



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

BOARD OF DIRECTORS
STATIONARY SOURCE COMMITTEE MEETING

COMMITTEE MEMBERS

GAYLE B. UILKEMA – CHAIRPERSON
SUSAN GARNER
CAROLE GROOM
SCOTT HAGGERTY

JAMES SPERING - VICE CHAIRPERSON
JOHN GIOIA
CAROL KLATT
NATE MILEY

FRIDAY
JULY 23, 2010
9:30 A.M.

7th FLOOR BOARD 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 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 authority. Speakers will be limited to three (3) minutes each.
3. **APPROVAL OF MINUTES OF MAY 13, 2010**
4. **FACILITY UPDATE: LEHIGH CEMENT**

B. Bateman/4653
bbateman@baaqmd.gov

The Committee will receive an update on Lehigh Cement.
5. **REPORT ON ADDITIONAL INFORMATION ON THE PROGRESS OF FLARE MINIMIZATION TRENDS UNDER REGULATION 12, RULE 12: FLARES AT PETROLEUM REFINERIES**

K. Wee/4760
kwee@baaqmd.gov

The Committee will receive additional information on emission trends and the metrics used to measure progress in minimizing flaring under Regulation 12, Rule 12 from 2001 to present for all bay area refineries, as requested at the last meeting.
6. **PROPOSED CEMENT KILN RULE**

H. Hilken/4642
hhilken@baaqmd.gov

The Committee will receive an update on a proposed rule for cement kilns.
7. **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).

8. **TIME AND PLACE OF NEXT MEETING** – 9:30 a.m., Monday, September 27, 2010 – 939 Ellis Street, San Francisco, CA 94109

9. **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

JULY 2010

<u>TYPE OF MEETING</u>	<u>DAY</u>	<u>DATE</u>	<u>TIME</u>	<u>ROOM</u>
Board of Directors Public Outreach Committee Meeting <i>(At the Call of the Chair)</i>	Wednesday	21	9:30 a.m.	4 th Floor Conf. Room
Board of Directors Regular Meeting <i>(Meets 1st & 3rd Wednesday of each Month)</i> - CANCELLED	Wednesday	21	9:45 a.m.	Board Room
Board of Directors Mobile Source Committee <i>(Meets 4th Thursday each Month)</i> - CANCELLED	Thursday	22	9:30 a.m.	4 th Floor Conf. Room
Board of Directors Stationary Source Committee <i>(At the Call of the Chair)</i>	Friday	23	9:30 a.m.	Board Room

AUGUST 2010

<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
Board of Directors Executive Committee <i>(At the Call of the Chair)</i>	Thursday	5	9:30 a.m.	4 th Floor Conf. Room
Board of Directors Regular Meeting <i>(Meets 1st & 3rd Wednesday of each Month)</i>	Wednesday	18	9:45 a.m.	Board Room
Board of Directors Mobile Source Committee <i>(Meets 4th Thursday each Month)</i> - CANCELLED	Thursday	26	9:30 a.m.	4 th Floor Conf. Room

SEPTEMBER 2010

<u>TYPE OF MEETING</u>	<u>DAY</u>	<u>DATE</u>	<u>TIME</u>	<u>ROOM</u>
Board of Directors Regular Meeting <i>(Meets 1st & 3rd Wednesday of each Month)</i>	Wednesday	1	9:45 a.m.	Board Room
Advisory Council Regular Meeting	Wednesday	8	9:00 a.m.	Board Room
Board of Directors Regular Meeting <i>(Meets 1st & 3rd Wednesday of each Month)</i>	Wednesday	15	9:45 a.m.	Board Room

SEPTEMBER 2010

<u>TYPE OF MEETING</u>	<u>DAY</u>	<u>DATE</u>	<u>TIME</u>	<u>ROOM</u>
Joint Policy Committee Special Meeting	Friday	17	10:00 a.m.	MTC Auditorium 101 – 8th Street Oakland, CA 94607
Board of Directors Mobile Source Committee <i>(Meets 4th Thursday each Month)</i>	Thursday	23	9:30 a.m.	4th Floor Conf. Room
Board of Directors Stationary Source Committee <i>(At the Call of the Chair)</i>	Monday	27	9:30 a.m.	Board Room
Board of Directors Maritime Sources & Ports Committee <i>(At the Call of the Chair)</i>	Wednesday	29	9:30 a.m.	4th Floor Conf. Room

HL – 7/15/10 (7:40 a.m.)
P/Library/Forms/Calendar/Calendar/Moncal

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Uilkema and Members
of the Stationary Source Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: July 4, 2010

Re: Stationary Source Committee Draft Minutes

RECOMMENDED ACTION:

Approve attached draft minutes of the Stationary Source Committee meetings of May 13, 2010 and April 12, 2010.

DISCUSSION

Attached for your review and approval are the draft minutes of the May 13, 2010 Stationary Source Committee meetings.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

**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., Thursday, May 13, 2010

Call to Order – Roll Call: Chairperson Gayle Uilkema called the meeting to order at 9:30 a.m.

Present: Gayle B. Uilkema, Chairperson; and Committee Members Susan Garner, John Gioia, Carole Groom, Carol Klatt, Scott Haggerty, David Hudson and Nate Miley

Absent: Vice Chairperson James Spering

Public Comment Period

Bill Almon, Quarry No, opposed operation of the Lehigh Southwest Cement Plant, noted a Notice of Violation was issued, and submitted and read an email into the record which he said was sent to Director Gioia.

Mr. McKay and Mr. Bateman acknowledged the issuance of a Notice of Violation, discussed reasons for deferring of Lehigh's discussion by the Committee, and reviewed the District's work with the EPA.

3. Approval of Minutes of March 5, 2010 and April 12, 2010

Committee Action: Director Haggerty made a motion to approve the Minutes of March 5, 2010 and April 12, 2010; Director Gioia seconded the motion; approved unanimously without objection.

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

Julian Elliot, Senior Air Quality Engineer, provided a presentation of the Regulation 9, Rule 10's history, stating that Regulation 9, Rule 10 was adopted in 1994 and fully implemented by 2002. He said most heaters were subject to a refinery-wide NO_x limit. Each refinery has a limit and daily emissions for heaters which cannot exceed 0.033 lbs of NO_x per MMBTU heat input. Boilers are limited to 150 ppmv NO_x limit. The result is that NO_x emissions are reduced by 26 tons/day, representing a 65% NO_x reduction.

Mr. Elliot provided an explanation of refinery boilers, steam generators, and process heater operations. He presented current NOx limits for heaters and boilers and said new (post-1994) heaters are not subject to Regulation 9, Rule 10 because they are designed to use advance NOx controls and have very low levels. Bay Area refineries operate a total of 179 existing heaters, 11 new heaters, and 6 CO boilers. 2008 NOx emissions total 11.0 tons/day and, because of decreased refinery operations, this level is expected to be reduced for 2009.

Mr. Elliot said staff is proposing to create a new, lower average NOx limit through a dual structure for heaters and boilers and two different levels are proposed for non-cokers and cokers. In addition, there has been activity at refineries which will result in significant reductions. In 2007, a refinery underwent a coker replacement and shutdown of CO boiler and in 2010 a refinery replaced two CO boilers. The cost per ton is estimated at \$2,500 to \$16,000 and even though the range is somewhat uncertain, Mr. Elliot said staff is confident refineries have cost-effective options to meet changes.

Regarding the rule development process, Mr. Elliot reported the following:

- Staff held meetings with each refinery and held a series of meetings with refinery technical consultants to develop a database of refinery heaters, heater emissions and estimated costs for additional NOx control at each heater.
- Cost data was validated using EPA cost estimation tools and discussions with NOx control vendors.
- Staff held a public workshop in February 2010 to solicit comments on proposed CO boiler NOx limits.
- Staff have reviewed comments by refinery operators and WSPA and held additional meetings with both.

Next steps include:

- Preparation of a second draft of proposed rule and solicit comments.
- Preparation of CEQA & socio-economic analyses.
- Public Hearing before Board of Directors in the third quarter of 2010.

Committee Comments/Discussion:

Chairperson Uilkema referred to a newspaper article about an EPA rule and questioned and confirmed that the proposed rule is for boilers; most are natural gas-fired boilers and the standards that EPA is proposing are largely in effect. Mr. Bateman noted that there is a public comment period and the rule will most likely not be finalized for about one year. Staff will review the proposal and determine if it adds any new requirements on top of the District's already stringent rule.

Director Hudson confirmed with Mr. Elliot that cost effective options are within the range that the Board of Directors has accepted in the past.

Public Comments:

Guy Bjerke, WSPA, noted that District staff has been working with the industry and WSPA will respond to the cost effectiveness issue at the time of Board consideration.

Committee Action: None; informational only.

5. Status Report on the Flare Minimization Plans Under Regulation 12, Rule 12: Flares at Petroleum Refineries

Alex Ezersky, Senior Advanced Projects Advisor, gave a presentation on petroleum refinery Flare Minimization Plans (FMPs). He presented a diagram of a typical flare system and noted that each FMP must include basic design and operation of flare gas recovery systems, prevention measures summary, and an additional feasible measures implementation schedule. He noted that Initial FMPs were approved July 16, 2007; the FMP first annual update was approved April 17, 2009 and the second annual update was approved December 29, 2009.

Mr. Ezersky reviewed the first and second FMP updates which focused on capacity and maintenance activities and reported on significant reductions, stating that the FMPs provide for continuous improvement. He reviewed flare emission trends and noted that regulations have been effective. Total hydrocarbon emissions are reduced from 8 tons per day to 0.4 tons per day, there is significant reduction in vent gas volumes to flares, and flare emissions continue to decrease.

Committee Comments:

Director Haggerty questioned progress of Shell Refinery's flares, which he said looks as though they have not made improvement. Mr. Ezersky believed their emissions were lower; however, there are many variations year to year and much depends upon the refinery's maintenance schedules.

Director Gioia said given the need for a downward trend and the difficulty in the information presented, he requested staff return with 5 graphs that date back to 2000 for each facility when flaring was more significant in order to show how rules have made a difference. Mr. Ezersky agreed this could be prepared, but noted that engineering data used in the distant past may be somewhat skewed because it was not monitored.

Chairperson Uilkema concurred that graphs should be developed for each facility and requested information to be presented at the Stationary Source Committee meeting on Friday, July 23, 2010 as a consent or informational item.

Mr. Ezersky then presented methane emissions, non-methane hydrocarbon emissions, sulfur dioxide emissions. Regarding prevention and minimization, he noted that the District focuses on source reduction, vent gas compressor capacity, fuel gas balance, and scrubbing sour gasses to reduce flaring, and he reviewed each of the measures undertaken. He then presented flare regulation violations by refinery, flare minimization metrics using a 5-year rolling average period ending 2008 versus 2009.

Director Haggerty questioned whether or not flaring was reduced down to 76 days between 2008 and 2009. Mr. Ezersky referred to a graph on slide 7; Flare Volume and Non-Methane Hydrocarbon trends, noting that the technical assessments began in 2001. Mr. Broadbent agreed this information could be compiled, but he reiterated that flaring was only monitored by the District back to a certain time in the past and the information may be somewhat skewed. Chairperson Uilkema requested that the information indicate which years include monitored data and which do not.

Director Gioia suggested and confirmed with staff that information would be presented by facility, by type of emission, dating back to 2001 to the present.

Chairperson Uilkema suggested refineries may want to assist in gathering data if they have been accomplishing their goal and improving. She described the many telephone calls she had received years ago regarding flaring episodes, which have diminished. She believed the information builds on the credibility of the District and highlights improvements by refineries.

Mr. Ezersky concluded his presentation by stating that annual FMPs are due October 1 of each year. Reductions were 56% in volume and 69% in emissions, and he noted that this data is also available on the District's website.

Public Comments: None

Committee Action: None; informational only.

6. Committee Member Comments/Other Business:

Chairperson Uilkema announced that Committee members would be polled for upcoming meetings on July 23, 2010 and September 27, 2010.

- 7. Time and Place of Next Meeting:** Friday, July 23, 2010, 9:30 a.m., 939 Ellis Street, San Francisco, CA 94109.
- 8. Adjournment:** The meeting adjourned at 10:20 a.m.

Lisa Harper
Clerk of the Boards

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Memorandum

To: Chairperson Uilkema and Members
of the Stationary Source Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: July 15, 2010

Re: Status Report on Lehigh Southwest Cement Plant

RECOMMENDED ACTION:

Receive and file.

BACKGROUND

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

DISCUSSION

Staff has prepared the attached facility Fact Sheet that provides background information, and a status update covering permits, compliance, toxic air contaminants, air monitoring, and other activities. Staff will brief the committee with a status report that provides:

- Background information,
- An update on the facility's Title V permit renewal,
- An update on EPA and District rule development activities for cement plants, and the facility's efforts to comply with the resulting more stringent standards,
- An update on facility compliance,
- An update on the facility's toxic air contaminant emissions inventory and Health Risk Assessment,
- An update on ambient air monitoring, and
- The next steps.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Brian Bateman

Reviewed by: Jeff Mckay



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

FACT SHEET

July 06, 2010

Background

- The Lehigh Southwest Cement Plant (formerly Hanson) is located in unincorporated Santa Clara County, west of 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 material formed in the kiln, known as "clinker", is subsequently 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. The kiln exhaust is equipped with NO_x and SO₂ continuous emissions monitors to determine compliance with applicable emission limitations. 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.
- Lehigh is subject to a number of District, State, and federal air quality rules and regulations that are delineated in the facility's Title V Permit. A Health Risk Assessment (HRA) completed under the Air Toxics Hot Spots Program indicates that the maximum public health risks associated with the facility's TAC emissions are under thresholds requiring public notification or mandatory risk reduction measures. This HRA is currently being updated to reflect a comprehensive TAC emissions inventory update (see page 5).

Public Comments/Issues

- Starting in November 2007, District staff has met with representatives of the West Valley Citizen Air Watch (WVCAW) and worked to answer questions from the group about the Quarry Reclamation Plan Amendment proposal, and other air quality

Lehigh Southwest Cement Plant Fact Sheet

July 06, 2010

issues associated with the facility. The Reclamation Plan Amendment entails modification of the existing Reclamation Plan, approved in 1985 under the requirements of the Surface Mining and Reclamation Act (California Public Resources Code, § 2710, et seq.), for activities at the facility's quarry. The proposed Reclamation Plan Amendment, which is being processed by Santa Clara County, would expand the existing Reclamation Plan area to include previously disturbed areas, add a new quarry pit, and extend the expected completion date of mining and reclamation activities, possibly by 25 years. District staff has subsequently processed a number of public records requests, and answered many additional questions from the public, associated with the Lehigh 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 deposition, mercury emissions, hexavalent chromium emissions, emissions from truck traffic, and the facility's compliance history.
- Lehigh submitted an application to renew its Title V Permit on April 28, 2008. A Title V Permit is a compilation of all existing applicable air quality requirements including emissions limits and standards, monitoring, record keeping, and reporting requirements. 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. 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, and a written public comment period was also held. Approximately one hundred individuals or groups provided comments covering a wide variety of topics.
- 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

- The Lehigh facility started using 100 percent petroleum coke as a fuel on May 30, 2007 after receiving a permit from the District for this fuel change. Prior to this project, the typical fuel mix had consisted of 90 percent coal and 10 percent coke. Emissions data show that this fuel change has reduced SO₂ and CO emissions, and has had no significant effect on the emissions of other regulated air pollutants. On October 31, 2008, at the request of EPA Region IX, Lehigh submitted a

Lehigh Southwest Cement Plant Fact Sheet

July 06, 2010

demonstration that the fuel change project did not trigger federal PSD permit requirements. The facility was also required by EPA to provide additional information on potential facility modifications as a part of the national EPA review of PSD applicability for the cement manufacturing industry. The NOV issued by EPA on March 9, 2010, for alleged violation of PSD permit requirements, did not include the coke switching project.

- Lehigh has withdrawn a permit application that had been submitted to further increase the permitted coke usage at their facility. A separate application for the use of bio-fuels in the kiln has been placed on an inactive status at the request of the applicant.
- On January 5, 2010, the District withdrew the proposed Title V permit renewal for the Lehigh facility. This was done because EPA is expected to adopt 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 rule amendments were published on May 6, 2009, and the final rule had been scheduled for adoption no later than June 6, 2010. The deadline for final rule adoption, however, has recently been extended to August 6, 2010 (based on a settlement agreement between EPA and petitioners for reconsideration of the existing NESHAP). Since the requirements of this amended NESHAP will need to be incorporated into the Title V permit, the District will re-issue the draft Lehigh permit renewal after the requirements of the amended NESHAP have been incorporated. It is expected that this can be done within 45 days of promulgation of the amended NESHAP (i.e., on or around September 20, 2010).

B. Compliance

- Since July 2004, there have been twenty-five violations at the Lehigh facility that resulted in the issuance of twenty-three Notices of Violation by the District. The violations can be characterized as emissions-related, administrative, or permit-related in nature. There were fifteen 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 record keeping deficiencies and late reporting of required reports. Lehigh took corrective action on these violations and brought them into compliance. The two permit-related violations documented unpermitted material stockpiles. Lehigh has obtained the necessary permits and is currently in compliance with District permit requirements. Lehigh has been in intermittent compliance, similar to other Title V facilities; there is currently no ongoing violation, or pattern of recurrent violation, that represents ongoing noncompliance.

Lehigh Southwest Cement Plant Fact Sheet

July 06, 2010

- The NOV issued by 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. The NOV issued by EPA does not contain a detailed listing of the specific projects involved, as these were all claimed confidential by Lehigh. This NOV is similar to other EPA enforcement actions against various cement plants in other states. The Lehigh NOV remains an active enforcement case 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). In addition, the reforms added to the clarity and certainty of the scope of the program’s routine maintenance exclusion to reduce the unintended consequences of discouraging worthwhile projects that are in fact outside the scope of the program.

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.
- Following an article appearing in the San Francisco Chronicle, District staff provided community members with information regarding the health effects associated with mercury emissions from the Lehigh cement kiln. Based on HRA results, the mercury health risks were determined to be below Reference Exposure Levels (RELs) established by Cal/EPA’s Office of Environmental Health Hazard Assessment (OEHHA). RELs are concentrations at or below which no adverse non-cancer health effects are anticipated in the general human population, and are designed to protect

the most sensitive individuals in the population by the inclusion of margins of safety. The mercury RELs were revised by OEHHA on December 19, 2008, to explicitly include consideration of possible differential effects on the health of infants, children and other sensitive subpopulations, in accordance with the mandate of the Children's Environmental Health Protection Act.

- 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. Lehigh also subsequently revised mercury emission estimates from the kiln, upward to 581 lb/yr, based on the use of a more conservative mass balance approach (the prior approach for estimating emissions had been based on stack testing). The District has performed preliminary air dispersion modeling analyses based on the updated emissions inventory. These preliminary analyses indicate that, although the risk levels resulting from the facility's TAC emissions are higher than the results of the previous HRA, the Air Toxics Hot Spots Program action levels are still likely not exceeded. One possible exception to this that was identified is a narrow band of nearby receptor locations at which the mercury air concentrations appear to be very close to levels that would require public notification. The District has required that Lehigh prepare and submit a more refined update to their HRA in order to determine if public notification requirements have been triggered. This updated HRA is expected to be submitted for District review by September 1, 2010.
- In a letter to the District dated December 2, 2009, Lehigh outlined the actions that the company is taking to upgrade its emission control system in order to comply with the upcoming NESHAP amendments. The District issued permits in 2010 that allow for the initial phase of this control system upgrade. The initial phase involves injecting a sorbent material (hydrated lime) into the flue gases, filtering out the sorbent/pollutant complex, and incorporating the captured pollutants into the finished cement. This technology reduces emissions of several pollutants including hydrochloric acid, sulfur dioxide, and mercury (the latter of which is reduced by approximately 25 percent). On June 23, 2010 Lehigh held a press conference announcing the installation of these new emission controls. The second phase of the emission control system upgrade, which involves activated carbon injection, is expected to increase control of mercury emissions to about 90 percent.

D. Ambient Air Monitoring

- Because of 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 is operating the monitoring equipment (and

now is paying for the analysis). The monitoring commenced on July 30, 2009, and will continue for at least one year. As of May 26, 2010, there were 56 daily samples taken at this site on a once every 6th day sampling schedule. The hexavalent chromium concentration was below the method detection limit in about 40 percent of these samples, and very small amounts were detected in the other samples. The average hexavalent chromium air concentration (using the convention that non-detects equal one-half the method detection limit) was 0.000014 $\mu\text{g}/\text{m}^3$. This is 0.007 percent of the 0.2 $\mu\text{g}/\text{m}^3$ chronic REL adopted by OEHHA for non-cancer health effects (a short-term acute REL has not been adopted for hexavalent chromium). Based on the OEHHA cancer potency factor and age-sensitivity factors, the lifetime cancer risk resulting from exposure to this level of hexavalent chromium is approximately 4 in-a-million. Although hexavalent chromium ambient air monitoring is no longer routinely done at other Bay Area sites, based on comparisons with historical monitoring data, air concentrations observed at the Stevens Creek Elementary School are considered to be typical of background levels present in urban areas.

- 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 records particulate matter of 10 microns or less (PM₁₀) in the air. The maximum daily and average daily PM₁₀ concentrations recorded at this site (from Oct. 29, 2008 through June 30, 2010) were 55.5 $\mu\text{g}/\text{m}^3$ and 16.2 $\mu\text{g}/\text{m}^3$, respectively. A comparison of the PM₁₀ concentrations at this Cupertino site with PM₁₀ concentrations at the District's San Jose monitoring site (located about 10 miles east of the Cupertino site) is presented in the following table for common sampling days. The relevant PM₁₀ National Ambient Air Quality Standards (NAAQS), and California Ambient Air Quality Standards (CAAQS), are also listed.

Comparison of PM₁₀Air Concentrations at Cupertino and San Jose Monitoring Sites, and PM₁₀Ambient Air Quality Standards (Oct. 29, 2008 to Jun. 30, 2010)

	Cupertino ($\mu\text{g}/\text{m}^3$)	San Jose ($\mu\text{g}/\text{m}^3$)	NAAQS ($\mu\text{g}/\text{m}^3$)	CAAQS ($\mu\text{g}/\text{m}^3$)
Average Daily	16.5	19.9	n/a	20
Maximum Daily	51.9	46.8	150	50

Table Notes:

- Figures are for common sampling days at the Cupertino and San Jose sites (the San Jose site is a filter-based PM₁₀ site that operates once every 6th day, and the Cupertino site is a Beta Attenuation Monitor that operates continuously). The overall maximum daily concentration at the Cupertino site (i.e., 55.5 $\mu\text{g}/\text{m}^3$) occurred on a day on which the San Jose sampler was not operating.
- The Average Daily CAAQS is an annual arithmetic mean.

The PM₁₀ concentrations at the Cupertino site were, on average, 17 percent lower than the San Jose site. The maximum daily PM₁₀ concentration at the Cupertino site was, however, about 11 percent higher than at the San Jose site. It should be noted that these comparisons are for common sampling days only, and the San Jose monitoring site has historically seen maximum daily PM₁₀ levels higher than the maximum levels seen at the Cupertino site (e.g., the maximum daily PM₁₀ levels at the San Jose site were 73.2 µg/m³, 69.1 µg/m³, and 57.3 µg/m³ for the years 2006, 2007, and 2008, respectively).

The Cupertino site had PM₁₀ concentrations that were below the annual arithmetic mean CAAQS, and the daily maximum NAAQS. The site had a total of 3 days (approximately 0.5 percent of all monitoring days) during which the daily PM₁₀ concentrations were slightly over the stringent daily maximum CAAQS. Each of these days also had elevated particulate matter (PM) measurements in San Jose, and occurred in the wintertime PM season when wood burning has been identified as the most significant source of PM air concentrations in the Bay Area. Occasional PM₁₀ air concentrations over the daily maximum PM₁₀ CAAQS are common at monitoring sites throughout the Bay Area in the winter season.

The District is working on establishing a comprehensive 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. The City of Cupertino approved a lease for this site on May 18, 2010, and District staff expects to have the monitoring equipment operational by the end of July 2010. The site will operate for a period of at least one year and will measure 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). District staff participated in a community meeting to discuss the new monitoring site held at the Monta Vista Community Center on April 28, 2010.

E. Other Activities

- District staff participated in a Study Session held by the Cupertino City Council to discuss issues associated with the Lehigh facility. Staff has also been invited to provide an update to the City Council at a follow-up Study Session scheduled for July 20, 2010.
- Santa Clara County has indicated that the overall Lehigh Quarry Reclamation Plan Amendment requires additional geologic studies. Preparation of an Environmental Impact Report (EIR) for the project has been put on hold pending completion of these studies. A revised Reclamation Plan Amendment application was submitted by

Lehigh Southwest Cement Plant Fact Sheet

July 06, 2010

Lehigh to the County on May 28, 2010, and the County has initiated a 60-day review period to determine its completeness. The revised application includes a new South Quarry Pit, which is located due south of the existing quarry pit approximately the same distance from the nearby residential areas to the east as the existing North Quarry Pit.

- In response to a Notice of Violation to the mine operator issued by Santa Clara County, Lehigh has submitted a separate Reclamation Plan Amendment to address stockpiling of material from the quarry in an unauthorized location, the East Materials Storage Area. This separate amendment is being processed by the County, and the process of preparing an EIR for the project has begun. A Public Scoping Session to solicit comments for the Notice of Preparation for this EIR was held on April 28, 2010.
- District staff has begun rule development on Stationary Source Measure 9: Cement Kilns, from the District's 2010 Clean Air Plan (CAP), which was issued in draft form on March 11, 2010. This rule development project is evaluating more stringent standards for NO_x (and potentially SO₂) emissions for the Lehigh cement kiln. The draft CAP control measure states that NO_x reductions of 90 percent are potentially feasible. Staff is also tracking the EPA rulemaking on the NESHAP amendments for cement plants, and will harmonize the proposed District rule with the EPA rule. Staff expects that a draft District rule and workshop notice will be issued by the 3rd quarter of 2010, and that a proposed rule can be considered for adoption by the District's Board of Directors by the winter of 2010/2011.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Uilkema and Members of the Stationary Source Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: July 23, 2010

Re: Additional Information On The Progress of Flare Minimization Trends Under Regulation 12, Rule 12: Flares at Petroleum Refineries

RECOMMENDED ACTION:

Informational Report. Receive and file.

BACKGROUND

In order to minimize the frequency and magnitude of flaring at petroleum refineries, the District Board of Directors adopted Regulation 12, Rule 12: Flares at Petroleum Refineries on July 20, 2005. The regulation recognizes that refinery flares are first and foremost a safety device and it allows refineries to develop plans to continuously minimize flaring without compromising safety. The regulation prohibits the non-emergency use of a refinery flare unless that use is consistent with an approved Flare Minimization Plan (FMP).

The flare control regulation is structured to account for the variability of petroleum refinery designs, to ensure continuous improvement by identifying flaring prevention measures specific to each refinery's design and operation, and to provide an opportunity to consider public input in developing the most effective Flare Minimization Plan. The last annual updates were approved by the District on December 29, 2009.

DISCUSSION

District staff has presented periodic updates to the Board, the Stationary Source Committee, other regulatory agencies and the public on the success of implementing the Bay Area flare regulations and the trends in flaring volumes and calculated emission reductions. At the May 13, 2010 meeting of the Stationary Source Committee staff presented a summary of the progress made in reducing petroleum refining flaring and the 2nd Annual Flare Minimization Plan Updates. The metrics used to measure that progress include, but are not limited to the volume of vent gas flared and the emissions of non-methane hydrocarbon, methane and sulfur dioxide from flaring.

After hearing staff's presentation, the Committee asked for additional information on flare data going back to 2001, and for more specific information on each refinery. Staff will present this additional information including refinery specific graphics of vent gas

volume flared and the emissions of non-methane hydrocarbon, methane and sulfur dioxide since 2001. In addition, staff will present a summary of the prevention measures that were indentified as a result of investigations into the reasons for flaring.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Alex Ezersky
Reviewed by: Kelly Wee

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairperson Uilkema and Members
of the Stationary Source Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: July 7, 2010

Re: Proposed Cement Kiln Rule

RECOMMENDED ACTION:

Receive and file.

BACKGROUND

Lehigh Southwest Cement Plant, located in unincorporated Santa Clara County, west of Cupertino, is the only cement manufacturing facility in the District. It is the Bay Area's largest source of nitrogen oxides (NOx), and is the subject of control measure SSM-9 in the draft 2010 Clean Air Plan. This facility emitted 1,788 tons of NOx and 181 tons of sulfur dioxide (SO2) in 2008. This plant has been in operation since 1939, and is subject to a variety of District, State, and federal air quality rules and regulations. Staff has initiated rule development on a proposed cement kiln rule and is evaluating more stringent standards for NOx and, potentially, SO2. In addition, U.S. EPA has proposed amendments to several federal rules that would affect this facility, but these rules are not yet finalized. Staff is evaluating the standards and compliance deadlines of these proposed federal rules to ascertain their application to this facility and to determine what technologies and/or methodologies could be employed to reduce emissions of air pollutants in a cost effective manner.

DISCUSSION

In this report, staff will provide the Committee with information on:

- Background on Portland cement manufacturing;
- Regulations currently affecting cement kilns, and proposed amendments to federal rules;
- Emissions from and mitigation options available to cement kilns;
- Summary of rule development efforts; and next steps in that process.

BUDGET CONSIDERATIONS/FINANCIAL IMPACT

None

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Robert Cave
Reviewed by: Henry Hilken