



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

BOARD OF DIRECTORS
STATIONARY SOURCE COMMITTEE MEETING

COMMITTEE MEMBERS

JOHN AVALOS - CHAIRPERSON
TOM BATES
SCOTT HAGGERTY
NATE MILEY
JIM SPERING

CAROLE GROOM - VICE CHAIRPERSON
SUSAN GARNER
ERIC MAR
MARY PIEPHO

MONDAY
MARCH 19, 2012
10:30 A.M.

4th FLOOR CONFERENCE ROOM
939 ELLIS STREET
SAN FRANCISCO, CA 94109

AGENDA

1. **CALL TO ORDER - ROLL CALL**
2. **PUBLIC COMMENT PERIOD** (*Public Comment on Non-Agenda Items Pursuant to Government Code § 54954.3*) Members of the public are afforded the opportunity to speak on any agenda item. All agendas for regular meetings are posted at Air District headquarters, 939 Ellis Street, San Francisco, CA, and on the Air District's website www.baaqmd.gov 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 authority. Speakers will be limited to three (3) minutes each.
3. **APPROVAL OF MINUTES OF JANUARY 9, 2012**
4. **PROPOSED AMENDMENTS TO REGULATION 9, RULE 10: NO_x AND CO FROM BOILERS, STEAM GENERATORS AND PROCESS HEATERS IN PETROLEUM REFINERIES**

H. Hilken/4642
hhilken@baaqmd.gov

The Committee will receive a report on proposed amendments to Regulation 9, Rule 10 which limits nitrogen oxides (NO_x) and carbon monoxide (CO) emissions from boilers, steam generators and process heaters operating in petroleum refineries.

5. **UPDATE ON LEHIGH SOUTHWEST CEMENT PLANT**

B. Bateman/4653
bbateman@baaqmd.gov

The Committee will receive an update on the Lehigh Southwest Cement Plant.

6. **COMMITTEE MEMBER COMMENTS/OTHER BUSINESS**

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).

7. **TIME AND PLACE OF NEXT MEETING** –Monday, May 21, 2012, **TENTATIVELY:** City of Cupertino, City Hall, 10300 Torre Avenue, Cupertino, California 95014 at 10:30 a.m.

8. **ADJOURNMENT**

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

(415) 749-5130

FAX: (415) 928-8560

BAAQMD homepage:

www.baaqmd.gov

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

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

EXECUTIVE OFFICE:
MONTHLY CALENDAR OF DISTRICT MEETINGS

MARCH 2012

<u>TYPE OF MEETING</u>	<u>DAY</u>	<u>DATE</u>	<u>TIME</u>	<u>ROOM</u>
Advisory Council Regular Meeting <i>(Meets 2nd Wednesday each Month)</i>	Wednesday	14	9:00 a.m.	Board Room
Board of Directors Public Outreach Committee	Thursday	15	9:30 a.m.	4 th Floor Conf. Room
Board of Directors Executive Committee <i>(Meets 3rd Monday of each Month)</i>	Monday	19	9:30 a.m.	4 th Floor Conf. Room
Board of Directors Stationary Source Committee <i>(Meets 3rd Monday Every Other Month)</i>	Monday	19	10:30 a.m.	4 th Floor Conf. Room
Board of Directors Legislative Committee <i>(At the Call of the Chair)</i>	Wednesday	21	9:00 a.m.	4 th Floor Conf. Room
Board of Directors Regular Meeting <i>(Meets 1st & 3rd Wednesday of each Month)</i>	Wednesday	21	9:45 a.m.	Board Room
Board of Directors Mobile Source Committee <i>(Meets 4th Thursday each Month)</i> - CANCELLED AND RESCHEDULED TO THURSDAY, MARCH 29, 2012	Thursday	22	9:30 a.m.	4 th Floor Conf. Room
Board of Directors Budget & Finance Committee <i>(Meets the 4th Wednesday Each Month)</i>	Wednesday	28	9:30 a.m.	4 th Floor Conf. Room
Board of Directors Personnel Committee <i>(At the Call of the Chair)</i>	Wednesday	28	11:00 a.m.	4 th Floor Conf. Room
Board of Directors Mobile Source Committee <i>(Meets 4th Thursday each Month)</i> - CANCELLED	Thursday	29	9:30 a.m.	4 th Floor Conf. Room

APRIL 2012

<u>TYPE OF MEETING</u>	<u>DAY</u>	<u>DATE</u>	<u>TIME</u>	<u>ROOM</u>
Board of Directors Regular Meeting <i>(Meets 1st & 3rd Wednesday of each Month)</i>	Wednesday	4	9:45 a.m.	Board Room
Advisory Council Regular Meeting <i>(Meets 2nd Wednesday each Month)</i>	Wednesday	11	9:00 a.m.	Board Room

APRIL 2012

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

MAY 2012

<u>TYPE OF MEETING</u>	<u>DAY</u>	<u>DATE</u>	<u>TIME</u>	<u>ROOM</u>
Board of Directors Regular Meeting <i>(Meets 1st & 3rd Wednesday of each Month)</i>	Wednesday	2	9:45 a.m.	Board Room
Advisory Council Regular Meeting <i>(Meets 2nd Wednesday each Month)</i>	Wednesday	9	9:00 a.m.	Board Room
Board of Directors Regular Meeting <i>(Meets 1st & 3rd Wednesday of each Month)</i>	Wednesday	16	9:45 a.m.	Board Room
Board of Directors Executive Committee <i>(Meets 3rd Monday of each Month)</i>	Monday	21	9:30 a.m.	4 th Floor Conf. Room
Board of Directors Stationary Source Committee <i>(Meets 3rd Monday Every Other Month)</i>	Monday	21	10:30 a.m.	4 th Floor Conf. Room
Board of Directors Budget & Finance Committee <i>(Meets the 4th Wednesday Each Month)</i>	Wednesday	23	9:30 a.m.	4 th Floor Conf. Room
Board of Directors Mobile Source Committee <i>(Meets 4th Thursday each Month)</i>	Thursday	24	9:30 a.m.	4 th Floor Conf. Room

VJ – 3/12/12 (3:10 p.m.)

P/Library/Forms/Calendar/Calendar/Moncal

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Avalos and Members
of the Stationary Source Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: March 10, 2012

Re: Stationary Source Committee Draft Minutes

RECOMMENDED ACTION

Approve attached draft minutes of the Stationary Source Committee meeting of January 9, 2012.

DISCUSSION

Attached for your review and approval are the draft minutes of the January 9, 2012 Stationary Source Committee meeting.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

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

Bay Area Air Quality Management District
939 Ellis Street
San Francisco, California 94109
(415) 771-6000

DRAFT MINUTES

Summary of Board of Directors
Stationary Source Committee Meeting
9:30 a.m., Monday, January 9, 2012

1. Call to Order – Roll Call

Committee Vice Chairperson John Gioia called the meeting to order at 9:33 a.m., without an initial quorum.

Present: Vice Chairperson John Gioia; and Directors David Hudson, Carol Klatt, Eric Mar and John Avalos.

Absent: Chairperson Gayle B. Uilkema; Directors Susan Garner, Jim Spering, and Johanna Partin.

Also Present: None.

2. Public Comment Period: None.

3. Amendments to Regulation 2, Rules 1, 2, 4 and 6

Alexander Crockett, Assistant Counsel, gave the staff presentation regarding Updates to Bay Area Air Quality Management District New Source Review (NSR) and Title V Permitting Programs, Amendments to Regulation 2: Rules 1, 2, 4, and 6. He reviewed the current state of the NSR and Title V Permitting Programs and summarized changes under consideration, including new permit requirements for particulate matter (PM_{2.5}) and greenhouse gases (GHGs), explained the need to obtain U.S. Environmental Protection Agency (EPA) approval of “Prevention of Significant Deterioration” permit regulations, and clarified certain regulatory language. He stated that the amendment process includes a public participation component.

Mr. Crockett described the affected stationary source permitting programs as primarily major stationary sources but also smaller sources pursuant to certain provisions of California law and District regulations, namely “Best Available Control Technology” as it applies to sources emitting 10 pounds per day of “criteria” pollutants, and offset requirements for ozone precursors as they apply to facilities emitting 10 tons per year.

NOTED PRESENT: Director Avalos was noted present at 9:40 a.m.

Mr. Crockett described the difference between NSR, as a pre-construction permitting program with more stringent requirements for non-attainment pollutants (Non-Attainment NSR) and the less stringent requirements for attainment pollutants (Prevention of Significant Deterioration),

and Title V, a program aimed at operating permits whose controlling document will include the pre-construction permitting regulations as well.

Vice Chairperson Gioia requested clarification about components of NSR being included in Title V and discussed same with Mr. Crockett.

Mr. Crockett detailed the regulations to be amended, when they were most recently revised and the need for updates in light of advances in the field since, as follows:

- Rule 2-1 Permits – General Requirements, revised 03-04-2009;
- Rule 2-2 Permits – New Source Review, revised 06-15-2005;
- Rule 2-4 Permits – Emissions Banking, revised 12-21-2004; and
- Rule 2-6 Permits – Major Facility Review, revised 04-16-2006.

Mr. Crockett explained that new federal permitting requirements exist relative to PM_{2.5} and suggested the regulation amendments as the proper course of action in light of the District's designation as a "Non-Attainment" for PM_{2.5} National Ambient Air Quality Standard (NAAQS).

Mr. Crockett suggested:

1. The District must implement "Non-Attainment NSR" requirements for PM_{2.5}, and its precursors, by applying the best available control technology, offsetting new emissions with emission reductions elsewhere, compliance certification and public participation in permitting decisions; and
2. In light of the EPA now treating GHGs as "regulated" air pollutants, NSR regulations must cover major GHG sources under the less stringent "Prevention of Significant Deterioration" program because there are no NAAQSs for GHGs and will require Best Available Control Technology. Additionally, the Title V regulations must be revised so as to cover major GHG sources.

Mr. Crockett briefly explained the federal limits for GHGs.

NOTED PRESENT: Director Mar was noted present at 9:50 a.m. and a quorum was established.

Mr. Crockett explained that while the EPA has approved District "Non-Attainment NSR" and Title V permitting regulations, the EPA has not approved District "Prevention of Significant Deterioration" regulations and therefore, federal not District regulations, apply to this permitting program, leading to much inconsistency and confusion with significant consequences. Mr. Crockett suggested the following be implemented in an effort to alleviate the issue:

- Add PM_{2.5} to District NSR permitting regulations (Reg. 2, Rule 2);
- Add GHGs to District Title V permitting regulations (Reg. 2, Rule 6);
- Develop District "Prevention of Significant Deterioration" Regulations for EPA approval (in Reg. 2, Rule 2); and

- Make non-substantive changes, including clarification of certain regulatory language to aid in implementation and avoid potential misinterpretation and the reorganization of Regulation 2, Rule 2 to follow standard District regulation structure.

Next steps include:

- Draft proposed amendments to be released to the public January 2012;
- Public workshop on or around February 9, 2012, at the MTC office in Oakland;
- Further public outreach and solicitation of input as warranted;
- Develop final proposal; and
- Prepare staff report, CEQA and socioeconomic analyses, and related documentation.

The expected timeframe for completion, after Board consideration and public hearings, is in the summer of 2012.

Mr. Crockett pointed out that there is a December 2012 deadline for getting the PM_{2.5} component complete as the three-year window on the December 2009 non-attainment designation comes to a close for the District at that time.

Committee Comments/Discussion:

Jack Broadbent, Executive Officer/APCO, spoke regarding the highly technical character of this area of air quality management. He added that the establishment of these regulations through coordinated efforts with the EPA will result in a PM_{2.5} offset program for the first time in the Bay Area with the likelihood of significant public response regarding the parameters of the affected program.

Director Hudson, Vice Chairperson Gioia and Mr. Broadbent discussed the timing of additional modifications to District standards as further information comes to light and federal requirements are modified.

Director Mar and Mr. Broadbent discussed anticipated recommendations from environmental groups and how the District's proposal compare to similar regulations in other air districts.

Public Comments: None.

Committee Action: None; informational only.

4. Approval of Minutes of September 29, 2011

Committee Action: Director Hudson made a motion to approve the Minutes of September 29, 2011; Director Klatt seconded the motion; approved unanimously without objection.

5. Proposed Regulation 8, Rule 53: Vacuum Truck Operations

William Thomas Saltz, Air Quality Specialist, gave an overview of Regulation 8, Rule 53 Vacuum Truck Operations, the uses of vacuum trucks and their functioning parts, and photo examples of vacuum trucks in use.

Mr. Saltz detailed the rule development process as:

- Initiation of the project with adoption of the 2010 Clean Air Plan Control Measure SSM-5, a rule that would apply to Petroleum Refineries, Bulk Plants, Bulk Terminals, Marine Terminals, and Organic Liquid Pipeline Facilities;
- Completion of an emissions inventory and extensive outreach to industry;
- Posting of the draft rule in June 2011 and workshops held July 21 and 25, the result of which was the receipt of six comments and a subsequent revised proposal based on same;
- Development of a staff report and final proposed rule;
- Completed socioeconomic analysis and CEQA analysis; and
- This report to the Stationary Source Committee.

Mr. Saltz detailed the intended application of the regulatory proposal, emission limits, exemptions, emissions monitoring and source testing, recordkeeping and reporting requirements.

Mr. Saltz detailed the anticipated control costs by varying methods, proposed a cost effectiveness detail and drew a comparison with other rules regulating organic compounds. He clarified that the majority of the costs would be shouldered by large facilities.

Vice Chairperson Gioia, Director Hudson and Mr. Saltz clarified whether the projected costs were based on per vehicle or per facility figures.

Vice Chairperson Gioia requested from staff a more robust cost comparison that is inclusive of all District rules and that it be delivered at the next meeting.

Next steps include:

- Posting of final documents for public review, including the proposed rule, staff report, CEQA document and socioeconomic analysis document; and
- Receipt and consideration of comments.

The expected timeframe for completion, after Board consideration and public hearings, is in the first quarter of 2012.

Committee Comments/Questions: None.

Public Comments: None.

Committee Action: None; informational only.

6. Committee Member Comments/Other Business:

Vice Chairperson Gioia thanked staff for their presentations to the Committee, and members for their participation.

Vice Chairperson Gioia mentioned the Committee's ongoing efforts to establish a fixed meeting schedule for regular monthly meetings.

7. **Time and Place of Next Meeting:** At the Call of the Chairperson.
8. **Adjournment:** The meeting adjourned at 10:23 a.m.

Sean Gallagher
Clerk of the Boards

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Memorandum

To: Chairperson Avalos and Members
of the Stationary Source Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: March 2, 2012

Re: Proposed Amendments to Regulation 9, Rule 10: NO_x and CO from Boilers, Steam
Generators and Process Heaters in Petroleum Refineries

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

Regulation 9, Rule 10 (Regulation 9-10) limits nitrogen oxides (NO_x) and carbon monoxide (CO) emissions from boilers, steam generators and process heaters operating in petroleum refineries. This regulation was adopted on September 16, 1992 and last amended on December 15, 2010 to implement Control Measure SSM 10 in the 2010 Clean Air Plan.

Regulation 9-10 includes a refinery-wide, average NO_x emission limit for most heaters that were permitted prior to 1994, and includes source-specific NO_x limits for the remaining pre-1994 heaters that are classified as CO boilers. These limits have reduced refinery heater NO_x emissions by as much as 26 tons per day, which is the largest NO_x reduction attributable to a single District NO_x rule.

During the rule development process that led up to the 2010 amendments, refinery operators and District staff discussed possible Regulation 9-10 amendments that would incentivize replacement of older, less efficient heaters. Replacement of older heaters is desirable because new heaters have significantly lower NO_x emissions than the allowable limit in Regulation 9-10, as well as better energy efficiency, resulting in lower carbon dioxide (CO₂) emissions. CO₂ is the primary greenhouse gas and reductions will be necessary to meet AB32 requirements.

Subsequent to the 2010 amendments, District staff has been consulting with refinery operators to develop a heater replacement incentive provision. Staff is preparing draft amendments for a public workshop to solicit public input on such a provision.

DISCUSSION

Staff will provide the Committee with the following information:

- A description of affected equipment and their emissions;
- Background on current rule requirements;
- Draft amendments to Regulation 9, Rule 10;
- Rule development process to date; and
- Remaining steps to a public workshop and hearing.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Julian Elliot
Reviewed by: Henry Hilken

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Memorandum

To: Chairperson Avalos and Members
of the Stationary Source Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: March 9, 2012

Re: Status Report on Lehigh Southwest Cement Plant

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

The Stationary Source Committee has requested periodic status updates on selected Bay Area facilities. The Lehigh Southwest Cement Plant, located in unincorporated Cupertino at the end of Stevens Creek Boulevard, is the only cement manufacturing plant located in the Bay Area.

DISCUSSION

Staff has prepared the attached Fact Sheet for the Lehigh facility. At the upcoming committee meeting staff will provide a status report on air quality issues associated with Lehigh including:

- Background information,
- Title V permit renewal status,
- New and upcoming emissions controls and monitors,
- Updated facility Health Risk Assessment,
- Results of ambient air monitoring in the vicinity of the Lehigh facility,
- Facility compliance status,
- Quarry Reclamation Plan Amendment status,
- Next steps.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Brian Bateman
Reviewed by: Jeff McKay

Attachment



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

LEHIGH SOUTHWEST CEMENT PLANT
BAAQMD Site #A0017
24001 Stevens Creek Boulevard
Cupertino, CA 94014

FACT SHEET

March 5, 2012

Background

- The Lehigh Southwest Cement Plant is located in unincorporated Cupertino at the end of Stevens Creek Boulevard. Mining at the site dates back to the 1880's, and the cement plant was established in 1939.
- The facility excavates limestone from an on-site quarry for use as a raw material in cement manufacturing. The limestone, and other raw materials, are crushed into a fine powder and blended in the correct proportions. This blended raw material is heated in a pre-heater and rotary kiln where it reaches temperatures of about 2,800 degrees Fahrenheit. The fuel used to heat the kiln is currently petroleum coke. The material formed in the kiln, known as "clinker", is cooled and then ground and blended with gypsum to form Portland cement. In addition to cement, the facility also produces and sells construction aggregates.
- Nitrogen oxides (NO_x), sulfur dioxide (SO₂), and particulate matter (PM), are the primary criteria air pollutants emitted from cement manufacturing. Small quantities of volatile organic compounds (VOC), including the toxic air contaminant (TAC) benzene, are also emitted from the kiln. TAC emissions also include trace metals such as mercury, cadmium, chromium, arsenic, and nickel, and hydrochloric acid (HCl). The kiln exhaust is equipped with continuous emissions monitors (CEMs) to determine compliance with applicable emission limitations, and pollutants with CEMs include NO_x and SO₂. A CEM has also recently been installed to determine mercury emissions from the kiln exhaust.
- PM and metallic TAC emissions are controlled at the facility by fabric filtration, which is used at various material crushing, grinding, and loading operations, and at the kiln, which is the largest source of emissions. Additional emission controls, which focus on controlling mercury emissions, include a kiln mill dust collector (KMDC) dust shuttling system (operational since May 2010), and an activated carbon injection (ACI) system (operational since May 2011). A lime slurry injection (LSI) system has also been installed to reduce emissions of HCl and visible emissions.
- Lehigh is subject to a number of Bay Area Air Quality Management District ("District"), State, and federal air quality rules and regulations that are delineated in the facility's Title V Permit. A Title V Permit is a compilation of all existing air quality requirements that apply to a stationary source (facility) including emissions limits and standards, monitoring, record keeping, and reporting requirements.

Lehigh Southwest Cement Plant Fact Sheet

March 5, 2012

- In 2007, Santa Clara County began a process to amend Lehigh's Reclamation Plan, which is required under the State's Surface Mining and Reclamation Act (SMARA) to ensure compliance with State and local mining laws. The County is acting as the Lead Agency under the California Environmental Quality Act (CEQA) for this action, and issued a Draft Environmental Impact Report (DEIR) for the project on December 23, 2011, with a public comment period extending through February 21, 2012. The project description for the Reclamation Plan Amendment in the DEIR has been revised to exclude a new quarry pit, which had been a component included in previous proposals issued.

Public Comments/Issues

- In November 2007, District staff met with representatives of the West Valley Citizen Air Watch (WVCAW) and worked to answer questions from the group and other members of the public about the Quarry Reclamation Plan Amendment proposal, and other air quality issues associated with the facility.
- On October 22, 2008, and June 11, 2009, District staff participated in community meetings organized by Santa Clara County to answer questions about the facility and the Reclamation Plan Amendment. A variety of concerns were expressed at these meetings including the potential location of a new quarry pit close to residential areas, the use of petroleum coke as a fuel, visible emissions from the kiln, general dust emissions and particulate deposition, emissions of toxic air contaminants including mercury and hexavalent chromium, emissions from truck traffic, and the facility's compliance history.
- The District conducted a public hearing in Cupertino on September 17, 2009, to solicit comments on the draft Title V permit renewal for the Lehigh facility. Approximately one hundred individuals or groups provided comments at the hearing, and many additional comments were received in writing.
- Members of the public have raised concerns regarding an Notice of Violation (NOV) issued by the U.S. EPA to the Lehigh facility on March 9, 2010, for alleged violations of the Clean Air Act's Prevention of Significant Deterioration (PSD) permit program. The NOV was part of a national review of PSD applicability for the cement manufacturing industry.

Facility Status

A. Permits

- Lehigh's initial Title V permit was issued on November 5, 2003. Title V permit renewals are required every five years, and the existing Title V permit continues in force until the District takes final action on the renewal application. On July 30, 2009, the District issued an initial draft Title V permit renewal for the Lehigh facility. On

January 5, 2010, the District withdrew this initial draft Title V permit renewal. This was done because EPA had proposed significantly more stringent standards for mercury and other TACs from cement plants in amendments to 40 CFR 63, Subpart LLL, National Emission Standards for Hazardous Air Pollutants (NESHAP) from the Portland Cement Manufacturing Industry. The proposed EPA NESHAP amendments were published on May 6, 2009, and the final amendments were published on September 9, 2010 (the emission standards of the amended NESHAP do not become effective, however, until September 9, 2013). The requirements of this amended NESHAP were incorporated into a revised draft Title V permit renewal, and the draft permit and Statement of Basis were re-issued by the District for public comment on January 7, 2011, with the comment period ending on March 25, 2011. Since that time, District staff has responded to public comments and posted the responses to the District website. The draft Title V permit renewal, including the Statement of Basis and responses to comments, was submitted to EPA on February 16, 2012 for a 45-day review period which ends March 31, 2012. Final action on the Title V permit renewal will be taken after considering any comments received from EPA.

- On May 3, 2011, the District issued a permit for the operation of an Activated Carbon Injection system to control mercury emissions from Lehigh's cement kiln. On July 8, 2011, the District issued a minor revision to incorporate these additional controls and emission limits into Lehigh's Title V permit. On October 17, 2011, the District issued a permit for two synthetic gypsum feeders. On January 9, 2012, the District issued a minor revision to incorporate the applicable requirements for these sources into Lehigh's Title V permit.

B. Compliance

- From July 1, 2004 through December 31, 2011, there were 33 violations at the Lehigh facility that resulted in the issuance of 27 Notices of Violation (NOVs) by the District. The violations can be characterized as emissions-related, administrative, or permit-related in nature. There were 19 emissions-related violations; most were issued for excessive visible emissions of dust or smoke from various facility sources. The facility expeditiously took corrective action and brought these violations into compliance. There were eight administrative violations, which included various recordkeeping deficiencies and late reporting of required reports. Lehigh took corrective action on these violations and brought them into compliance. The six permit-related violations documented unpermitted material stockpiles and synthetic gypsum feeders. Lehigh has obtained the necessary permits and is currently in compliance with District permit requirements. Staff is currently investigating several SO₂ excesses from the cement kiln reported by the facility in September and October 2011. SO₂ excesses had not previously been a compliance issue during this review period. In summary, Lehigh has been in intermittent compliance, similar to many other Title V facilities; there is currently no ongoing violation, or pattern of recurrent violation that represents ongoing noncompliance.

- The NOV issued by U.S. EPA to Lehigh on March 9, 2010, concerns a series of physical modifications made to the facility between 1996 and 1999. EPA alleges that these modifications should have undergone pre-construction PSD permit review, but the owners of the facility at the time failed to apply for a PSD permit, which would have required additional emissions controls for NO_x and SO₂. This NOV is similar to other EPA enforcement actions against various cement plants in other states. EPA has recently informed District staff that the Lehigh NOV remains an active investigation by EPA without final resolution.
- EPA did not include in its NOV any projects at the Lehigh facility that occurred after EPA adopted major reforms to the PSD regulations on December 31, 2002. According to EPA, “[t]hese reforms were aimed at providing much needed flexibility and regulatory certainty, and at removing barriers and creating incentives for sources to improve environmental performance through emissions reductions, pollution prevention, and improved energy efficiency” (*Supplemental Analysis of the Environmental Impact of the 2002 Final NSR Improvement Rule*, U.S. EPA, Nov. 21, 2002). The reforms modified PSD applicability tests which, in some cases, had resulted in projects being identified as a major modification even though the project decreased emissions (because of the program’s “actual-to-potential” applicability test and “last two years” baseline emissions procedure, both of which were eliminated with the reforms).

C. Toxic Air Contaminants

- District staff has conferred with staff of Monterey Bay Unified Air Pollution Control District (MBUAPCD) and South Coast Air Quality Management District (SCAQMD) regarding the reason for elevated levels of hexavalent chromium reported downwind of cement plants located in Davenport and Oro Grande, California. It is believed that these elevated hexavalent chromium levels are the result of the use of steel slag as a raw material and/or the use of uncovered clinker storage piles. The Lehigh facility uses a naturally occurring iron ore that has much lower chromium levels than steel slag, and also utilizes enclosed silos rather than open storage piles for clinker storage.
- The District required that Lehigh collect additional data regarding hexavalent chromium, mercury, other metallic TACs, and crystalline silica, in fugitive dust and other sources at the facility in addition to the kiln. This comprehensive TAC emissions inventory update was submitted to the District on March 30, 2009. After review of these data, the District required Lehigh to revise mercury emission estimates from the kiln by using a more conservative material balance approach (the prior approach for estimating mercury emissions had been based on stack testing as specified in State guidelines). Lehigh was then required by the District to prepare a comprehensive updated Health Risk Assessment (HRA), based on the revised TAC emissions inventory, under the requirements of the state Air Toxics Hot Spots (ATHS) program. The HRA was required to be based on recently updated HRA guidelines issued by Cal/EPA’s Office of Environmental Health Hazard Assessment

(OEHHA) in accordance with the mandate of the Children's Environmental Health Protection Act. Revised HRA procedures include more health protective Reference Exposure Levels (RELs) for mercury and several other TACs, and the use of age sensitivity factors for estimating cancer risks.

- The updated HRA was submitted by Lehigh in September 2010, and District staff subsequently noted several discrepancies and/or errors and requested revisions. A revised HRA was submitted in March 2011. The HRA included multiple emissions scenarios, including a "2011 Production" scenario that considers additions of sorbent (lime and activated carbon) injection to the kiln abatement system that have been implemented, as well as a projected future 2013 scenario that represents additional risk reduction measures necessary to comply with the NESHAP (e.g., a new or modified kiln dust collector with a higher single exhaust stack, and tighter emission standards for mercury and other TACs).
- The updated HRA indicates that, based on the emissions represented by the 2011 Production scenario, risk levels are below the thresholds requiring public notification established by the District under the AHS program. Risks will be further reduced based on the modifications to be made to comply with the NESHAP in 2013. Review by District staff indicated that the HRA was prepared in accordance with the AHS program guidelines. In addition, OEHHA staff reviewed the HRA document and provided comments, but did not note any significant issues. The Lehigh facility remains a "tracking facility" under the AHS program, and is required to periodically update their air toxics emission inventory. Changes in operation and/or increases in emission rates may require the facility to update the HRA in the future.

D. Ambient Air Monitoring

- Due to concerns about elevated hexavalent chromium air concentrations found near some cement plants, the U.S. EPA and the District installed ambient air monitoring equipment at Stevens Creek Elementary School, located approximately two miles from Lehigh, to measure hexavalent chromium as part of EPA's School Air Toxics Monitoring Initiative. The EPA provided the instruments and initial laboratory analysis, and the District installed and operated the monitoring equipment. The monitoring commenced on July 30, 2009, and continued until August 30, 2010. A total of 72 daily samples were taken at this site on a once every 6th day sampling schedule. EPA concluded that hexavalent chromium air concentrations at the site were below levels of concern for short-term and long-term exposures, and did not clearly indicate influence of a nearby source.
- On October 28, 2008, the District began operating an ambient air monitor in the vicinity of the Lehigh facility adjacent to Stevens Creek Boulevard (near the intersection of Prado Vista Drive) to determine if truck traffic and dust associated with the facility were having an adverse impact on PM levels in the nearby community. This monitor continuously recorded particulate matter of 10 microns or less (PM₁₀) in

the air. This monitor operated for approximately two years and recorded average PM₁₀ levels that were less than the levels at the District's San Jose monitoring site (located about 10 miles east of the Cupertino site). Days with elevated PM₁₀ concentrations at both the Cupertino and San Jose sites occurred in the wintertime PM season when wood burning has been identified as a significant source of PM air concentrations in the Bay Area.

- The District has established a comprehensive ambient air monitoring site located about three quarters of a mile from the Lehigh facility at Monta Vista Park near the intersection of South Foothill Boulevard and Voss Avenue in Cupertino. District staff participated in a community meeting to discuss the new monitoring site at the Monta Vista Community Center on April 28, 2010.
- The Monta Vista sampling site began operating on September 1, 2010, and measures air concentrations of a broad array of criteria air pollutants (e.g., PM_{2.5}, PM₁₀, CO, NO₂, SO₂, and ozone), TACs (e.g., a variety of metals including mercury, and a variety of organic gases including benzene), and meteorological conditions (e.g., wind speed, wind direction, and temperature). (Benzene and mercury have been identified by the District as being the primary contributors to health risk resulting from TAC emissions from the Lehigh facility).
- After collecting an entire year of data through the end of August of 2011, District staff developed a summary and analysis of the results. Portions of this follow:

GASES: Cupertino air quality levels were well below all applicable State and National Ambient Air Quality Standards (NAAQS) for gaseous criteria pollutants including ozone, CO, SO₂, and NO₂. In general, levels of criteria pollutants were in the middle of the distribution of Bay Area air monitoring sites, with as many locations measuring levels higher as locations measuring lower than Cupertino. For ozone, levels at Cupertino were below the national standard and similar to Napa and Vallejo. (The District has been designated "non-attainment" for the state and national ambient air quality standards for ozone). NO₂ levels were similar to levels at other suburban locations, including Vallejo, Redwood City and Livermore. The same was true for SO₂ emissions with measurements similar to San Pablo and Concord. CO measurements were among the lowest in the Bay Area, with only the rural location at Bethel Island being lower.

PARTICULATE MATTER: Ambient air quality standards have been established for PM_{2.5} and PM₁₀. For both PM_{2.5} and PM₁₀, there is a 24-hour standard based on daily concentrations, and an annual standard based on the average of all 24-hour concentrations over a one-year period. (The District has been designated as "non-attainment" for the 24-hour and annual state PM₁₀ standards, the annual state PM_{2.5} standard, and the 24-hr national PM_{2.5} standard). Cupertino PM levels were among the lowest in the Bay Area, and did not exceed the 24-hour PM_{2.5} NAAQS nor the 24-hour PM₁₀ NAAQS, with levels similar to Redwood City and Gilroy. The annual average PM_{2.5} levels were also below the NAAQS, and only slightly higher than the

more stringent annual State standard, with levels similar to, but lower than, Livermore.

LEAD: Cupertino lead levels were less than one percent of the State standard, less than 10 percent of the recently revised national standard, and less than levels in San Francisco.

TACs: The District estimated health risks using the ambient monitoring data and health effect values (cancer potency factors, and non-cancer RELs) established by OEHHA. Health risk summaries were provided as follows: cancer risk, chronic non-cancer risk, 8-hour chronic non-cancer risk, and acute non-cancer risk. Health risks were based on the following exposure pathways where applicable under OEHHA HRA guidelines: inhalation, dermal absorption, soil ingestion, mother's milk ingestion, and homegrown produce ingestion. Non-inhalation pathway exposures were estimated based on measured pollutant concentrations and conservative default exposure assumptions established in OEHHA guidelines. Per recently adopted OEHHA guidelines, the estimated cancer risks include an Age Sensitivity Factor to account for inherent increased susceptibility to carcinogens during infancy and childhood.

The calculated lifetime cancer risk at the Cupertino site was approximately 400 in one million. Compounds that contributed most significantly to cancer risk were diesel PM, benzene, 1,3-butadiene, carbon tetrachloride and formaldehyde. This is consistent with analyses of data collected at other urban monitoring sites. These pollutants are emitted primarily from mobile sources, with the exception of carbon tetrachloride. There are no known local sources of carbon tetrachloride due to the phase-out of this compound as a stratospheric ozone-depleting compound. Measured levels of carbon tetrachloride in Cupertino are consistent with global background levels observed at other monitoring sites.

Estimated chronic non-cancer risk was represented by hazard quotient and hazard index. A hazard quotient is the ratio of the observed concentration of a particular compound to the compound's REL. RELs are concentrations at or below which no adverse non-cancer health effects are anticipated to occur in the general human population, including sensitive individuals. The hazard index is taken as the sum of the hazard quotients for each compound that affects the same target organ system (e.g., respiratory system, nervous system, etc.). A hazard index at or below 1 indicates that no adverse effects would be anticipated to occur. A hazard index above 1 does not necessarily indicate adverse health effects.

The 8-hour hazard indices were based on concentrations for the normal 8-hour exposure period for workers, and for children at schools and daycare facilities, that are repeated over an annual period. Note that 8-hour monitoring data are not available, but these concentrations were conservatively estimated by assuming that the entire 24-hour sample was collected over a single 8-hour period (i.e., 8-hour concentrations were assumed to be three times the measured 24-hour

concentration). The acute hazard indices were based on maximum concentrations for a 1-hour period. Note that 1-hour monitoring data are not available, but these concentrations were conservatively assumed to be 7.5 times the maximum 24-hour concentration.

The chronic hazard index based on Cupertino air monitoring data was about 1. The 8-hour chronic hazard index, and the acute hazard index, were both less than 1.

E. Other Activities

- District staff participated in Study Sessions held by the Cupertino City Council to discuss issues associated with the Lehigh facility on January 12, 2010, and July 20, 2010.
- District staff participated in Public Information Forums held by the Town of Los Altos Hills to discuss the Lehigh facility on June 6, 2011, and January 6, 2012. At the most recent Public Information Forum, consultants for the Town summarized the findings of their review of the updated HRA completed for the Lehigh facility, and indicated that no significant deficiencies had been identified
- District staff has begun rule development on Stationary Source Measure 9: Cement Kilns, from the District's 2010 Clean Air Plan (CAP). This rule development project is evaluating more stringent standards for NO_x emissions and other air pollutants for the Lehigh facility. A draft rule (District Regulation 9, Rule 13) was issued on November 17, 2011, and a public workshop was held on December 12, 2011 at the Monta Vista High School in Cupertino. Staff is expected to present the rule to the District's Board of Directors for consideration of adoption in the second quarter of 2012.