104,903	\$4,469,288	\$357,543	\$44,693	\$4,067,052	\$606,511
323112	Commercial Flexographic Printing	31	375	\$50,281	\$72,202,554	\$27,110,587	\$2,168,847	\$271,106	\$24,670,634	\$3,104,710
323113	Commercial Screen Printing	85	1,363	\$40,757	\$167,851,795	\$69,169,958	\$5,533,597	\$691,700	\$62,944,662	\$7,217,627
323114	Quick Printing	231	1,288	\$39,118	\$256,127,679	\$71,875,770	\$5,750,062	\$718,758	\$65,406,951	\$11,013,490
323115	Digital Printing	65	864	\$50,894	\$116,426,848	\$28,982,495	\$2,318,600	\$289,825	\$26,374,071	\$5,006,354
323116	Manifold Business Forms Printing	11	138	\$50,894	\$37,147,462	\$15,871,477	\$1,269,718	\$158,715	\$14,443,044	\$1,597,341
323117	Books Printing	18	260	\$46,222	\$45,543,104	\$14,041,611	\$1,123,329	\$140,416	\$12,777,866	\$1,958,353
323118	Blankbook, Looseleaf Binders, etc.	1	8	\$46,222	\$1,074,311	\$596,920	\$47,754	\$5,969	\$543,197	\$46,195
323119	Other Commercial Printing	65	741	\$49,655	\$112,059,672	\$39,190,178	\$3,135,214	\$391,902	\$35,663,062	\$4,818,566

Source: ADE, Inc., based on California EDD, US Economic Census 2002, US Bureau of Labor Statistics, IMPLAN Input-Output Model IMPRO 2.0, and US Internal Revenue Service

**TABLE 5  
SAN FRANCISCO BAY AREA PRINTING INDUSTRY BY PERMIT STATUS**

		----- Not Permitees -----			----- Existing Permitees -----		
		Total Establishments	Not Subject To Rule	Will Be Subject To Rule	Currently Exempt: Will Not Lose Exemption	Currently Exempt: Will Lose Exemption	Not Exempt
32311	Printing	760	474	25	37	48	176
323110	Commercial Lithographic Printing	248	128	14	12	17	77
323111	Commercial Gravure Printing	5	3	0	0	0	2
323112	Commercial Flexographic Printing	31	15	2	2	2	10
323113	Commercial Screen Printing	85	40	4	5	5	31
323114	Quick Printing	231	179	0	12	16	24
323115	Digital Printing	65	49	0	4	4	8
323116	Manifold Business Forms Printing	11	7	0	0	0	4
323117	Books Printing	18	8	0	0	0	10
323118	Blankbook, Looseleaf Binders, etc.	1	1	0	0	0	0
323119	Other Commercial Printing	65	44	5	3	4	9

Source: ADE, Inc., based on California EDD, US Census County Business Patterns and Bay Area Air Quality Management District

### 3. SOCIOECONOMIC IMPACT ANALYSIS

---

This section of the report examines the socioeconomic impact analysis of proposed amendments to Regulation 8, Rule 20 on a discrete number of printing establishments in the San Francisco Bay Area. As indicated above District staff indicates that approximately 63 establishments will fall within the purview of the rule as amended. As printing businesses that are not right now subject to Regulation 8, Rule 20 evolve and grow, over time, even more businesses may be included.

Table 6 below identifies aggregate revenues based on the distribution of establishments per Table 5. In estimating aggregate revenues by specific printing sub-industries, the consultant used data from the Economic Census for the nine-county Bay Area. In addition to generating sub-industry specific revenue per worker ratios for purposes of estimating aggregate revenues, the consultant adjusted these ratios for small-sized businesses using a combination of the US Census' County Business Patterns and Non-Employer Statistics. The 63 businesses that will be subject to Regulation 8, Rule 20 generate an estimated \$82.8 million in aggregate, or \$1.3 million in average gross revenues. Overall, printing establishments generate \$1.9 million a year on average. Following Table 6, Tables 7 and 8 present estimates on how much the potentially impacted establishments incur in terms of materials cost, particularly printing ink and cleaning solvents. In addition, the table includes estimates on net profits generated by the affected sources.

**TABLE 6  
SAN FRANCISCO BAY AREA PRINTING INDUSTRY BY PERMIT STATUS AND ESTIMATED REVENUES**

		----- Not Permittees -----	----- Existing Permittees -----				
		Total Revenues (All Estabs.)	Est. Revenues: Not Subject To Rule	Est. Revenues: Will Be Subject To Rule	Est. Revenues: Currently Exempt: Will Not Lose Exemption	Est. Revenues: Currently Exempt: Will Lose Exemption	Est. Revenues: Not Exempt
32311	Printing	\$1,510,360,467	\$207,921,306	\$11,170,252	\$54,014,609	\$71,679,525	\$1,165,574,776
323110	Commercial Lithographic Printing	\$687,822,134	\$57,723,639	\$6,313,523	\$19,889,676	\$28,573,901	\$575,321,394
323111	Commercial Gravure Printing	\$14,104,904	\$2,006,685	\$0	\$310,932	\$0	\$11,787,288
323112	Commercial Flexographic Printing	\$72,202,555	\$3,590,532	\$478,738	\$929,385	\$1,173,961	\$66,029,940
323113	Commercial Screen Printing	\$167,851,795	\$11,786,319	\$1,178,632	\$4,910,475	\$5,308,622	\$144,667,748
323114	Quick Printing	\$256,127,680	\$77,517,583	\$0	\$18,324,246	\$24,305,735	\$135,980,116
323115	Digital Printing	\$116,426,849	\$24,059,807	\$0	\$4,215,477	\$4,705,649	\$83,445,917
323116	Manifold Business Forms Printing	\$37,147,462	\$1,016,330	\$0	\$0	\$0	\$36,131,132
323117	Books Printing	\$45,543,105	\$991,738	\$0	\$241,047	\$0	\$44,310,320
323118	Blankbook, Looseleaf Binders, etc.	\$1,074,311	\$1,074,311	\$0	\$0	\$0	\$0
323119	Other Commercial Printing	\$112,059,672	\$28,154,363	\$3,199,359	\$5,193,370	\$7,611,657	\$67,900,922

Source: ADE, Inc., based on California EDD, US Census County Business Patterns and Bay Area Air Quality Management District

**TABLE 7  
PROFILE OF SAN FRANCISCO BAY AREA PRINTING INDUSTRY NOT CURRENTLY SUBJECT TO REGULATION 8, RULE 20: IMPACTS ON ESTABLISHMENTS NEWLY SUBJECT TO RULE**

		Estab. That Will Be Subject To Reg 8, Rule 20 After Rule Change Adoption	Employment	Revenues	Cost of Materials	Ink Materials (8%)	Cleaning Materials (1%)	Other Materials	After tax Net Profits
32311	Printing	73	356	\$82,849,777	\$41,066,525	\$3,285,322	\$410,665	\$37,370,537	\$3,562,540
323110	Commercial Lithographic Printing	31	146	\$34,887,424	\$19,885,517	\$1,590,841	\$198,855	\$18,095,821	\$1,500,159
323111	Commercial Gravure Printing	0	0	\$0	\$0	\$0	\$0	\$0	\$0
323112	Commercial Flexographic Printing	4	9	\$1,652,698	\$872,370	\$69,790	\$8,724	\$793,857	\$71,066
323113	Commercial Screen Printing	9	44	\$6,487,253	\$3,758,144	\$300,651	\$37,581	\$3,419,911	\$278,952
323114	Quick Printing	16	66	\$24,305,735	\$9,588,612	\$767,089	\$95,886	\$8,725,637	\$1,045,147
323115	Digital Printing	4	24	\$4,705,649	\$1,646,733	\$131,739	\$16,467	\$1,498,527	\$202,343
323116	Manifold Business Forms Printing	0	0	\$0	\$0	\$0	\$0	\$0	\$0
323117	Books Printing	0	0	\$0	\$0	\$0	\$0	\$0	\$0
323118	Blankbook, Looseleaf Binders, etc.	0	0	\$0	\$0	\$0	\$0	\$0	\$0
323119	Other Commercial Printing	9	66	\$10,811,017	\$5,315,149	\$425,212	\$53,151	\$4,836,785	\$464,874

Source: ADE, Inc., based on California EDD and US Economic Census

**TABLE 8**  
**PROFILE OF SAN FRANCISCO BAY AREA PRINTING INDUSTRY NOT CURRENTLY SUBJECT TO REGULATION 8, RULE 20: IMPACTS ON ESTABLISHMENTS**  
**ALREADY SUBJECT TO RULE**

		----- Materials -----							
		Existing Estab. Already Subject To Reg 8, Rule 20 After Rule Change Adoption	Employment	Revenues	Cost of Materials	Ink Materials (8%)	Cleaning Materials (1%)	Other Materials	After tax Net Profits
32311	Printing	176	5,867	\$1,165,574,776	\$433,190,467	\$34,655,237	\$4,331,905	\$394,203,325	\$50,119,715
323110	Commercial Lithographic Printing	77	2,701	\$575,321,394	\$233,269,263	\$18,661,541	\$2,332,693	\$212,275,029	\$24,738,820
323111	Commercial Gravure Printing	2	62	\$11,787,288	\$3,734,927	\$298,794	\$37,349	\$3,398,784	\$506,853
323112	Commercial Flexographic Printing	10	336	\$66,029,940	\$24,792,896	\$1,983,432	\$247,929	\$22,561,536	\$2,839,287
323113	Commercial Screen Printing	31	1,098	\$144,667,748	\$59,616,056	\$4,769,285	\$596,161	\$54,250,611	\$6,220,713
323114	Quick Printing	24	439	\$135,980,116	\$38,159,388	\$3,052,751	\$381,594	\$34,725,043	\$5,847,145
323115	Digital Printing	8	520	\$83,445,917	\$20,772,450	\$1,661,796	\$207,725	\$18,902,930	\$3,588,174
323116	Manifold Business Forms Printing	4	133	\$36,131,132	\$15,437,244	\$1,234,980	\$154,372	\$14,047,892	\$1,553,639
323117	Books Printing	10	249	\$44,310,320	\$13,661,526	\$1,092,922	\$136,615	\$12,431,988	\$1,905,344
323118	Blankbook, Looseleaf Binders, etc.	0	0	\$0					
323119	Other Commercial Printing	9	331	\$67,900,922	\$23,746,716	\$1,899,737	\$237,467	\$21,609,512	\$2,919,740

Source: ADE, Inc.

## Annual Compliance Cost

According to the District, VOC reductions will be achieved by lowering the low-VOC emissions exemption limit, by lowering current and adopting new VOC limits for graphics arts cleaning products, and by lowering the VOC limit for flexographic printing inks on porous substrates. District staff compared the cost of petroleum-based graphic arts cleaning products to lower VOC-containing cleaning products. Based on statements from distributors, staff estimates that the current costs of petroleum-based graphic arts cleaning products are the same as or in some cases higher than the costs for lower VOC-cleaning products. This is because many lower VOC-containing cleaning products are formulated with water or other materials that are less expensive than petroleum-based products. However, for the purposes of the socioeconomic analysis, the consultant analyzed impacts associated with a 3.5 percent increase in costs starting in 2009 as identified in Table 5 of the District's June 2008 Workshop Report and, on top of this, another 3.5 percent increase that is expected to occur in 2010. In addition to the across-the-board one-time and annual registration and cleaning expenses, flexographic printers will experience an estimated 3.5 percent increase in the cost of flexographic ink.

**TABLE 9**  
**ONE-TIME AND ANNUAL COSTS ASSOCIATED WITH REGULATION 8, RULE 20 AS AMENDED**

Regulation 8, Rule 20 Costs	
One-Time Registration Fee	\$215
Annual Renewal Fee	\$115
Cleaning Costs	3.5% increase across the board
Ink Costs	3.5% increase borne only by flexographic printers

Source: Bay Area Air Quality Management District

The 63 establishments that will be impacted by amendments to Regulation 8, Rule 20 will incur in aggregate \$35,186 in new costs (see Table 10). When compared against aggregate net profits of \$3.6 million, cost-to-net profits are significantly below the ten-percent threshold of significance, and this goes across the board for almost all printing sub-industries. With respect to flexographic printers, whose ink costs should rise by 3.5 percent, the cost-to-net profit ratio for this industry is also below the threshold of significance, at 4.5 percent.

Table 11 tracks impacts on 176 establishments that are already subject to Regulation 8, Rule 20. The proposed amendments will also affect these establishments by increasing their respective cleaning costs. Flexographic printers will experience increases in cleaning costs and cost of ink. The table also includes negative numbers for 56 of the 176 establishments that will experience savings as a result of paying the registration fee in lieu of permits. Similar to Table 10, Table 11 shows across the board impacts are less than significant.

**TABLE 10**  
**SOCIOECONOMIC IMPACT ANALYSIS OF PROPOSED AMENDMENTS TO REGULATION 8, RULE 20: GRAPHIC ARTS OPERATIONS: IMPACTS ON ESTABLISHMENTS**  
**NEWLY SUBJECT TO RULE**

		----- Costs -----										
		Estab. That Will Be Subject To Reg 8, Rule 20 After Rule Change Adoption	Aggregate One-Time Registration Costs	Aggregate Annual Renewal	3.5% Increase in Cleaning Costs (2009 & 2010): Aggregate Incremental Cost	Compliant Flexographic Ink: Aggregate Incremental Cost	Total First Year Aggregate Costs: Reg 8, Rule 20	After-Tax Net Profits	Costs As Percent of Net Profits	Costs As Percent of Net Profits (excluding one-time)	Direct Employment Impacts	Significance
32311	Printing	73	\$15,695	\$8,395	\$13,814	\$2,443	\$35,186	\$3,562,540	1.0%	0.7%		no
323110	Commercial Lithographic	31	\$6,665	\$3,565	\$6,689		\$16,919	\$1,500,159	1.1%	0.7%	-----	no
323111	Commercial Gravure	0	\$0	\$0	\$0		\$0	\$0			-----	no
323112	Commercial Flexographic	4	\$860	\$460	\$293	\$2,443	\$3,841	\$71,066	5.4%	4.5%	-----	no
323113	Commercial Screen	9	\$1,935	\$1,035	\$1,264		\$4,234	\$278,952	1.5%	0.8%	-----	no
323114	Quick Printing	16	\$3,440	\$1,840	\$3,225		\$8,505	\$1,045,147	0.8%	0.5%	-----	no
323115	Digital Printing	4	\$860	\$460	\$554		\$1,874	\$202,343	0.9%	0.5%	-----	no
323116	Manifold Business Forms	0	\$0	\$0	\$0		\$0	\$0			-----	no
323117	Books Printing	0	\$0	\$0	\$0		\$0	\$0			-----	no
323118	Blankbook, Looseleaf Binders	0	\$0	\$0	\$0		\$0	\$0			-----	no
323119	Other Commercial Printing	9	\$1,935	\$1,035	\$1,788		\$4,758	\$464,874	1.0%	0.6%	-----	no

Source: ADE, Inc.

**TABLE 11**  
**SOCIOECONOMIC IMPACT ANALYSIS OF PROPOSED AMENDMENTS TO REGULATION 8, RULE 20: GRAPHIC ARTS OPERATIONS: IMPACTS ON ESTABLISHMENTS ALREADY SUBJECT TO RULE**

		----- Costs -----										
		Existing Estab. Already Subject To Reg 8, Rule 20 After Rule Change Adoption	Aggregate One-Time Registration Costs (savings for 56 of 176)	Aggregate Annual Renewal	3.5% Increase in Cleaning Costs (2009 and 2010): Aggregate Incremental Cost	Compliant Flexographic Ink: Aggregate Incremental Cost	Total First Year Aggregate Costs: Reg 8, Rule 20	After-Tax Net Profits	Costs As Percent of Net Profits	Costs As Percent of Net Profits (excluding one-time)	Direct Employment Impacts	Significance
32311	Printing	176	-\$6,020	\$0	\$286,149	\$64,462	\$344,591	\$50,119,715	0.7%	0.7%		no
323110	Commercial Lithographic Printing	77	-\$2,580		\$154,089		\$151,509	\$24,738,820	0.6%	0.6%	-----	no
323111	Commercial Gravure Printing	2	-\$108		\$2,467		\$2,360	\$506,853	0.5%	0.5%	-----	no
323112	Commercial Flexographic Printing	10	-\$323		\$16,377	\$64,462	\$511,913	\$2,839,287	2.8%	2.9%	-----	no
323113	Commercial Screen Printing	31	-\$1,075		\$39,380		\$38,305	\$6,220,713	0.6%	0.6%	-----	no
323114	Quick Printing	24	-\$860		\$25,207		\$24,347	\$5,847,145	0.4%	0.4%	-----	no
323115	Digital Printing	8	-\$323		\$13,722		\$13,399	\$3,588,174	0.4%	0.4%	-----	no
323116	Manifold Business Forms Printing	4	-\$108		\$10,197		\$10,090	\$1,553,639	0.6%	0.6%	-----	no
323117	Books Printing	10	-\$323		\$9,024		\$8,702	\$1,905,344	0.5%	0.5%	-----	no
323118	Blankbook, Looseleaf Binders, etc.	0	\$0		\$0		\$0	\$0			-----	no
323119	Other Commercial Printing	9	-\$323		\$15,686		\$15,364	\$2,919,740	0.5%	0.5%	-----	No

Source: ADE, Inc.

**APPENDIX III**

**CALIFORNIA ENVIRONMENTAL QUALITY ACT  
INITIAL ANALYSIS AND NEGATIVE DECLARATION**



**Initial Study/Negative Declaration for the  
Amendments to Bay Area Air Quality  
Management District Regulation 8, Rule 20:  
Graphic Arts Printing and Coating Operations**

*Prepared for:*

Bay Area Air Quality Management District  
939 Ellis Street  
San Francisco, CA 94109  
Contact: William Thomas Saltz  
(415) 749-4698

*Prepared By:*

Environmental Audit, Inc.  
1000-A Ortega Way  
Placentia, CA 92870  
Contact: Debra Bright Stevens  
(714) 632-8521

September 2008

**Chapter 1**

Introduction..... 1-1  
 Purpose of This Document..... 1-1  
 Scope of This Document..... 1-1  
 Impact Terminology..... 1-2  
 Organization of This Document..... 1-2

**Chapter 2**

Description of the Proposed Rule ..... 2-1  
 Background..... 2-1  
 Objectives ..... 2-1  
 Rule Amendments Being Considered..... 2-2  
 Lowering the VOC-Emitting Facilities Exemption ..... 2-2  
 Proposed Amendments to Ink and Coating Standards..... 2-4  
 Proposed Amendments to Cleaning Product Standards..... 2-4  
 Emission Reductions Expected..... 2-5  
 Affected Area..... 2-5

**Chapter 3**

Environmental Checklist..... 3-1  
 Environmental Checklist Form ..... 3-1  
 Environmental Factors Potentially Affected..... 3-2  
 Determination ..... 3-2  
 I. Aesthetics..... 3-3  
     Setting ..... 3-3  
     Regulatory Background ..... 3-3  
     Discussion of Impacts..... 3-4  
 II. Agriculture Resources..... 3-5  
     Setting ..... 3-5  
     Regulatory Background ..... 3-5  
     Discussion of Impacts..... 3-6  
 III. Air Quality ..... 3-7  
     Setting ..... 3-7  
     Regulatory Background ..... 3-13  
     Discussion of Impacts..... 3-16  
 IV. Biological Resources ..... 3-19  
     Setting..... 3-19  
     Regulatory Background..... 3-20  
     Discussion of Impacts ..... 3-20  
 V. Cultural Resources ..... 3-21  
     Setting..... 3-21  
     Regulatory Background..... 3-21  
     Discussion of Impacts ..... 3-22

VI. Geology and Soils .....	3-23
Setting.....	3-23
Regulatory Background.....	3-24
Discussion of Impacts .....	3-25
VII. Hazard and Hazardous Materials .....	3-27
Setting .....	3-27
Regulatory Background .....	3-28
Discussion of Impacts .....	3-29
VIII. Hydrology and Water Quality.....	3-33
Setting .....	3-34
Regulatory Background .....	3-34
Discussion of Impacts .....	3-35
IX. Land Use and Planning .....	3-37
Setting .....	3-37
Regulatory Background .....	3-37
Discussion of Impacts .....	3-37
X. Mineral Resources .....	3-39
Setting .....	3-39
Regulatory Background .....	3-39
Discussion of Impacts .....	3-39
XI. Noise .....	3-40
Setting .....	3-40
Regulatory Background .....	3-40
Discussion of Impacts .....	3-41
XII. Population and Housing .....	3-42
Setting .....	3-42
Regulatory Background .....	3-42
Discussion of Impacts .....	3-42
XIII. Public Services.....	3-44
Setting .....	3-44
Regulatory Background .....	3-44
Discussion of Impacts .....	3-44
XIV. Recreation .....	3-46
Setting .....	3-46
Regulatory Background .....	3-46
Discussion of Impacts .....	3-46
XV. Transportation and Traffic .....	3-47
Setting .....	3-47
Regulatory Background .....	3-48
Discussion of Impacts .....	3-48
XVI. Utilities and Service Systems.....	3-50
Setting .....	3-50
Regulatory Background .....	3-51
Discussion of Impacts .....	3-51

XVII. Mandatory Findings of Significance ..... 3-53  
 Discussion of Impacts ..... 3-53

**Chapter 4**

References..... 4-1

**FIGURES:**

Figure 1 – Bay Area Air Quality Management District..... 2-6

**TABLES:**

Table 3-1 Federal and State Ambient Air Quality Standards..... 3-11  
 Table 3-2 Bay Area Air Pollution Summary 2006..... 3-12  
 Table 3-3 Bay Area Air Quality Summary ..... 3-13  
 Table 3-4 Summary of 2003 BAAQMD Ambient Air Toxics  
 Monitoring Data..... 3-14  
 Table 3-5 Estimated VOC Emission Reductions ..... 3-17  
 Table 3-6 Chemical Characteristics of Common Coating  
 Solvents ..... 3-30

M:\Dbs\2607 BAAQMD Rule8-20\NegDec\2607 R8\_20 TOC Neg Dec.doc

## Chapter 1

# Introduction

### **Purpose of this Document**

This Negative Declaration assesses the environmental impacts of the proposed adoption of amendments to Regulation 8, Rule 20 – Graphic Arts Printing and Coating Operations - by the Bay Area Air Quality Management District (BAAQMD or District). This assessment is required by the California Environmental Quality Act (CEQA) and in compliance with the state CEQA Guidelines (Title 14 California Code of Regulations §15000 et seq.). A Negative Declaration serves as an informational document to be used in the decision-making process for a public agency that intends to carry out a project; it does not recommend approval or denial of the project analyzed in the document. The BAAQMD is the lead agency under CEQA and must consider the impacts of the proposed rule amendments when determining whether to adopt them. The BAAQMD has prepared this Negative Declaration because no significant adverse impacts are expected to result from the proposed rule amendments.

### **Scope of this Document**

This document evaluates the potential impacts of the proposed amendments on the following resource areas:

- aesthetics,
- agricultural resources,
- air quality,
- biological resources,
- cultural resources,
- geology and soils,
- hazards and hazardous materials,
- hydrology and water quality,
- land use planning,
- mineral resources,
- noise,

- population and housing,
- public services,
- recreation,
- transportation and traffic, and
- utilities and service systems.

### **Impact Terminology**

The following terminology is used in this IS/ND to describe the levels of significance of impacts that would result from the proposed rule amendments:

- An impact is considered *beneficial* when the analysis concludes that the project would have a positive effect on a particular resource.
- A conclusion of *no impact* is appropriate when the analysis concludes that there would be no impact on a particular resource from the proposed project.
- An impact is considered *less than significant* if the analysis concludes that an impact on a particular resource topic would not be significant (i.e., would not exceed certain criteria or guidelines established by BAAQMD). Impacts are frequently considered less than significant when the changes are minor relative to the size of the available resource base or would not change an existing resource.
- An impact is considered *less than significant with mitigation incorporated* if the analysis concludes that an impact on a particular resource topic would be significant (i.e., would exceed certain criteria or guidelines established by BAAQMD), but would be reduced to a less than significant level through the implementation of mitigation measures.

### **Organization of This Document**

The content and format of this document, described below, are designed to meet the requirements of CEQA.

- Chapter 1, “Introduction,” identifies the purpose, scope, and terminology of the document.
- Chapter 2, “Description of the Proposed Rule,” provides background information of Regulation 8, Rule 20, describes the proposed rule amendments, and describes the area and facilities that would be affected by the amendments.
- Chapter 3, “Environmental Checklist,” presents the checklist responses for each resource topic. This chapter includes a brief setting description for each resource

area and identifies the impact of the proposed rule amendments on the resources topics listed in the checklist.

- Chapter 4, “References Cited,” identifies all printed references and personal communications cited in this report.

M:\DBS\2607 BAAQMD Rule8-20\NegDec\2607 R8\_20 Ch 1 Neg Dec.doc

## Chapter 2

# Description of the Proposed Rule

### Background

The Bay Area Air Quality Management District (District) regulates Volatile Organic Compound (VOC) emissions from graphic art printing and coating operations under Regulation 8, Rule 20 (Regulation 8-20). Currently, Bay Area graphic arts businesses that have permits to operate emit 5.25 tons of VOC per day into the region's atmosphere. These VOC emissions include some, but not all VOC emissions from digital printing operations, a type of graphic arts operation not controlled by Regulation 8-20. The District estimates that digital printing operations emit an additional 0.07 – 0.15 tons of VOC per day (TPD). Not all digital printing operations require a permit to operate.

Regulation 8-20 was adopted April 12, 1980. Bay Area 2005 Ozone Strategy Control Measure SS-2 (Graphic Arts Operations) proposed amendments to Bay Area Air Quality Management District Regulation 8, Rule 20. The proposed amendments to Regulation 8-20 would implement Control Measure SS-2 by supplementing existing requirements in Regulation 8-20.

### Objectives

In Control Measure SS-2, the District suggested VOC reductions from printing operations by reducing the allowable VOC limit for flexographic inks used on porous substrates to 225 g/l to be equivalent to the South Coast AQMD limit and by limiting the VOC content of clean-up solvent used on flexographic presses based on the VOC limit for clean-up solvents used on flexographic presses in the Sacramento Metropolitan AQMD. The District is considering those and additional amendments to Regulation 8-20, to further reduce VOC emissions from graphic arts and printing operations. The Bay Area is not yet in attainment of state ozone standards, so the District must implement all feasible measures to reduce emissions of pollutants that form ozone, nitrogen oxides (NOx) and VOCs or reactive organic gases (ROG).

The U.S. Environmental Protection Agency (U.S. EPA) has set primary national ambient air quality standards for ozone and other air pollutants to define the levels considered safe for human health. The California Air Resources Board (CARB) has also set a California ozone standard. The Bay Area is a non-attainment area for the State one-hour and eight-hour ozone standards and federal eight-hour ozone standard. Under State law, ozone non-attainment areas must prepare plans showing how they will attain the state standard. The 2005 Ozone Strategy is the District's most recent planning document for the State one-hour ozone standard. Because the Bay Area is a marginal non-attainment area for the national one-hour standard, the least severe non-attainment classification, the BAAQMD is not required to prepare an attainment plan for the national standard.

## **Rule Amendments Being Considered**

The District is proposing amendments that will reduce VOC emissions from the Bay Area's printing industry in three ways: (1) lowering the exemption limit; (2) lowering the VOC limit for flexographic ink used on porous substrates; and, (3) lowering the VOC limits for graphic arts cleaning products in two stages. The majority of the VOC emission reductions will be achieved by tightening the VOC standards for existing graphic arts cleaning products and by adding VOC standards for other cleaning products.

The District is also proposing a number of other amendments. Those amendments include the modification of numerous definitions, including that of "graphic arts operations," and the addition of others in order to clarify the scope and applicability of the Rule. In addition, the District is proposing to correct and update other provisions, including modifications to Recordkeeping Requirements (Section 8-20-503) and Method of Determining VOC Emissions from graphic arts operations abated by an emission control system (Section 8-20-602). The District also recommends deleting the Alternate Emission Control Plan (Section 8-20-304) and the Extreme Performance Screen Printing Petition for low-VOC emitters (Section 8-20-407).

### **Lowering the VOC-Emitting Facilities Exemption**

Most California air districts provide an exemption from their graphic arts regulations for low-emitting graphic arts operations. There are 261 permitted graphic arts facilities within the District. Eighty-five of the 261 facilities emit less than 175 lbs of VOC per month and thus currently are exempt from the standards of Regulation 8-20. As a review of all feasible measures associated with the printing industry, the District considered lowering the threshold of graphic arts operations that are subject to Regulation 8-20 and eliminating the low-emitting operations exemption altogether. After reviewing the Bay Area's graphic arts emissions inventory, the District determined that eliminating the low emissions exemption is not warranted because considerable District resources (engineering, inspection, and technical staff) would be required to address a minimal emission reduction. However, the District determined there would be a benefit to lowering the threshold.

The District analyzed the emissions from those permitted graphic arts facilities that are currently exempt from Regulation 8-20. The District has identified a cluster of facilities that emitted substantially more than 75 pounds per month of VOC and another cluster that emitted at least 10 pounds less than 75 pounds per month. Based on that break at 75 pounds per month, the District is proposing to lower the threshold from 175 pounds VOC per month to 75 pounds VOC per month that become subject to the requirements of Regulation 8-20. The lower threshold will result in 77 percent of currently-exempt graphic arts facilities becoming subject to the standards of the graphic arts rule.

The current low-emitting facilities exemption in Regulation 8-20 is based on the quantity of VOC emissions per month from graphic arts operations. Currently, some of these exempt facilities require a permit to operate because they either emit 150 lbs of VOC per year or use 30 gallons of ink or coating per year (see District Regulation 2, Rule 1).

Some facilities may be permitted because they use 20 gallons of solvent per year. The District proposes to change Regulation 2, Rule 1 to require only those facilities that emit 400 lbs VOC or more per month to obtain a permit to operate. The District proposes to require those facilities that emit less than 400 lbs VOC per month but at least 75 lbs VOC per month (the level at which Regulation 8-20 standards will become effective) to register with the District in lieu of obtaining a permit.

There are several reasons for this proposal. First, if a graphic arts operation is subject to the rule, they will be required to either register or obtain a permit, depending on the level of emissions. This correlation will help clarify the applicability of District requirements to the printing industry. Second, due to the administrative costs of obtaining a permit, permit fees do not fully recover the cost of permitting and enforcement for many low-emitting facilities. In addition, a low-emitting facility in this industry can incur substantial permitting costs, particularly under “Waters Bill” notification requirements for use of any amount of a toxic air contaminant or a hazardous air pollutant within 1,000 feet of a school.<sup>1</sup> Registration, a much simpler process, will recover estimated costs for administration and enforcement activities for affected facilities.

In addition to reducing emissions by requiring some low VOC-emitting facilities to comply with the standards in Reg. 8-20, registration will cost the smaller facilities less than the cost of obtaining a permit to operate, and in many cases result in a savings. Staff is proposing an initial registration fee of \$215.00 and an annual renewal fee of \$135.00. By contrast, currently, a low-emitting facility subject to permitting requirements will pay approximately \$500.00 for the initial permit to operate and related fees and will pay approximately \$260.00 each year thereafter for the permit renewal and related fees, depending on the number of sources. If a facility is subject to the Waters Bill, there may be a requirement to submit a public notice for schools that will cost between \$2,000.00 and \$3,000.00. The registration fees are included in a proposed amendment to Regulation 3: Fees, Schedule R: Equipment Registration Fees.

Some low VOC-emitting facilities that currently require permits to operate would become exempt from the permit requirement, although they would be required to register as described above. These facilities have the option of retaining their permits or switching to the registration system. The District is currently developing a web-based registration system to simplify the registration procedure.

### **Proposed Amendments to Ink and Coating Standards**

Currently, Regulation 8-20 contains a VOC limit of 300 grams/liter (g/l) for all flexographic ink. The District is proposing to divide flexographic printing into porous and non-porous categories by proposing a VOC limit of 225 g/l for flexographic inks applied to porous substrates while retaining the existing 300 g/l limit for non-porous substrates.

---

<sup>1</sup> California Health and Safety Code 42301.6(b) and BAAQMD Regulation 3, Section 318.

The purpose of this amendment is to align the Rule with current printing industry practices and regulatory standards elsewhere in the state. Flexographic inks containing less than 225 grams of VOC per liter have been used on porous substrates for several years. The SCAQMD has prohibited the use of flexographic printing inks for porous materials containing more than 225 grams VOC per liter since 2000. The District anticipates achieving a modest VOC emission reduction as a result of this amendment because the District's emissions data indicates that emissions from flexographic ink applied to porous substrates account for less than 5 percent of VOC emissions from all Bay Area graphic arts operations.

### **Proposed Amendments to Cleaning Product Standards**

The BAAQMD is proposing three changes to the current VOC standards for graphic arts operations' cleaning products.

First, staff recommends the deletion of all Vapor Pressure or Composite Partial Pressure limit (CPP limit) for cleaning products. Currently, the cleaning products used in flexographic printing, specialty flexographic printing, and ultraviolet printing operations must comply with both a VOC standard and CPP limit, whereas cleaning products used in lithographic printing, screen printing, and gravure printing operations must comply with either the applicable VOC limit or a CPP limit. Cleaning products meeting the CPP limit have a higher VOC content. The goal of this rule amendment is to reduce VOC emissions. Deleting the option to use cleaning products meeting CPP limits will help to achieve that goal.

Second, District staff recommends adopting VOC standards for cleaning products that have a lower VOC content but are effective in cleaning graphic arts equipment. Cleaning products with lower VOC contents, in the range of 500 g/l to 650 g/l, have been used successfully in other air districts. District staff recommends reducing the lower VOC limits in two phases – lowering the limit initially in 2009 and then again in 2010 or 2011. Lower VOC standards for two products, specialty flexographic or lithographic press cleaning and screen printing press cleaning will be allowed until 2011 to comply, based on reports of difficulty in finding low VOC cleaning products in these two categories. This approach will provide cleaning product manufacturers sufficient time to further refine low-VOC formulations and to ramp up production. An additional benefit of the phase-in period is that the printing industry will have time to adapt to using the new products. The final VOC limits will be the same as those required by the SCAQMD.

Third, District staff proposes to adopt VOC limits for the cleaning products not currently subject to Regulation 8-20. Staff recognizes the additional opportunity to reduce VOC emissions from the graphic arts industry by imposing VOC standards on products used to clean adhesive application equipment, letterpress printing parts, and other press parts (maintenance and repairs for non imaging equipment).

### **Emission Reductions Expected**

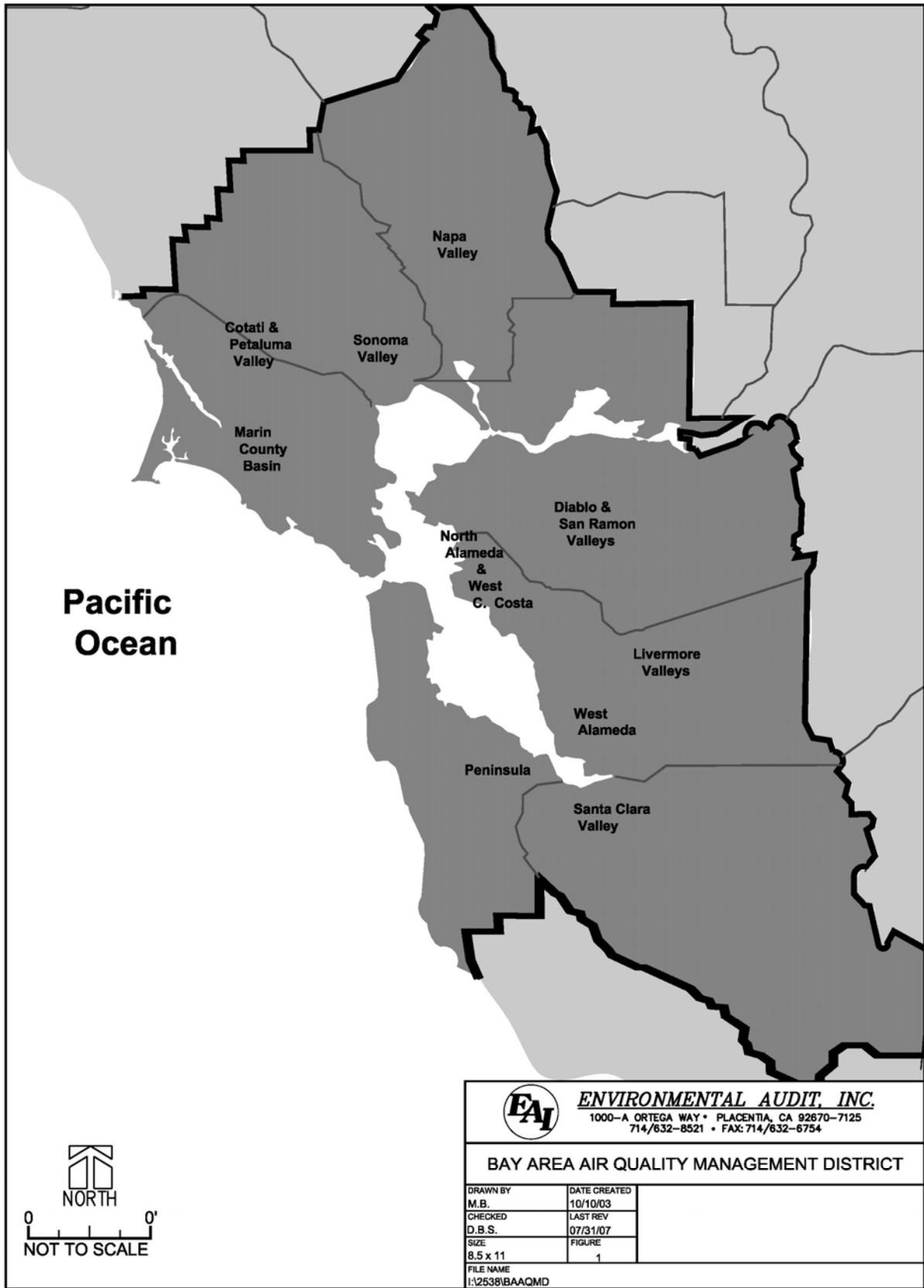
The calculations for estimated VOC emission reductions were based on the emissions inventories and reports from permitted Bay Area graphic arts operations. The District calculated the estimated emission reductions based on the anticipated reduction of VOC emissions from the current VOC limits multiplied by the quantities of each type of product used. The estimated quantities and emissions reductions are based on industry data and District permit information. The District also calculated estimated emissions reductions to be achieved when the VOC emissions exemption limit for low-emitting facilities is lowered. The emission reductions by 2009 are expected to be 0.58 tons per day and by 2011 are expected to be 1.07 tons per day, for a cumulative total of 1.65 TPD.

### **Affected Area**

The proposed rule amendments would apply to facilities under BAAQMD jurisdiction. The BAAQMD jurisdiction includes all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma counties (approximately 5,600 square miles). The San Francisco Bay Area is characterized by a large, shallow basin surrounded by coastal mountain ranges tapering into sheltered inland valleys. The combined climatic and topographic factors result in increased potential for the accumulation of air pollutants in the inland valleys and reduced potential for buildup of air pollutants along the coast. The Basin is bounded by the Pacific Ocean to the west and includes complex terrain consisting of coastal mountain ranges, inland valleys, and bays.

The facilities affected by the proposed rule amendments are located within the jurisdiction of the Bay Area Air Quality Management District (see Figure 1).

HLH\2607BAAQMD\2607R8\_R20Ch2-ProjDesc.doc



**Chapter 3**

**Environmental Checklist**

**ENVIRONMENTAL CHECKLIST FORM**

- 1. Project Title:** Bay Area Air Quality Management District (BAAQMD)  
Proposed Amendments to Regulation 8, Rule 20.
- 2. Lead Agency Name and Address:** Bay Area Air Quality Management District  
939 Ellis Street  
San Francisco, California 94109
- 3. Contact Person and Phone Number:** William Thomas Saltz, Planning, Rules and Research  
Division  
415/749-4698 or [wsaltz@baaqmd.gov](mailto:wsaltz@baaqmd.gov)
- 4. Project Location:** This rule amendment applies to the area within the jurisdiction of the Bay Area Air Quality Management District, which encompasses all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties.
- 5. Project Sponsor’s Name and Address:** Bay Area Air Quality Management District  
939 Ellis Street  
San Francisco, California 94109
- 6. General Plan Designation:** The rule amendments apply to graphic arts printing and coating operations.
- 7. Zoning** The rule amendments apply to graphic arts printing and coating operations which are generally found in industrial and commercial zones.
- 8. Description of Project** See “Background” in Chapter 2.
- 9. Surrounding Land Uses and Setting** See “Affected Area” in Chapter 2.
- 10. Other Public Agencies Whose Approval Is Required** None

### Environmental Factors Potentially Affected:

The environmental factors checked below would potentially be affected by this Project (i.e., the project would involve one impact that is a "Potentially Significant Impact"), as indicated by the checklist on the following pages.

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Aesthetics                    | <input type="checkbox"/> Agriculture Resources              | <input type="checkbox"/> Air Quality            |
| <input type="checkbox"/> Biological Resources          | <input type="checkbox"/> Cultural Resources                 | <input type="checkbox"/> Geology/Soils          |
| <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 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 to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the proposed project MAY have an impact on the environment that is "potentially significant" or "potentially significant unless mitigated" but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
For

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less-than-Significant Impact	No Impact
<b>I. AESTHETICS.</b>				
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 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 amendment is limited to graphic art printing and coating operations. These types of graphic art printing and coating operations are most often found in industrial and commercial applications. Rule amendments for graphic art printing and coating operations are expected to be located in commercial or industrial areas throughout the Bay Area. Scenic highways or corridors are generally not located in the vicinity of commercial or industrial 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 amendments to Regulation 8-20 would further reduce VOC emissions from graphic art printing and coating operations in order to reduce ozone levels in the Bay Area and reduce transport of air pollutants to neighboring air basins. The reductions would be accomplished by shifting from petroleum-based cleaning solvents to water-based solvents; lowering the VOC standard for flexographic ink used on porous substrates; and lowering rule applicability limits to include some smaller facilities. The proposed amendments are not expected to require the construction of any new structures that would be visible to scenic areas or resources outside of the affected facilities, and are not expected to result in any adverse aesthetic impacts. Regulation 8, Rule 20 allows the use of abatement equipment, typically thermal oxidizers, catalytic oxidizers or carbon adsorption as an alternative to meeting the VOC standards, but, as complying products are currently available and being developed, the District does not expect compliance with the rule to generate any new construction. The proposed amendments to Regulation 8-20 would also not require any new sources of light or glare, because no change in operations to comply with the amendments would require new abatement equipment.

Based upon these considerations, no significant adverse aesthetic impacts are expected from the implementation of the amendments to Regulation 8-20.

---

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
--	--------------------------------	---	------------------------------	-----------

---

**II. AGRICULTURE RESOURCES.**

In determining whether impacts on agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation. Would the project:

- |    |   |                          |                          |                          |                                     |
|----|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) | Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | <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) | Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland, to non-agricultural 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.

Printers affected by the proposed rule amendments are primarily located in industrial or commercial areas throughout the Bay Area. Agricultural resources are generally not located in the vicinity of industrial or commercial areas.

**Regulatory Background**

Agricultural resources are generally protected by the City and/or County General Plans, Community Plans through land use and zoning requirements, as well as any applicable specific plans, ordinances, local coastal plans, and redevelopment plans.

## Discussion of Impacts

**II a-c.** The proposed amendments to Regulation 8-20 would further reduce VOC emissions from graphic art printing and coating operations in order to reduce ozone levels in the Bay Area and reduce transport of air pollutants to neighboring air basins. Most facilities are expected to comply with Regulation 8-20 by shifting from petroleum-based cleaning solvents to water-based, and by complying with lower VOC standards. The proposed amendments are not expected to require the construction of any new structures, or that would affect agricultural resources. For existing facilities, changes to graphic arts operations to comply with the amendments would be implemented within existing structures. New graphic arts operations facilities must be built in accordance with zoning requirements controlled by a General Plan, and accordingly, not impact agricultural resources.

Based upon these considerations, no significant adverse impacts to agricultural resources are expected from the implementation of the proposed rule amendments.

---

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
--	--------------------------------	---	------------------------------	-----------

---

### III. AIR QUALITY

When available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?	<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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>
f) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

---

## Setting

### Meteorological Conditions

The summer climate of the West Coast is dominated by a semi-permanent high centered over the northeastern Pacific Ocean. Because this high pressure cell is quite persistent, storms rarely affect the California coast during the summer. Thus the conditions that persist along the coast of California during summer are a northwest air flow and negligible precipitation. A thermal low pressure area from the Sonoran-Mojave Desert also causes air to flow onshore over the San Francisco Bay Area much of the summer.

In winter, the Pacific High weakens and shifts southward, upwelling ceases, and winter storms become frequent. Almost all of the Bay Area's annual precipitation takes place in the November through April period. During the winter rainy periods, inversions are weak or nonexistent, winds

are often moderate and air pollution potential is very low. During winter periods when the Pacific high becomes dominant, inversions become strong and often are surface based; winds are light and pollution potential is high. These periods are characterized by winds that flow out of the Central Valley into the Bay Area and often include tule fog.

### **Topography**

The San Francisco Bay Area is characterized by complex terrain consisting of coastal mountain ranges, inland valleys, and bays. Elevations of 1,500 feet are common in the higher terrain of this area. Normal wind flow over the area becomes distorted in the lower elevations, especially when the wind velocity is not strong. This distortion is reduced when stronger winds and unstable air masses move over the areas. The distortion is greatest when low level inversions are present, with the surface air beneath the inversion, flowing independently of the air above the inversion.

### **Winds**

In summer, the northwest winds to the west of the Pacific coastline are drawn into the interior through the Golden Gate and over the lower portions of the San Francisco Peninsula. Immediately to the south of Mount Tamalpais, the northwesterly winds accelerate considerably and come more nearly from the west as they stream through the Golden Gate. This channeling of the flow through the Golden Gate produces a jet that sweeps eastward but widens downstream producing southwest winds at Berkeley and northwest winds at San Jose; a branch curves eastward through the Carquinez Straits and into the Central Valley. Wind speeds may be locally strong in regions where air is channeled through a narrow opening such as the Carquinez Strait, the Golden Gate, or the San Bruno Gap.

In winter, the Bay Area experiences periods of storminess and moderate-to-strong winds and periods of stagnation with very light winds. Winter stagnation episodes are characterized by outflow from the Central Valley, nighttime drainage flows in coastal valleys, weak onshore flows in the afternoon and otherwise light and variable winds.

### **Temperature**

In summer, the distribution of temperature near the surface over the Bay Area is determined in large part by the effect of the differential heating between land and water surfaces. This process produces a large-scale gradient between the coast and the Central Valley as well as small-scale local gradients along the shorelines of the ocean and bays. The winter mean temperature high and lows reverse the summer relationship; daytime variations are small while mean minimum nighttime temperatures show large differences and strong gradients. The moderating effect of the ocean influences warmer minimums along the coast and penetrating the Bay. The coldest temperatures are in the sheltered valleys, implying strong radiation inversions and very limited vertical diffusion.

## **Inversions**

A primary factor in air quality is the mixing depth, i.e., the vertical dimension available for dilution of contaminant sources near the ground. Over the Bay Area, the frequent occurrence of temperature inversions limits this mixing depth and consequently limits the availability of air for dilution. A temperature inversion may be described as a layer or layers of warmer air over cooler air.

## **Precipitation**

The San Francisco Bay Area climate is characterized by moderately wet winters and dry summers. Winter rains (December through March) account for about 75 percent of the average annual rainfall; about 90 percent of the annual total rainfall is received in November to April period; and between June and September, normal rainfall is typically less than 0.10 inches. Annual precipitation amounts show greater differences in short distances. Annual totals exceed 40 inches in the mountains and are less than 15 inches in the sheltered valleys.

## **Pollution Potential**

The Bay Area is subject to a combination of physiographic and climatic factors which result in a low potential for pollutant buildups near the coast and a high potential in sheltered inland valleys. In summer, areas with high average maximum temperatures tend to be sheltered inland valleys with abundant sunshine and light winds. Areas with low average maximum temperatures are exposed to the prevailing ocean breeze and experience frequent fog or stratus. Locations with warm summer days have a higher pollution potential than the cooler locations along the coast and bays.

In winter, pollution potential is related to the nighttime minimum temperature. Low minimum temperatures are associated with strong radiation inversions in inland valleys that are protected from the moderating influences of the ocean and bays. Conversely, coastal locations experience higher average nighttime temperatures, weaker inversions, stronger breezes and consequently less air pollution potential.

## **Air Quality**

### **Criteria Pollutants**

It is the responsibility of the BAAQMD to ensure that state and federal ambient air quality standards are achieved and maintained in its geographical jurisdiction. Health-based air quality standards have been established by California and the federal government for the following criteria air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), particulate matter less than 10 microns in diameter (PM<sub>10</sub>), particulate matter less than 2.5 microns in diameter (PM<sub>2.5</sub>), sulfur dioxide (SO<sub>2</sub>) and lead. These standards were established to protect sensitive receptors with a margin of safety from adverse health impacts due to exposure to air pollution. The California standards are more stringent than the federal standards. California has also established standards for sulfate, visibility, hydrogen sulfide, and vinyl chloride.

The state and national ambient air quality standards for each of these pollutants and their effects on health are summarized in Table 3-1. The BAAQMD monitors levels of various criteria pollutants at 25 monitoring stations. The 2007 air quality data from the BAAQMD's monitoring stations are presented in Table 3-2.

Air quality conditions in the San Francisco Bay Area have improved since the 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, nitrogen oxides (NO<sub>x</sub>), and sulfur dioxides (SO<sub>2</sub>). The Air District is not considered to be in attainment with the State PM<sub>10</sub> and PM<sub>2.5</sub> standards.

The 2007 air quality data from the BAAQMD monitoring stations are presented in Table 3-2. All monitoring stations were below the state standard and federal ambient air quality standards for CO, NO<sub>2</sub>, and SO<sub>2</sub>. The federal 8-hour ozone standard was exceeded one (1) day in the District in 2007, while the state standard was exceeded on nine (9) days. The Bay Area is designated as a non-attainment area for the California 1-hour ozone standard. The State 1-hour ozone standard was exceeded on four (4) days in 2007 in the District, most frequently in the Eastern District (Livermore) (see Table 3-2).

All monitoring stations were in compliance with the federal PM<sub>10</sub> standards. The California PM<sub>10</sub> standards were exceeded on four (4) days in 2007, most frequently in San Jose. The Air District exceeded the federal PM<sub>2.5</sub> standard on 14 days, most frequently in San Jose, in 2007 (see Table 3-2).

**TABLE 3-1**

**Federal and State Ambient Air Quality Standards**

	STATE STANDARD	FEDERAL PRIMARY STANDARD	MOST RELEVANT EFFECTS
AIR POLLUTANT	CONCENTRATION/ AVERAGING TIME	CONCENTRATION/ AVERAGING TIME	
Ozone	0.09 ppm, 1-hr. avg. > 0.070 ppm, 8-hr	0.075 ppm, 8-hr avg. >	(a) Short-term exposures: (1) Pulmonary function decrements and localized lung edema in humans and animals (2) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (b) Long-term exposures: Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (c) Vegetation damage; (d) Property damage
Carbon Monoxide	9.0 ppm, 8-hr avg. > 20 ppm, 1-hr avg. >	9 ppm, 8-hr avg.> 35 ppm, 1-hr avg.>	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; (d) Possible increased risk to fetuses
Nitrogen Dioxide	0.25 ppm, 1-hr avg. >	0.053 ppm, ann. avg.>	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; (c) Contribution to atmospheric discoloration
Sulfur Dioxide	0.04 ppm, 24-hr avg.> 0.25 ppm, 1-hr. avg. >	0.03 ppm, ann. avg.> 0.14 ppm, 24-hr avg.>	(a) Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma
Suspended Particulate Matter (PM10)	20 µg/m <sup>3</sup> , annarithmic mean > 50 µg/m <sup>3</sup> , 24-hr average>	50 µg/m <sup>3</sup> , annual arithmetic mean > 150 µg/m <sup>3</sup> , 24-hr avg.>	(a) Excess deaths from short-term exposures and exacerbation of symptoms in sensitive patients with respiratory disease; (b) Excess seasonal declines in pulmonary function, especially in children
Suspended Particulate Matter (PM2.5)	12 µg/m <sup>3</sup> , annual arithmetic mean>	15 µg/m <sup>3</sup> , annual arithmetic mean> 35 µg/m <sup>3</sup> , 24-hour average>	Decreased lung function from exposures and exacerbation of symptoms in sensitive patients with respiratory disease; elderly; children.
Sulfates	25 µg/m <sup>3</sup> , 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 <sup>3</sup> , 30-day avg. >=	1.5 µg/m <sup>3</sup> , calendar quarter>	(a) Increased body burden; (b) Impairment of blood formation and nerve conduction
Visibility-Reducing Particles	In sufficient amount to give an extinction coefficient >0.23 inverse kilometers (visual range to less than 10 miles) with relative humidity less than 70%, 8-hour average (10am – 6pm PST)		Nephelometry and AISI Tape Sampler; instrumental measurement on days when relative humidity is less than 70 percent

**TABLE 3-2  
Bay Area Air Pollution Summary - 2007**

MONITORING STATIONS	OZONE						CARBON MONOXIDE			NITROGEN DIOXIDE			SULFUR DIOXIDE			PM <sub>10</sub>				PM <sub>2.5</sub>					
	Max 1-hr	Cal Days	Max 8-hr	Nat Days	Cal Days	3-Yr Avg	Max 1-hr	Max 8-hr	Nat/Cal Days	Max 24-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	
<b>North Counties</b>	(ppb)						(ppm)			(ppb)			(ppb)			(µm <sup>3</sup> )				(µm <sup>3</sup> )					
Napa	74	0	61	0	2	57	3.2	2.0	0	53	10	0	-	-	-	21.4	50	0	0	-	-	-	-	-	-
San Rafael	72	0	57	0	0	48	2.8	1.3	0	57	14	0	-	-	-	17.5	56	0	1	-	-	-	-	-	-
Santa Rosa	71	0	59	0	0	47	2.6	1.7	0	46	11	0	-	-	-	17.1	37	0	0	32.0	0	30.4	7.6	8.1	
Vallejo	78	0	66	0	0	54	3.3	2.7	0	58	11	0	4	1.3	0	19.0	52	0	2	40.8	4	36.2	9.8	9.8	
<b>Coast/Central Bay</b>																									
Richmond	-	-	-	-	-	-	-	-	-	-	-	-	7	1.6	0	-	-	-	-	-	-	-	-	-	-
San Francisco	60	0	49	0	0	45	2.5	1.6	0	69	16	0	6	1.5	0	21.9	70	0	2	45.2	5	29.3	8.7	9.3	
San Pablo	74	0	51	0	0	47	2.4	1.2	0	52	12	0	5	1.6	0	20.6	57	0	2	-	-	-	-	-	
<b>Eastern District</b>																									
Benicia	83	0	71	0	1	n/a	1.1	0.6	0	39	n/a	0	7	n/a	0	n/a	31	0	0	-	-	-	-	-	
Bethel Island	93	0	78	0	4	73	1.1	0.8	0	48	8	0	5	1.5	0	18.8	49	0	0	-	-	-	-	-	
Concord	105	1	81	0	4	73	2.2	1.4	0	49	11	0	5	1.7	0	16.8	52	0	2	46.2	7	34.0	8.4	8.9	
Crockett	-	-	-	-	-	-	-	-	-	-	-	-	9	2.0	0	-	-	-	-	-	-	-	-	-	
Fairfield	89	0	67	0	0	66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Livermore	120	2	91	1	3	77	3.3	1.8	0	52	13	0	-	-	-	19.8	75	0	2	54.9	3	34.8	9.0	9.3	
Martinez	-	-	-	-	-	-	-	-	-	-	-	-	8	1.7	0	-	-	-	-	-	-	-	-	-	
Pittsburg	100	1	74	0	2	70	2.8	1.5	0	51	10	0	7	2.2	0	19.4	59	0	4	-	-	-	-	-	
<b>South Central Bay</b>																									
Fremont	79	0	68	0	0	58	2.5	1.6	0	58	14	0	-	-	-	19.6	61	0	1	51.2	2	30.4	8.7	9.4	
Hayward	75	0	65	0	0	n/a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Redwood City	77	0	69	0	0	51	5.5	2.3	0	57	13	0	-	-	-	19.6	56	0	1	45.4	1	31.0	8.3	8.9	
San Leandro	71	0	54	0	0	52	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Santa Clara Valley</b>																									
Gilroy	91	0	70	0	0	70	-	-	-	-	-	-	-	-	-	-	-	-	-	21.5	0	n/a	n/a	n/a	
Los Gatos	84	0	65	0	0	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
San Jose Central	83	0	68	0	0	61	3.5	2.7	0	65	17	0	-	-	-	22.0	69	0	3	57.5	9	38.3	10.7	11.1	
San Jose, Tully Rd	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25.6	78	0	3						
San Martin	96	1	73	0	4	75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sunnyvale	77	0	68	0	0	55	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Total Days over Standard</b>		<b>4</b>		<b>1</b>	<b>9</b>				<b>0</b>			<b>0</b>			<b>0</b>			<b>0</b>	<b>4</b>		<b>14</b>				

(ppm) = parts per million, (pphm) = parts per hundred million, (ppb) = parts per billion

**TABLE 3-3**  
**Bay Area Air Quality Summary**  
**Days over standards**

YEAR	OZONE			CARBON MONOXIDE				NO <sub>2</sub>	SULFUR DIOXIDE		PM10		PM2.5
	1-Hr	8-Hr		1-Hr		8-Hr		1-Hr	24-Hr		24-Hr*		24-Hr**
	Cal	Nat	Cal	Nat	Cal	Nat	Cal	Cal	Nat	Cal	Nat	Cal	Nat
1996	34	-	-	0	0	0	0	0	0	0	0	3	-
1997	8	-	-	0	0	0	0	0	0	0	0	4	-
1998	29	16	-	0	0	0	0	0	0	0	0	5	-
1999	2	9	-	0	0	0	0	0	0	0	0	12	-
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	5
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	1	-	0	0	0	0	0	0	0	0	6	0
2006	18	12	-	0	0	0	0	0	0	0	0	15	10
2007	4	1	9	0	0	0	0	0	0	0	0	4	14

\* PM10 is sampled every sixth day – actual days over standard can be estimated to be six times the numbers listed.  
 \*\* 2000 is the first full year for which the Air District measured PM2.5 levels.

**Toxic Air Pollutants**

Table 3-4 (BAAQMD, 2007) contains a summary of ambient air toxics monitoring data of TACs measured at monitoring stations in the Bay Area by the District in 2003.

**Regulatory Background**

**Criteria Pollutants**

At the federal level, the Clean Air Act (CAA) Amendments of 1990 give the U.S. EPA additional authority to require states to reduce emissions of ozone precursors and 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.

**TABLE 3-4**

**Summary of 2003 BAAQMD Ambient Air Toxics Monitoring Data**

Compound	LOD (ppb) <sup>(1)</sup>	% of Samples < LOD <sup>(2)</sup>	Max. Conc. (ppb) <sup>(3)</sup>	Min. Conc. (ppb) <sup>(4)</sup>	Mean Conc. (ppb) <sup>(5)</sup>
Acetone	0.30	0	121.4	0.6	6.80
Benzene	0.10	1.78	2.4	0.5	0.401
1,3-butadiene	0.15	75.7	0.89	0.075	0.12
Carbon tetrachloride	0.01	0	0.16	0.09	0.108
Chloroform	0.02	62.5	1.47	0.01	0.024
Ethylbenzene	0.10	44.2	0.90	0.05	0.135
Ethylene dibromide	0.02	100	0.01	0.01	0.01
Ethylene dichloride	0.10	100	0.05	0.05	0.05
Methylene chloride	0.50	82.9	3.40	0.25	0.356
Methyl ethyl ketone	0.20	7.7	5.80	0.1	0.496
Metyl tert-butyl ether	0.30	32.9	4.80	0.15	0.532
Perchloroethylene	0.01	42.4	0.28	0.005	0.026
Toluene	0.10	0.2	6.0	0.05	1.062
1,1,1-Trichloroethane	0.05	72.3	2.47	0.025	0.084
Trichloroethylene	0.05	93.8	0.33	0.025	0.029
Trichlorofluoromethane	0.01	0	.046	0.18	0.266
1,1,2-trichlorotrifluoroethane	0.01	0	1.16	0.06	0.077
Vinyl chloride	0.30	100	0.15	0.15	0.15
m/p-xylene	0.10	2.8	3.40	0.05	0.535
o-xylene	0.10	27.9	1.30	0.05	0.186

**NOTES:** Table 3-4 summarizes the results of the BAAQMD gaseous toxic air contaminant monitoring network for the year 2003. These data represent monitoring results at 19 of the 20 separate sites at which samples were collected. Data from the Fort Cronkrite "clean-air" background site was not included. Data from the Oakland-Davie Stadium site was available from January through March.

- (1) "LOD" is the limit of detection of the analytical method used.
- (2) "% of samples < LOD" is the percent of the total number of air samples collected in 2003 that had pollutant concentrations less than the LOD.
- (3) "Maximum Conc." is the highest daily concentration measured at any of the 19 monitoring sites.
- (4) "Minimum Conc." is the lowest daily concentration measured at any of the 19 monitoring sites.
- (5) "Mean Conc." is the arithmetic average of the air samples collected in 2003 at the 19 monitoring sites. In calculating the mean, samples with concentrations less than the LOD were assumed to be equal to one half the LOD concentration.

The BAAQMD is governed by a 22-member Board of Directors composed of publicly-elected officials apportioned according to the population of the represented counties. The Board has the authority to develop and enforce regulations for the control of air pollution within its jurisdiction. The BAAQMD is responsible for implementing emissions standards and other requirements of federal and state laws. It is also responsible for developing air quality planning documents required by both federal and state laws.

**Toxic Air Contaminants**

TACs are regulated in the District through federal, state, and local programs. At the federal level, TACs are regulated primarily under the authority of the CAA. Prior to the amendment of the CAA in 1990, source-specific National Emission Standards for Hazardous Air Pollutants (NESHAPs) were promulgated under Section 112 of the CAA for certain sources of radionuclides and Hazardous Air Pollutants (HAPs).

Title III of the 1990 CAA amendments requires U.S. EPA to promulgate NESHAPs on a specified schedule for certain categories of sources identified by U.S. EPA as emitting one or more of the 189 listed HAPs. Emission standards for major sources must require the maximum achievable control technology (MACT). MACT is defined as the maximum degree of emission reduction achievable considering cost and non-air quality health and environmental impacts and energy requirements. All NESHAPs were to be promulgated by the year 2000. Specific incremental progress in establishing standards must be made by the years 1992 (at least 40 source categories), 1994 (25 percent of the listed categories), 1997 (50 percent of remaining listed categories), and 2000 (remaining balance). The 1992 requirement was met; however, many of the four-year standards were not promulgated as scheduled. Promulgation of those standards has been rescheduled based on court-ordered deadlines, or the aim to satisfy all Section 112 requirements in a timely manner.

Many of the sources of TACs that have been identified under the CAA are also subject to the California TAC regulatory programs. CARB developed three regulatory programs for the control of TACs. Each of the programs is discussed in the following subsections.

**Control of TACs Under the TAC Identification and Control Program:** California's TAC identification and control program, adopted in 1983 as Assembly Bill 1807 (AB 1807) (California Health and Safety Code §39662), is a two-step program in which substances are identified as TACs, and airborne toxic control measures (ATCMs) are adopted to control emissions from specific sources. Since adoption of the program, CARB has identified 18 TACs, and CARB adopted a regulation designating all 189 federal HAPs as TACs.

**Control of TACs Under the Air Toxics "Hot Spots" Act:** The Air Toxics Hot Spot Information and Assessment Act of 1987 (AB 2588) (California Health and Safety Code §39656) establishes a state-wide program to inventory and assess the risks from facilities that emit TACs and to notify the public about significant health risks associated with those emissions. Inventory reports must be updated every four years under current state law. The BAAQMD uses a maximum individual cancer risk of 10 in one million, or an ambient concentration above a non-cancer reference exposure level, as the threshold for notification. Senate Bill (SB) 1731, enacted in 1992 (California Health and Safety Code §44390 et seq.), amended AB 2588 to include a requirement for facilities with significant risks to prepare and implement a risk reduction plan which will reduce the risk below a defined significant risk level within specified time limits. At a minimum, such facilities must, as quickly as feasible, reduce cancer risk levels that exceed 100 per one million. The BAAQMD adopted risk reduction requirements for perchloroethylene dry cleaners to fulfill the requirements of SB 1731.

**Targeted Control of TACs Under the Community Air Risk Evaluation Program:** In 2004, BAAQMD established the Community Air Risk Evaluation (CARE) program to identify locations with high emissions of TACs and high exposures of sensitive populations to TACs and to use this information to help establish policies to guide mitigation strategies that obtain the greatest health benefit from TAC emission reductions. For example, BAAQMD will use information derived from the CARE program to develop and implement targeted risk reduction programs, including grant and incentive programs, community outreach efforts, collaboration with other governmental agencies, model ordinances, new regulations for stationary sources and indirect sources, and advocacy for additional legislation.

## Discussion of Impacts

**III a.** The objectives of the proposed rule amendments are to implement Control Measure SS-2 from the Bay Area 2005 Ozone Strategy in order to help reduce VOC emissions from graphic art printing and coating operations. Because the proposed amendments directly implement the control measure, the proposed amendments are in compliance with the local air quality plan and are expected to provide beneficial impacts associated with implementation of the local air quality plan.

**III b, d, and f.** Regulation 8-20 was adopted April 12, 1980. Bay Area 2005 Ozone Strategy Control Measure SS-2 (Graphic Arts Operations) proposed amendments to Bay Area Air Quality Management District Regulation 8, Rule 20. The proposed amendments to Regulation 8-20 would implement Control Measure SS-2 by supplementing existing requirements in Regulation 8-20. In Control Measure SS-2, the District suggested ROG reductions from printing operations by reducing the allowable VOC limit for flexographic inks used on porous substrates and by limiting the VOC content of clean up solvent used on all presses. The Bay Area is not yet in attainment of state ozone standards, so the region must implement all feasible measures to reduce the pollutants that form ozone (NO<sub>x</sub> and ROG). Control Measure SS-2 of the Air District's 2005 Ozone Strategy included consideration of amendments to Regulation 8-20: Graphic Arts Printing and Coating Operations. If adopted as proposed, Regulation 8-20 would regulate VOC emissions from all graphic art printing and coating operations. The VOC emissions from these regulated facilities would be reduced in 2009 by approximately 0.58 tons per day and by 2011 by approximately 1.07 tons per day, for a cumulative total reduction of 1.65 TPD, providing an environmental benefit (see Table 3-5)

Compliance with the proposed amendments to Regulation 8-20 is expected to be achieved through the use of inks and solvents that are water based with lower VOC contents (potential impacts addressed below). The use of control devices such as afterburners or incinerators is not expected. Therefore, no secondary air emission impacts are expected due to the use of control devices.

The proposed amendments to Regulation 8-20 may result in the substitution of reactive solvents with exempt compounds. The exempt compounds for Regulation 8-20 are limited to acetone, methyl acetate, parachlorobenzotrifluoride (PCBTF), and methylated siloxanes (VMS). These compounds are considered to be negligibly reactive VOCs and, thus, an increase in their use associated with a reduction in the use of more reactive compounds would reduce ozone formation. According to the most recent studies conducted for the technological assessment, these types of materials have a low toxicity (SCAQMD, 2006).

CARB expects that future compliant materials will contain less hazardous materials (or will contain nonhazardous materials) as compared to solvent-borne coatings, resulting in an environmental benefit. The long-term and short-term human health impacts associated with the use of various replacement solvents in compliant coating formulations were evaluated by CARB. It was concluded that the general public and coating applicators would not be exposed to either long-term (carcinogenic or chronic) or short-term (acute) health risks due to exposure to alternative solvents (CARB, 2007). In addition, a number of cleaners are water-based which is not expected to generate toxic air contaminants. Therefore, the proposed amendments to Regulation 8-20 are not expected to result in an increase in toxic air contaminants.

**TABLE 3-5  
ESTIMATED VOC EMISSION REDUCTIONS**

<b>Graphic Arts Operation</b>	<b>2009 VOC Emission Reductions (tons/day)</b>	<b>2010 (2011*) VOC Emission Reductions (tons/day)</b>	<b>Total VOC Emission Reduction (tons/day)</b>
Flexographic Ink	0.1	--	0.1
Adhesive Cleaning Products	0.022	0.034	0.056
Flexographic Cleaning Products	0.013	0.019	0.038
Specialty Flexo and Litho Cleaning Products	0.007	0.009*	0.009
Gravure Cleaning Products	0.0009	0.0001	0.001
Letterpress Cleaning Products	0.013	0.018	0.031`
Lithographic Hand Cleaning Products	0.26	0.52	0.78
Lithographic Automated Cleaning Products	0.113	0.41	0.523
Screen Printing Cleaning Products	0.029	0.05*	0.08
Ultraviolet Ink Cleaning Products	0.005	0.008	0.0085
New Exemption Limit	0.023	--	0.023
<b>TOTAL EMISSION REDUCTIONS</b>	<b>0.5</b>	<b>1.07</b>	<b>1.65</b>

\* Most facilities use high VOC-containing products (700 to 800 grams/liter VOC) and comply with the vapor pressure requirements, based on conversations with industry representatives.

**III c.** CEQA Guidelines indicate that cumulative impacts of a project shall be discussed when the project’s incremental effect is cumulatively considerable, as defined in CEQA Guidelines §15065(c). The overall impact of the proposed amendment to the rule is a decrease in VOC emissions. Therefore, the cumulative air quality impacts of the proposed rule amendments are expected to be beneficial.

It is widely accepted that the accumulation of increasing amounts of greenhouse gases (GHG) in the Earth’s atmosphere is a cause of global warming and may result in global climate change. In June, 2005, the District’s Board of Directors adopted a resolution recognizing the link between global climate change and localized air pollution impacts. Climate change, or global warming, is the process whereby emissions of anthropogenic pollutants, together with other naturally-occurring gases, absorb infrared radiation in the atmosphere, leading to increases in the overall average global temperature.

While CO<sub>2</sub> is the largest contributor to global warming, methane, halogenated carbon compounds, nitrous oxide, and other species also contribute to climate change. Gases in the atmosphere can contribute to the greenhouse effect both directly and indirectly. Direct effects occur when the gas itself is a GHG. While there is relative agreement on how to account for these direct effects of GHG emissions, accounting for indirect effects is more problematic. Indirect effects occur when chemical transformations of the original compound produce other GHGs, when a gas influences the atmospheric lifetimes of CH<sub>4</sub>, and/or when a gas affects atmospheric processes that alter the radiative balance of the earth (e.g., affect cloud formation).

VOCs have some direct global warming effects. However they may be considered greenhouse gases due to their indirect effects. VOCs react chemically in the atmosphere to increase concentrations of ozone and may prolong the life of methane. The magnitude of the indirect effect of VOCs is poorly quantified and depends on local air quality. Global warming not only exacerbates ozone formation, but ozone formation exacerbates global warming. Consequently, reducing VOCs to make progress towards meeting California air quality standards for ozone will help reduce global warming.

District VOC rules typically allow a facility to reduce emissions to the atmosphere through the use of air pollution abatement equipment as an option to the use of low-VOC products. Such abatement equipment may be thermal or catalytic oxidizers or carbon adsorption. These devices are rarely a cost-effective solution except in the largest facilities, however, if they were employed, emissions of CO<sub>2</sub> would be expected to increase due to the use of natural gas to fire an oxidizer. Historically, low-VOC products have been successfully implemented. As complying ink products are currently available and complying cleaning products are currently available and in the process of being developed, it is not expected that there will be any use of abatement equipment to meet these standards in the proposed amendments. Therefore it is not expected that there will be an increase in greenhouse gas emissions.

**III e.** The proposed project is not expected to result in an increase in odors. The amendments to Regulation 8-20 propose the use of water-based solvents for reducing VOC emissions from graphic art printing and coating operations. Affected facilities are expected to comply by shifting from petroleum based cleaning solvents to water-based; lowering the VOC standard for flexographic ink used on porous substrates; and lowering applicability limits to include smaller facilities. Water-based cleaning materials usually generate less odor than solvent-based products. Potential odor impacts associated with the proposed amendments to Regulation 8-20 are not expected to be significant. Therefore, no significantly adverse incremental odor impacts are expected due to the proposed rule amendments.

Based upon these considerations, no significant adverse air quality impacts are expected from the implementation of the proposed rule amendments. In fact, the proposed rule amendments are expected to provide beneficial air quality impacts by reducing VOC emissions.

---

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
--	--------------------------------	---	------------------------------	-----------

---

**IV. BIOLOGICAL RESOURCES.** Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<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 amendments 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 rule amendments address graphic arts operations which are located in generally industrial or commercial areas throughout the Bay Area. The affected areas have been graded to develop various industrial or commercial structures. Native vegetation, other than landscape vegetation, has generally been removed from areas to minimize safety and fire hazards. Any new development must comply with the zoning and other land use requirements of the City or County General Plans.

## **Regulatory Background**

Biological resources are generally protected by the City and/or County General Plans through land use and zoning requirements which minimize or prohibit development in biologically sensitive areas. Biological resources are also protected by the California Department of Fish and Game, and the U.S. Fish and Wildlife Service. The U.S. Fish and Wildlife Service and National Marine Fisheries Service oversee the federal Endangered Species Act. Development permits may be required from one or both of these agencies if development would impact rare or endangered species. The California Department of Fish and Game administers the California Endangered Species Act which prohibits impacting endangered and threatened species. The U.S. Army Corps of Engineers and the U.S. EPA regulate the discharge of dredge or fill material into waters of the United States, including wetlands.

## **Discussion of Impacts**

**IV a – f.** No impacts on biological resources are anticipated from the proposed rule amendments which would apply to existing or newly constructed facilities with graphic art printing and coating operations. The existing graphic art printing and coating operations are generally located in industrial and commercial areas, which do not usually include sensitive biological species. The areas have typically been graded and developed, and biological resources, with the exception of landscape species, have generally been removed. Affected facilities are expected to comply by shifting from petroleum-based cleaning solvents to water-based solvents; meeting the lower VOC standard for flexographic ink used on porous substrates; and meeting the lower exemption limits applicable to smaller facilities. The proposed amendments are not expected to require the construction of any new structures or to affect biological resources. For existing facilities, changes to graphic arts operations to comply with the amendments would be implemented within existing structures. New graphic arts operations facilities must be built in accordance with zoning requirements controlled by a General Plan, and accordingly, not impact biological resources.

Based upon these considerations, no significant adverse impacts to biological resources are expected from the implementation of the proposed rule amendments.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>V. CULTURAL RESOURCES.</b> Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 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 Section 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 a 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 that 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 areas affected by the proposed rule amendments are primarily located in industrial or commercial areas throughout the Bay Area. These sites have already been graded to develop industrial or commercial facilities and are typically surrounded by uses of a kind similar to those affected by the rule amendments. Cultural resources are generally not located within these areas.

## Regulatory Background

The State CEQA Guidelines define a significant cultural resource as a “resource listed or eligible for listing on the California Register of Historical Resources” (Public Resources Code Section 5024.1). A project would have a significant impact if it would cause a substantial adverse change in the significance of a historical resource (State CEQA Guidelines Section 15064.5(b)). A substantial adverse change in the significance of a historical resource would result from an action that would demolish or adversely alter the

physical characteristics of the historical resource that convey its historical significance and that qualify the resource for inclusion in the California Register of Historical Resources or a local register or survey that meets the requirements of Public Resources Code Sections 50020.1(k) and 5024.1(g).

## **Discussion of Impacts**

**V a – d.** No impacts on cultural resources are anticipated from the proposed rule amendments that would apply to graphic art printing and coating operations. The graphic art printing and coating operations affected by the proposed rule amendments already exist and are primarily located within the confines of existing industrial or commercial facilities and areas. The existing areas have been graded and developed. The District does not expect that adoption of the proposed amendments would require new construction outside of the existing facility boundaries. New graphic arts printing and coating operations are expected to be installed in similar areas. Therefore, no significant adverse impacts to cultural resources are expected due to the proposed amendments to Regulation 8-20.

Based upon these considerations, no significant adverse impacts to cultural resources are expected from the implementation of the proposed rule amendments.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>VI. GEOLOGY AND SOILS.</b>				
Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Strong seismic groundshaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• 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 expected to be located primarily in industrial and commercial areas throughout the Bay Area.

The affected areas with natural gas-fired heaters are located in the natural region of California known as the Coast Ranges geomorphic province. The province is characterized by a series of northwest trending ridges and valleys controlled by tectonic folding and faulting, examples of which include the Suisun Bay, East Bay Hills, Briones Hills, Vaca Mountains, Napa Valley, and Diablo Ranges.

Regional basement rocks consist of the highly deformed Great Valley Sequence, which include massive beds of sandstone inter-fingered with siltstone and shale. Unconsolidated alluvial deposits, artificial fill, and estuarine deposits (including Bay Mud), underlie the low-lying region along the margins of the Carquinez Straight and Suisun Bay. The estuarine sediments found along the shorelines of Solano County are soft, water-saturated mud, peat and loose sands. The organic, soft, clay-rich sediments along the San Francisco and San Pablo Bays are referred to locally as Bay Mud and can present a variety of engineering challenges due to their inherent low strength, compressibility and saturated conditions. Landslides in the region occur in weak, easily weathered bedrock on relatively steep slopes.

The San Francisco Bay Area is a seismically active region, which is situated on a plate boundary marked by the San Andreas Fault System. Several northwest trending active and potentially active faults are included within 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 graphic art printing and coating operations affected by the proposed rule amendments already exist and are primarily located within the confines of existing industrial or commercial facilities. No new construction activities would be required as a result of adopting the proposed amendments to Regulation 8-20. Rather, shifting from petroleum-based cleaning solvents to water-based solvents, and complying with lower emission limits would lower VOC emissions. Regulation 8, Rule 20 allows the use of abatement equipment, typically thermal oxidizers, catalytic oxidizers or carbon adsorption as an alternative to meeting the VOC standards, but as complying products are currently available and being developed, the District does not expect compliance with the rule to generate any new construction. Therefore, no construction activities are anticipated to be required for compliance with the proposed amendments to Regulation 8-20.

New industrial or commercial structures must be designed to comply with the Uniform Building Code Zone 4 requirements. The local cities and counties are responsible for assuring that new construction complies with the Uniform Building Code as part of the issuance of the building permits and are able to conduct inspections to ensure compliance. The Uniform Building Code is considered to be a standard safeguard against major structural failures and loss of life. The goal of the code is to provide structures that will: (1) resist minor earthquakes without damage; (2) resist moderate earthquakes without structural damage, but with some non-structural damage; and (3) resist major earthquakes without collapse, but with some structural and non-structural damage. The Uniform Building Code bases seismic design on minimum lateral seismic forces ("ground shaking"). The Uniform Building Code requirements operate on the principle that providing appropriate foundations, among other aspects, helps to protect buildings from failure during earthquakes. The basic formulas used for the Uniform Building Code seismic design require determination of the seismic zone and site coefficient, which represent the foundation conditions at the site.

The issuance of building permits from the local agency will assure compliance with the Uniform Building Code requirements which include requirements for building within seismic hazard zones. No significant impacts from seismic hazards are expected since no new development is required due to implementation of the proposed amendments to Regulation 8-20.

**VII b.** The graphic art printing and coating operations affected by the proposed rule amendments already exist and are primarily located within the confines of existing industrial or commercial facilities. New graphic arts printing and coating operations are expected to be installed in similar areas, and must comply with the amendments of the proposed Regulation 8-20. No new construction activities would be required due to the adoption of Regulation 8-20. Therefore, the proposed amendments are 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 graphic art printing and coating operations that already exist are located within the confines of existing industrial or commercial facilities so no major construction activities are expected. Since the industrial or commercial facilities already exist, no additional structures would be constructed on a geologic unit or soil that is unstable or that would become unstable, or potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse. Likewise, no structure would be constructed on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to

life or property. Compliance with the Uniform Building Code would minimize the impacts associated with existing geological hazards. Therefore, no adverse significant impacts to geology and soils are expected due to the proposed amendments to Regulation 8-20.

Based upon these considerations, no significant geology and soils impacts are expected from the implementation of the proposed rule amendments.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>VII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:</b>				
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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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) Be located within an airport land use plan or, where such a plan has not been adopted, be within two miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be located within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area?	<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

Many of the affected facilities handle and process large quantities of flammable, hazardous, and acutely hazardous materials. Accidents involving these substances can result in worker or public exposure to fire, heat, blast from an explosion, or airborne exposure to hazardous substances.

The potential hazards associated with handling such materials are a function of the materials being processed, processing systems, and procedures used to operate and maintain the facilities where they exist. The hazards that are likely to exist are identified by the physical and chemical properties of the materials being handled and their process conditions, including the following events:

- **Toxic gas clouds:** Toxic gas clouds are releases of volatile chemicals (e.g., anhydrous ammonia, chlorine, and hydrogen sulfide) that could form a cloud and migrate off-site, thus exposing individuals. “Worst-case” conditions tend to arise when very low wind speeds coincide with an accidental release, which can allow the chemicals to accumulate rather than disperse.
- **Torch fires (gas and liquefied gas releases), flash fires (liquefied gas releases), pool fires, and vapor cloud explosions (gas and liquefied gas releases):** The rupture of a storage tank or vessel containing a flammable gaseous material (like propane), without immediate ignition, can result in a vapor cloud explosion. The “worst-case” upset would be a release that produces a large aerosol cloud with flammable properties. If the flammable cloud does not ignite after dispersion, the cloud would simply dissipate. If the flammable cloud were to ignite during the release, a flash fire or vapor cloud explosion could occur. If the flammable cloud were to ignite immediately upon release, a torch fire would ensue.
- **Thermal Radiation:** Thermal radiation is the heat generated by a fire and the potential impacts associated with exposure. Exposure to thermal radiation would result in burns, the severity of which would depend on the intensity of the fire, the duration of exposure, and the distance of an individual to the fire.
- **Explosion/Overpressure:** Process vessels containing flammable explosive vapors and potential ignition sources are present at many types of industrial facilities. Explosions may occur if the flammable/explosive vapors came into contact with an ignition source. An explosion could cause impacts to individuals and structures in the area due to overpressure.

For all affected facilities, risks to the public are reduced if there is a buffer zone between industrial processes and residences or other sensitive land uses, or the prevailing wind blows away from residential areas and other sensitive land uses. The risks posed by operations at each facility are unique and determined by a variety of factors. The areas affected by the proposed amendments are typically located in industrial and commercial areas.

## Regulatory Background

There are many federal and state rules and regulations that facilities handling hazardous materials must comply with which serve to minimize the potential impacts associated with hazards at these facilities.

Under the Occupational Safety and Health Administration (OSHA) regulations [29 Code of Federal Regulations (CFR) Part 1910], facilities which use, store, manufacture, handle, process, or move highly hazardous materials must prepare a fire prevention plan. In addition, 29 CFR Part 1910.119, Process Safety Management (PSM) of Highly Hazardous Chemicals, and Title 8 of the California Code of Regulations, General Industry Safety Order §5189, specify required prevention program elements to protect workers at facilities that handle toxic, flammable, reactive, or explosive materials.

Section 112 (r) of the Clean Air Act Amendments of 1990 [42 U.S.C. 7401 et. Seq.] and Article 2, Chapter 6.95 of the California Health and Safety Code require facilities that handle listed regulated substances to develop Risk Management Programs (RMPs) to prevent accidental releases of these substances, U.S. EPA regulations are set forth in 40 CFR Part 68. In California, the California Accidental Release Prevention (CalARP) Program regulation (CCR Title 19, Division 2, Chapter 4.5) was issued by the Governor's Office of Emergency Services (OES). RMPs consist of three main elements: a hazard assessment that includes off-site consequences analyses and a five-year accident history, a prevention program, and an emergency response program.

Affected facilities that store materials are required to have a Spill Prevention Control and Countermeasures (SPCC) Plan per the requirements of 40 Code of Federal Regulations, Section 112. The SPCC is designed to prevent spills from on-site facilities and includes requirements for secondary containment, provides emergency response procedures, establishes training requirements, and so forth.

The Hazardous Materials Transportation (HMT) Act is the federal legislation that regulates transportation of hazardous materials. The primary regulatory authorities are the U.S. Department of Transportation, the Federal Highway Administration, and the Federal Railroad Administration. The HMT Act requires that carriers report accidental releases of hazardous materials to the Department of Transportation at the earliest practical moment (49 CFR Subchapter C). The California Department of Transportation (Caltrans) sets standards for trucks in California. The regulations are enforced by the California Highway Patrol.

California Assembly Bill 2185 requires local agencies to regulate the storage and handling of hazardous materials and requires development of a plan to mitigate the release of hazardous materials. Businesses that handle any of the specified hazardous materials must submit to government agencies (i.e., fire departments), an inventory of the hazardous materials, an emergency response plan, and an employee training program. The information in the business plan can then be used in the event of an emergency to determine the appropriate response action, the need for public notification, and the need for evacuation.

Contra Costa County has adopted an industrial safety ordinance that addresses the human factors that lead to accidents. The ordinance requires stationary sources to develop a written human factors program that includes considers human factors as part of process hazards analyses, incident investigations, training, operating procedures, among others.

## Discussion of Impacts

**VII a, b, and d.** It is expected that the proposed amendments to Regulation 8-20 will lead to a reduction in VOC emissions from existing graphic art printing and coating operations thus reducing ROG emissions.

The 2005 Ozone Strategy EIR evaluated the potential impacts of reformulating coatings and solvent to regulate VOC emissions. It is expected that VOC content limits required for coatings and consumer products can be achieved, in part, through the use of coatings and products reformulated with acetone or other exempt solvents. Acetone is a compound exempt from air quality rules and regulations because of its low reactivity. With regard to possible replacement solvents, CARB indicates that the trend in coatings technology is to replace solvents with less toxic/less hazardous coalescing solvents. Additionally, CARB staff indicates that a majority of water-based formulations do not contain solvents that are hazardous air pollutants (BAAQMD, 2005).

As shown in Table 3-6, the flammability classifications by the National Fire Protection Association (NFPA) are the same for acetone, t-butyl acetate, toluene, xylene, MEK, isopropanol, butyl acetate, and isobutyl alcohol. Recognizing that as a “worst-case,” acetone has the lowest flash point, it still has the highest Lower Explosive Limit, which means that acetone vapors will not cause an explosion unless the vapor concentration exceeds 26,000 ppm. Under operating guidelines of working with flammable coatings under well-ventilated areas, as prescribed by the fire department codes, it would be difficult to achieve concentrated streams of such vapors.

**TABLE 3  
Chemical Characteristics for Common Coating Solvents**

Chemical Compounds	Flashpoint (°F)	Lower Explosive Limit (% by Vol.)	Flammability Classification (NFPA)
Toluene	40	1.3	Serious
Xylene	90	1.1	Serious
MEK	21	2.0	Serious
Isopropanol	53	2.0	Serious
Butyl Acetate	72	1.7	Serious
Isobutyl Alcohol	82	1.2	Serious
Stoddard Solvent	140	0.8	Moderate
Petroleum Distillates (Naptha)	105	1.0	Severe
EGBE	141	1.1	Moderate
EGME	107	2.5	Moderate
EGEE	120	1.8	Moderate
Acetone	1.4	2.6	Serious
Di-Propyl Glycol	279	1	Slight
Propylene Glycol	210	2.6	Slight
Ethylene Glycol	232	3.2	Slight
Texanol	248	0.62	Slight
Oxsol 100	109	0.90	Slight
t-Butyl Acetate	59	1.5	Serious
Hexamethylene Diisocyanate	284	1	Slight
Methylene Bisphenyl Diisocyanate	385	1	Slight
Toluene Diisocyanate	270	1	Slight
Source: BAAQMD, 2005			

As a “worst-case” assumption, from a hazards standpoint, it is assumed most affected inks and solvents would be reformulated with acetone to meet the interim and final VOC content limits. However this is unlikely because numerous water-based products have already been developed and because acetone is incompatible with rubber press parts. The labels and MSDSs accompanying acetone-based products caution the user regarding acetone’s flammability and advise the user to “keep the container away from heat, sparks, flame and all other sources of ignition.” All of the large coating manufacturers currently offer pure acetone for sale in quart or gallon containers with similar warnings.

The fire departments regulate spray application of flammable or combustible liquids. They require no open flame, spark-producing equipment or exposed surfaces exceeding the ignition temperature of the material being used within the area. Anyone not complying with the guidelines would be in violation of the current

fire codes. The fire departments limit residential storage of flammable liquids to five gallons and recommends storage in a cool place. If the flammable coating container will be exposed to direct sunlight or heat, storage in cool water is recommended. Finally, all metal containers involving the transfer of five gallons or more should be grounded and bonded (BAAQMD, 2005).

Based upon the above considerations, hazard impacts and impacts to fire departments are expected to be less than significant. Similarly, any increase in future compliant coating materials would be expected to result in a concurrent reduction in the number of accidental releases of coating materials. As a result, the net number of accidental releases would be expected to remain constant. Furthermore, if manufacturers use solvents such as Texanol, propylene glycol, etc., in future compliant water-borne coatings, no significant adverse hazard impacts would be expected to occur, because in general, these solvents are less flammable solvents as rated by the NFPA.

**VII c.** Facilities impacted by Regulation 8-20 may be located within one-quarter mile of school sites. The amendments to Regulation 8-20 are expected to result in a reduction in VOC emissions associated with graphic art facilities and a related reduction in toxic air contaminants. Alternative solvents are expected to be less toxic than petroleum based solvents and materials. Therefore, no significant impact to schools is expected due to the proposed rule amendments.

**VII d.** Most affected facilities are expected to comply with the proposed amendments to Regulation 8-20 by shifting from petroleum-based cleaning solvents to water-based solvents and by using lower VOC flexographic ink on porous substrates. A lower applicability limit will include some smaller facilities. No impacts on hazardous material sites are anticipated from the proposed rule amendments that would typically apply to existing industrial or commercial operations. Some of the affected areas may be located on the hazardous materials sites list pursuant to Government Code Section 65962.5. However, the proposed rule amendments would have no effect on hazardous materials nor would the amendment create a significant hazard to the public or environment. The proposed rule amendments neither require, nor are likely to result in, activities that would affect hazardous materials or existing site contamination. Therefore, no significant adverse impacts on hazards are expected.

**VII e – f.** No impacts on airports or airport land use plans are anticipated from the proposed rule amendments, which would apply to graphic art printing and coating operations. The graphic art printing and coating operations that already exist are located within the confines of existing industrial or commercial facilities. Once the proposed amendment is implemented, facilities would be expected to comply by shifting from petroleum-based cleaning solvents to water-based solvents and by using lower VOC flexographic ink on porous substrates. Lowering the applicability limits in the rule will include some smaller facilities. These changes are expected to be made within the confines of the existing facilities. No development outside of existing facilities is expected to be required by the proposed amendments to Regulation 8-20. Therefore, no significant adverse impacts on an airport land use plan or on a private air strip are expected.

**VII g.** No impacts on emergency response plans are anticipated from the proposed rule amendments that would apply to existing industrial or commercial facilities. The graphic arts printing and coating operations which already exist are located within the confines of existing industrial or commercial facilities. The proposed rule amendments neither require, nor are likely to result in, activities that would impact the emergency response plan, and new industrial or commercial development would consider emergency response as part of the City/County General Plans prior to approval. Therefore, no significant adverse impacts on emergency response plans are expected.

**VII h.** No increase in hazards related to wildfires are anticipated from the proposed rule amendments. The graphic art printing and coating operations affected by the proposed amendments that already exist and those that will become affected by the lower applicability limit are located within the confines of existing industrial or commercial facilities. No increase in exposure to wildfires will occur due to the proposed amendments to Regulation 8-20.

Based upon these considerations, no significant adverse hazards and hazardous materials impacts are expected from the implementation of the proposed rule amendments.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
--	--------------------------------	---	------------------------------	-----------

**VIII. HYDROLOGY AND WATER QUALITY.**

Would the project:

a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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, tsunami, 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 industrial or commercial facilities affected by the proposed rule amendments are located throughout the Bay Area. Affected areas are generally surrounded by other industrial or commercial facilities. Reservoirs and drainage streams are located throughout the area and discharge into the Bays. Marshlands incised with numerous winding tidal channels containing brackish water are located throughout the Bay Area.

The affected areas are located within the San Francisco Bay Area Hydrologic Basin. The primary regional groundwater water-bearing formations include the recent and Pleistocene (up to two million years old) alluvial deposits and the Pleistocene Huichica formation. Salinity within the unconfined alluvium appears to increase with depth to at least 300 feet. Water of the Huichica formation tends to be soft and relatively high in bicarbonate, although usable for domestic and irrigation needs.

## Regulatory Background

The Federal Clean Water Act of 1972 primarily establishes regulations for pollutant discharges into surface waters in order to protect and maintain the quality and integrity of the nation's waters. This Act requires industries that discharge wastewater to municipal sewer systems to meet pretreatment standards. The regulations authorize the U.S. EPA to set the pretreatment standards. The regulations also allow the local treatment plants to set more stringent wastewater discharge requirements, if necessary, to meet local conditions.

The 1987 amendments to the Clean Water Act enabled the U.S. EPA to regulate, under the National Pollutant Discharge Elimination System (NPDES) program, discharges from industries and large municipal sewer systems. The U.S. EPA set initial permit application requirements in 1990. The State of California, through the State Water Resources Control Board, has authority to issue NPDES permits, which meet U.S. EPA requirements, to specified industries.

The Porter-Cologne Water Quality Act is California's primary water quality control law. It implements the State's responsibilities under the Federal Clean Water Act but also establishes state wastewater discharge requirements. The RWQCB administers the state requirements as specified under the Porter-Cologne Water Quality Act, which include storm water discharge permits. The water quality in the Bay Area is under the jurisdiction of the San Francisco Bay Regional Water Quality Control Board.

In response to the Federal Act, the State Water Resources Control Board prepared two state-wide plans in 1991 and 1995 that address storm water runoff: the California Inland Surface Waters Plan and the California Enclosed Bays and Estuaries Plan, which have been updated in 2005 as the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California. Enclosed bays are indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. San Francisco Bay, and its constituents parts, including Carquinez Strait and Suisun Bay, fall under this category.

The San Francisco Bay Basin Plan identifies the: (1) beneficial water uses that need to be protected; (2) the water quality objectives needed to protect the designated beneficial water uses; and (3) strategies and time schedules for achieving the water quality objectives. The beneficial uses of the Carquinez Strait that must be protected which include water contact and non-contact recreation, navigation, ocean commercial and sport fishing, wildlife habitat, estuarine habitat, fish spawning and migration, industrial process and service supply, and preservation of rare and endangered species. The Carquinez Strait and Suisun Bay are included on the 1998 California list as impaired water bodies due to the presence of chlordane, copper, DDT, diazinon, dieldrin, dioxin and furan compounds, mercury, nickel, PCBs, and selenium.

## Discussion of Impacts

**VIII a, f.** No significant adverse impacts on hydrology/water quality resources are anticipated from the proposed rule amendments, which would apply primarily to existing graphic art printing and coating operations. The proposed rule amendments are not expected to require additional water use and no increase in wastewater discharge is expected. Therefore, no violation of any water quality standards or waste discharge requirements, and no decrease in water quality is expected from the proposed amendments to Regulation 8-20.

**VIII b.** The graphic art printing and coating operations affected by the proposed rule amendments already exist and are primarily located within the confines of existing industrial or commercial facilities. The 2005 Ozone Strategy addressed the impacts of control measures on water demand. The proposed amendments to Regulation 8-20 are not expected to require additional water use. Therefore, the proposed amendments are not expected to deplete groundwater supplies or interfere with groundwater recharge. Therefore, no significant impacts on groundwater supplies are expected due to the proposed amendments to Regulation 8-20.

**VIII c - f.** Graphic arts printing and coating operations are expected to comply by shifting from petroleum-based cleaning solvents to water-based solvents; lowering the VOC standard for flexographic ink used on porous substrates; and lowering applicability limits to include smaller facilities. All affected equipment is primarily located in industrial or commercial areas, where storm water drainage has been controlled and no construction activities outside of the existing facilities are expected to be required. Therefore, the proposed amendments are 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 are the proposed amendments expected to create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. The proposed amendments are not expected to substantially degrade water quality. Therefore, no significant adverse impacts to storm water runoff are expected.

**VIII g – i.** The graphic arts printing and coating operations affected by the proposed rule amendments are primarily located within industrial and commercial areas. No major construction activities outside the boundaries of existing facilities are expected due to the adoption of the proposed amendments to Regulation 8-20. Industrial and commercial facilities are generally located to avoid flood zone areas and other areas subject to flooding. The proposed amendments are not expected to require additional construction activities,

place any additional structures within 100-year flood zones, or other areas subject to flooding. Therefore, no significant adverse impacts due to flooding are expected.

**VIII j.** The graphic arts printing and coating operation facilities affected by the proposed rule amendments are located within industrial and commercial areas. No major construction activities are expected outside of the boundaries of the existing facilities due to the adoption of the proposed amendments to Regulation 8-20. The proposed amendments are 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.

Based upon these considerations, no significant adverse hydrology and water quality impacts are expected from the implementation of the proposed rule amendments.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>IX. LAND USE AND PLANNING.</b> 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 industrial and commercial areas throughout the Bay Area.

## Regulatory Background

Land uses are generally protected and regulated by the City and/or County General Plans through land use and zoning requirements.

## Discussion of Impacts

**IX a-c.** The graphic arts printing and coating operations affected by the proposed rule amendments already exist and are primarily located within the confines of existing industrial or commercial facilities. Industrial or commercial facilities are expected to comply with Regulation 8-20 by shifting from petroleum-based cleaning solvents to water-based solvents; lowering the VOC standard for flexographic ink used on porous substrates; and meeting lower applicability limits for applicable smaller facilities. These operational changes are expected to be made within the confines of existing facilities. Regulation 8, Rule 20 allows the use of abatement equipment, typically thermal oxidizers, catalytic oxidizers or carbon adsorption as an alternative to meeting the VOC standards, but, the District does not expect an increased use of abatement equipment to comply with the rule. Consequently, no new construction outside of the confines of the existing facilities is expected to be required due to the adoption of the proposed amendments to Regulation 8-20.

Based upon these considerations, no significant adverse impacts to land use are expected due to the proposed rule amendments.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>X. MINERAL RESOURCES.</b> 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 facilities affected by the proposed rule amendments are primarily located in industrial and commercial areas throughout the Bay Area.

## Regulatory Background

Mineral resources are generally protected and regulated by the City and/or County General Plans through land use and zoning requirements.

## Discussion of Impacts

**X a-b.** The graphic arts printing and coating operations affected by the proposed rule amendments already exist and are primarily located within the confines of existing industrial and commercial facilities. New graphic art printing and coating operations equipment are expected to be installed in areas similar to the existing facilities. The proposed rule amendments are not associated with any action that would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state, or of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. Therefore, no impacts on mineral resources are expected.

Based upon these considerations, significant mineral resource impacts are not expected from the implementation of the proposed rule amendments.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>XI. NOISE. Would the project:</b>				
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) Result in 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) Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be located 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 rule amendments are primarily located in industrial or commercial areas throughout the Bay Area. A majority of the affected areas are surrounded by other industrial or commercial facilities.

## Regulatory Background

Noise issues related to construction and operation activities are addressed in local General Plan policies and local noise ordinance standards. The General Plan and noise ordinances generally establish allowable noise limits within different land uses including residential areas, other sensitive use areas (e.g., schools, churches, hospitals, and libraries), commercial areas, and industrial areas.

## Discussion of Impacts

**XI a-d.** The graphic art printing and coating operations affected by the proposed rule amendments already exist and are primarily located within the confines of existing industrial and commercial facilities. The rule amendments impose limitations on the VOC emissions from these operations. Affected facilities are expected to comply by shifting from petroleum-based cleaning solvents to water-based; lowering the VOC standard for flexographic ink used on porous substrates; and lowering the rule's applicability limits to include some smaller facilities.

No new construction activities would be required due to the adoption of the proposed amendments to Regulation 8-20. No noise impacts associated with construction would result from adoption of the proposed rule. No increase in noise is expected due to operation of graphic art printing and coating operations. All activities associated with affected facilities will be located within the confines of existing facilities. Therefore, no adverse significant impacts to noise are expected due to the proposed project.

**XI a-d.** Owners/operators of facilities affected by the proposed rule amendments would be required to comply by shifting from petroleum-based cleaning solvents to water-based solvents; adhering to lower VOC standards for flexographic ink used on porous substrates and meeting the lower exemption limits for smaller facilities. Physical modifications or operational changes associated with the implementation of the proposed amendments will take place at existing facilities that are located in industrial and commercial settings. The existing noise environment at each of the affected facilities is typically dominated by noise from existing equipment onsite, vehicular traffic around the facilities, and trucks entering and exiting facility premises. No construction activities are anticipated for implementation of the proposed rule amendments. Noise from the proposed project is not expected to be produced in excess of current operations at each of the existing facilities. Each facility affected will comply with all existing noise control laws or ordinances. Occupational Safety and Health Administration (OSHA) and California-OSHA (Cal/OSHA) have established noise standards to protect worker health. Noise impacts from the proposed rule amendments are expected to be less than significant.

**XI e-f.** Though some of the facilities affected by the proposed project are located at sites within an airport land use plan, or within two miles of a public airport, no new equipment is expected to be required due to amendments to Regulation 8-20. All noise producing equipment must comply with local noise ordinances and applicable OSHA or Cal/OSHA workplace noise reduction requirements. Based upon the above considerations, significant noise impacts are not expected from the implementation of the proposed project.

Based upon these considerations, significant noise impacts are not expected from the implementation of the proposed rule amendments.

	Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>XII. POPULATION AND HOUSING.</b> 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 rule amendments are primarily located in industrial and commercial areas throughout the Bay Area.

## Regulatory Background

Population and housing growth and resources are generally protected and regulated by the City and/or County General Plans through land use and zoning requirements.

## Discussion of Impacts

**XII. a.** Construction activities are not expected to be associated with the proposed rule amendments. Implementation of the rule amendments at each affected facility is not expected to involve the relocation of individuals, require new housing or commercial facilities, or change the distribution of the population. No new employees are expected to be required at facilities affected by the amendments to Regulation 8-20. 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.

**XII b-c.** Because the proposed amendments include operations at existing facilities located in industrial and commercial settings, the proposed project is not expected to result in the creation of any industry that would affect population growth, directly or indirectly induce the construction of single- or multiple-family units, or

require the displacement of people or housing elsewhere in the Bay Area. Based upon these considerations, significant population and housing impacts are not expected from the implementation of the proposed project.

Based upon these considerations, significant population and housing impacts are not expected from the implementation of the proposed rule amendments.

---

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
--	--------------------------------	---	------------------------------	-----------

---

**XIII. PUBLIC SERVICES.** Would the project:

a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:

Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<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 rule amendments are primarily located in industrial or commercial areas throughout the Bay Area.

Given the large area covered by the BAAQMD, public services are provided by a wide variety of local agencies. Fire protection and police protection/law enforcement services within the BAAQMD are provided by various districts, organizations, and agencies. There are several school districts, private schools, and park departments within the BAAQMD. Public facilities within the BAAQMD are managed by different county, city, and special-use districts.

**Regulatory Background**

City and/or County General Plans usually contain goals and policies to assure adequate public services are maintained within the local jurisdiction.

**Discussion of Impacts**

XIII a. Implementation of the proposed rule amendments is not anticipated to significantly alter current operations at existing affected facilities. The proposed project is not expected to increase the need or demand for additional public services (e.g., fire departments, police departments, schools, parks, and government) above current levels.

As noted in the “Population and Housing” discussion above, the proposed rule amendments are not expected to induce population growth in any way because the local labor pool (e.g., workforce) is expected to be sufficient to accommodate any additional activities that may be necessary at affected facilities and operational changes and new or modified equipment, if any, 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.

As noted in the “Hazard and Hazardous Materials” discussion above, the proposed rule amendments are not expected to result in significant hazard impacts that would require the services of the fire department. Facilities affected by the proposed rule amendments are generally located in industrial and commercial areas and operational changes are expected to occur within the confines of existing facilities. Therefore, no significant impacts to the local fire or police departments are expected.

Based upon these considerations, significant public services impacts are not expected from the implementation of the proposed rule amendments.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>XIV. RECREATION.</b> 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 areas affected by the proposed rule amendments are located in industrial and commercial areas throughout the Bay Area. Public recreational land uses are generally located adjacent to these areas.

## Regulatory Background

Recreational areas are generally protected and regulated by the City and/or County General Plans at the local level through land use and zoning requirements. Some parks and recreation areas are designated and protected by state and federal regulations.

## Discussion of Impacts

**XIV a-b.** As discussed under “Land Use” above, there are no provisions of the proposed project that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments; no land use or planning requirements will be altered by the proposed project. Further, the proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities or include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment because the proposed project is not expected to induce population growth. Therefore, no significant adverse impacts on recreation are expected.

Based upon these considerations, significant recreation impacts are not expected from the implementation of the proposed rule amendments.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
--	--------------------------------	---	------------------------------	-----------

**XV. TRANSPORTATION/TRAFFIC.** Would the project:

a) Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Cause, either individually or cumulatively, exceedance of a level-of-service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?	<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). 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 2000. The portion of commuters that carpool was about 12.9 percent in 2000. About 3.2 percent of commuters walked to work

in 2000. In addition, other modes of travel (bicycle, motorcycle, etc.), account for 2.2 percent of commuters in 2000 (MTC, 2004). Cars, buses, and commercial vehicles travel about 143 million miles a day (2000) on the Bay Area Freeways and local roads. Transit serves about 1.7 million riders on the average weekday (MTC, 2004).

The region is served by numerous interstate and U.S. freeways. On the west side of San Francisco Bay, Interstate 280 and U.S. 101 run north-south. U.S. 101 continues north of San Francisco into Marin County. Interstates 880 and 660 run north-south on the east side of the Bay. Interstate 80 starts in San Francisco, crosses the Bay Bridge, and runs northeast toward Sacramento. Interstate 80 is a six-lane north-south freeway which connects Contra Costa County to Solano County via the Carquinez Bridge. State Routes 29 and 84, both highways that allow at-grade crossings in certain parts of the region, become freeways that run east-west, and cross the Bay. Interstate 580 starts in San Rafael, crosses the Richmond-San Rafael Bridge, joins with Interstate 80, runs through Oakland, and then runs eastward toward Livermore. From the Benicia-Martinez Bridge, Interstate 680 extends north to Interstate 80 in Cordelia. Caltrans constructed a second freeway bridge adjacent and east of the existing Benicia-Martinez Bridge. The new bridge consists of five northbound traffic lanes. The existing bridge was re-striped to accommodate four lanes for southbound traffic. Interstate 780 is a four lane, east-west freeway extending from the Benicia-Martinez Bridge west to I-80 in Vallejo.

## Regulatory Background

Transportation planning is usually conducted at the 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 that implements the Transportation Improvement and Growth Management Program, and the congestion management plans (CMPs). The CMP identifies a system of state highways and regionally significant principal arterials and specifies level of service standards for those roadways.

## Discussion of Impacts

**XV a-b.** The proposed emission reductions would be accomplished by shifting from petroleum-based cleaning solvents to water-based solvents; by using lower VOC flexographic ink on porous substrates; and by complying with the lower exemption limit. The proposed rule amendments are not expected to require the construction of any new structures and are not expected to require additional employees. Therefore, the proposed project is not expected to cause an increase in traffic on local street systems surrounding the affected facilities. Also, the proposed rule amendments are not expected to exceed, either individually or cumulatively, the current level of service of the areas surrounding the affected facilities. The work force at each affected facility is not expected to increase as a result of the proposed rule amendments and no increase in operation-related traffic is expected. Thus, the traffic impacts associated with the proposed rule amendments are expected to be less than significant.

**XV c.** Though some of the facilities that will be affected by the proposed project may be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, actions that would be taken to comply with the proposed rule amendments are not

expected to significantly influence or affect air traffic patterns because the actions will occur on-site for existing facilities within similar commercial and industrial areas for new facilities. Further, the proposed rule amendments would not be expected to affect navigable air space. Thus, the proposed project would not result in a change in air traffic patterns, including an increase in traffic levels or a change in location, that results in substantial safety risks.

**XV d - e.** The siting of each affected facility is expected to be consistent with surrounding land uses and traffic/circulation in the surrounding areas of the affected facilities. Thus, the proposed rule amendments are not expected to substantially increase traffic hazards or create incompatible uses at or adjacent to the affected facilities. The proposed rule amendments are not expected to alter the existing long-term circulation patterns, nor are they expected to require a modification to circulation, thus, no long-term impacts on the traffic circulation system are expected to occur. The proposed rule amendments do not involve construction of any roadways, so there would be no increase in roadway design feature that could increase traffic hazards. Emergency access at each affected facility is not expected to be impacted by the proposed rule amendments. Further, each affected facility is expected to continue to maintain their existing emergency access gates and will not be impacted by the proposed rule amendments.

**XV f.** No additional parking will be needed because the work force at each facility is not expected to change as a result of the proposed project. Therefore, the proposed rule amendments will not result in significant adverse impacts on parking.

**XV g.** Operation 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 changes related to the proposed project will occur primarily in existing industrial and commercial areas.

Based upon these considerations, significant transportation/traffic impacts are not expected from the implementation of the proposed rule amendments.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less-than-Significant Impact	No Impact
--	--------------------------------	---	------------------------------	-----------

**XVI. UTILITIES AND 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**

The BAAQMD covers all of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties and portions of southwestern Solano and southern Sonoma Counties. The area of coverage is vast (about 5,600 square miles) so that land uses and the affected environment vary greatly throughout the area.

Given the large area covered by the BAAQMD, public utilities are provided by a wide variety of local agencies. The most affected facilities have wastewater and storm water treatment facilities and discharge treated wastewater under the requirements of NPDES permits.

Water is supplied to affected facilities by several water purveyors in the Bay Area. Solid waste is handled through a variety of municipalities, through recycling activities and at disposal sites.

There are no hazardous waste disposal sites within the jurisdiction of the BAAQMD. Hazardous waste generated at area facilities, which is not reused on-site, or recycled off-site, is disposed of at a licensed in-state hazardous waste disposal facility. Two such facilities are the Chemical Waste Management Inc. (CWMI) Kettleman Hills facility in King's County and the Safety-Kleen facility in Buttonwillow (Kern County). Hazardous waste can also be transported to permitted facilities outside of California. The nearest out-of-state landfills are U.S. Ecology, Inc., located in Beatty, Nevada; USPCI, Inc., in Murray, Utah; and Envirosafe Services of Idaho, Inc., in Mountain Home, Idaho. Incineration is provided at the following out-of-state facilities: Aptus, located in Aragonite, Utah and Coffeyville, Kansas; Rollins Environmental Services, Inc., located in Deer Park, Texas and Baton Rouge, Louisiana; Chemical Waste Management, Inc., in Port Arthur, Texas; and Waste Research & Reclamation Co., Eau Claire, Wisconsin.

## Regulatory Background

City and/or County General Plans usually contain goals and policies to assure adequate utilities and service systems are maintain within the local jurisdiction.

## Discussion of Impacts

**XVI a, b, d and e.** The graphic arts printing and coating operations affected by the proposed rule amendments already exist and are primarily located within the confines of existing industrial or commercial facilities. The proposed rule amendments are not expected to generate additional wastewater generated by the affected industrial or commercial facilities. The proposed amendments to Regulation 8-20 are not expected to adversely impact water quality since the use of less toxic exempt solvents is expected to result in equivalent or lesser water quality impacts than solvents that are currently used (CARB, 2007). Therefore impacts on water resources including wastewater treatment requirements, wastewater treatment facilities and water quality are expected to be less than significant.

**XVI c.** Industrial or commercial facilities are expected to comply by shifting from petroleum based cleaning solvents to water based; lowering the VOC standard for flexographic ink used on porous substrates; and lowering applicability limits to include smaller facilities. Therefore, the proposed amendments are not expected to alter the existing drainage or require the construction of new storm water drainage facilities. Nor are the proposed amendments expected to create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. Therefore, no significant adverse impacts on storm drainage facilities are expected.

**XVI f and g.** The proposed rule amendments are not expected to affect the ability of industrial and commercial facilities 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 rule amendments. Facilities are expected to continue to comply with all applicable federal, state, and local statutes and regulations related to solid and hazardous wastes.

Based upon these considerations, significant impacts to utilities and service systems are not expected from the implementation of the proposed rule amendments.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
<b>XVII. MANDATORY FINDINGS OF SIGNIFICANCE.</b>				
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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Discussion of Impacts

**XVII a.** The proposed rule amendments do not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory, as discussed in the previous sections of the CEQA checklist. The proposed rule amendments are expected to result in emission reductions from graphic arts facilities, thus providing a beneficial air quality impact and improvement in air quality. As discussed in Section IV, Biological Resources and Section V, Cultural Resources, no significant adverse impacts are expected to biological or cultural resources.

**XVII b-c.** The proposed amendments are expected to result in emission reductions of VOCs from affected graphic art printing and coating operations, thus providing a beneficial air quality impact and improvement in air quality. The proposed rule amendments are part of a long-term plan to bring the Bay Area into compliance with the state ambient air quality standards for ozone, thus reducing the potential health impacts due to ozone exposure. The proposed rule amendments do not have adverse environmental impacts that are limited individually, but cumulatively considerable when considered in conjunction with other regulatory control projects. The proposed rule amendments are not expected to have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly. No significant adverse environmental impacts are expected.

**Chapter 4****References**

Bay Area Air Quality Management District (BAAQMD), 2001. Revised 2001 San Francisco Bay Area Ozone Attainment Plan for the 1-hour National Ozone Standard, adopted October 24, 2001.

BAAQMD, 2001. Toxic Air Contaminant 2002 Annual Report. June, 2004.

BAAQMD, 2005. Bay Area 2005 Ozone Strategy, Final Program Environmental Impact Report.

BAAQMD, 2007. 2007 BAAQMD Ambient Air Quality Data.

BAAQMD, 2006. Bay Area 2005 Ozone Strategy, January 4, 2006

BAAQMD, 2007. Toxic Air Contaminant Control Program Annual Report 2003 Volume I. August 2007.

BAAQMD, 2008. BAAQMD Regulation 8, Rule 20: Graphic Arts Printing and Coating Operations, Workshop Report, June 2008.

California Air Resources Board (CARB, 2008). "Initial Statement of Reasons, Proposed Amendments to the Consumer Products Regulation, Technical Support Document," May 9, 2008.

California Air Resources Board (CARB, 2007). Staff Report for Proposed Amendments to the Suggested Control Measure for Architectural Coatings, September 2007.

Metropolitan Transportation Commission (MTC), 2004. 2030 Transportation Plan Environmental Impact Report, State Clearinghouse (No. 2004022131).

SCAQMD, 2006. Final Subsequent Assessment for Proposed Amended Rule 1171 – Solvent Cleaning Operations, May 23, 2006.