

**Responses to Public Comments from the First Public Notice and
Public Hearing**

Application for Renewal of Major Facility Review Permit
Lehigh Southwest Cement Company
24001 Stevens Creek Blvd.
Cupertino, CA 95014
Air District Facility No. A0017

This document presents the responses of the Bay Area Air Quality Management District (“Air District” or “District”) to comments received from members of the public on the District’s proposed renewal of the Title V Major Facility Review Permit (“permit”) for Lehigh Southwest Cement Company.

The Title V Major Facility Review Permit is required by Title V of the Clean Air Act. The Title V program requires large industrial facilities to apply for federal air quality operating permits. These permits list all of the federal, state, and local air quality requirements that apply to the facility. Applicable requirements include emission limits and standards, and compliance requirements (i.e., monitoring, recordkeeping, and reporting requirements). The Title V permit does not place new limits on the facility’s air pollution emissions. Following initial issuance, applications for renewals are required every 5 years. These renewals must go through public and EPA review. In a Title V permit renewal, the Air District performs the following tasks: 1) adds new, modified, and exempt equipment, 2) updates and reviews all federal, state, and local emission limits and standards applicable to the sources at the facility, 3) updates and reviews all monitoring, recordkeeping, and reporting requirements, and 4) reviews the compliance status for all applicable requirements. The existing Title V permit continues in force until the Air District takes final action on the renewal application.

The Air District published its proposal to renew the permit for Lehigh Southwest Cement Company on August 12, 2009, and received written comments from 55 individuals and organizations, as well as written comments from EPA. The Air District also held a public hearing on September 17, 2009 and received 30 oral comments from the public. The hearing was attended by a large number of affected and interested persons. The Air District has reviewed and considered the comments it received during this process, and is providing responses as set forth herein. For each comment received, this document provides the Air District’s rationale for either agreeing with the comment and modifying its proposal, or disagreeing and continuing with the proposal as originally published.

These Responses to Comments are organized by the subject matter of the comments received:

Also attached in Appendix A is the March 29, 2011 letter from Jack Broadbent, Executive Officer of the Air District, to Supervisor Liz Kniss regarding synergistic toxicity. Appendix B is the Summary of Toxic Air Contaminants’ Monitored Levels in the Ambient Air near Lehigh.

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I. Permitting Issues

A. The Air District's Role in Renewing Title V Permits

1. Commenters stated that the Air District enjoys wide discretion in determining whether to renew the Title V permit for Lehigh Southwest Cement Company. These commenters stated that the Air District should use this discretion to deny the permit based on the fact that many of those who submitted written comments and spoke at the public hearing do not want this facility to continue operating at the present location.

District Response: The Air District's discretion in reviewing an application for renewal of a Title V permit is limited. For instance, the Air District could deny a Title V permit renewal if the facility is in violation of an applicable air quality regulatory requirement, but only if it finds that the facility will be incapable of coming back into compliance.

However, the federal Title V regulations at 40 CFR 70.5(c)(8), 40 CFR 70.6(c)(3) and (4), and state law at H&S 42301(d) provide that when a facility is out of compliance, instead of denial, a schedule of compliance including milestones and deadlines must be included in the permit. The schedule of compliance will enable the facility to be in compliance within a reasonable time period, but acknowledges that the facility is out of compliance.

The Air District cannot deny a Title V permit renewal for other reasons, such as a desire by community members to shut down the facility. As explained in greater detail in the following sections, the Air District has carefully analyzed the Lehigh Southwest Cement Company's compliance status and found that it is not in violation of any applicable air quality requirement. As also explained below, the Air District believes that the renewed permit incorporates all applicable requirements.

2. A commenter submitted a petition with 72 signatures from people at the Oaks Condos near the plant who want Lehigh to close immediately and permanently.

District Response: See response to comment above.

B. Deferral of Issuance of the Title V Permit Renewal

1. A commenter requests deferral of the issuance of the Title V Permit Renewal until the Quarry Reclamation Plan Amendment is completed.

District Response: The Quarry Reclamation Plan Amendment is a separate process that is being reviewed by Santa Clara County and it has no impact on the Air District Title V permit renewal.

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2. Commenters requested deferral of the issuance of the Title V Permit Renewal until the new NESHAPS is issued.
District Response: On Jan. 5, 2010, the Air District withdrew the initial proposed Title V Permit Renewal in response to Lehigh's letter dated Dec. 2, 2009 outlining efforts to make changes to significantly reduce emissions of mercury (Hg), hydrogen chloride (HCl) and other pollutants to address anticipated future NESHAP amendments. Following the adoption of these NESHAP amendments by EPA, the District issued a revised proposed Title V renewal permit on January 7, 2011. Thus, the revised proposed Title V Permit Renewal now includes all of the federal, state, and local air quality requirements that apply to the facility. Applicable requirements include emission limits and standards, and compliance requirements (i.e., monitoring, recordkeeping, and reporting requirements). The second public notice started on January 21, 2011 and ended on March 25, 2011.
3. A commenter requests deferral of the issuance of the Title V Permit Renewal until the hexavalent chromium (Cr6+) study is completed and the study is accurate.
District Response: The Cr+6 study has been completed. 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 Cr+6 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. Samples were taken at this site on a once every 6th day sampling schedule. The results of the first 13 samples are posted on the EPA website at: http://www.epa.gov/cgi-bin/broker?service=data&program=dataprog.school_keydata.sas&site=060855506. The remainder of the samples have similar results as the ones that are posted by EPA and can be found at: <http://www.epa.gov/schoolair/data/CupertinoData07302010sheet002.pdf>. The results have shown that Cr6+ air concentrations are not a concern at the site.
4. EPA Region 9 has sent 3 request letters to Lehigh. The last one has not been responded to by Lehigh. The Title V renewal review should be stopped until the EPA gets more information back and makes it public.
District Response: The Title V permit renewal is a separate process from the EPA's inquiries. Lehigh has been in contact with EPA to address various EPA concerns. EPA recently requested additional information from Lehigh as part of their continued investigations.
5. Commenters requested deferral of the issuance of the Title V Permit Renewal until the PSD review from EPA is completed.
District Response: EPA's PSD review has no deadlines and will proceed at its own pace. Title V permits should be renewed every five years. If the Title V permit needs to be reopened after the conclusion of the review, at that time either EPA or the District will reopen the permit.

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6. Commenters requested deferral of the issuance of the Title V Permit Renewal until more data is collected.
District Response: The results of a full year of air monitoring at the Monta Vista Park site are summarized in Appendix B of the Responses to Public comments from The First Public Notice and Public Hearing. The results are not unlike those seen at other urbanized Bay Area locations and do not appear to be significantly impacted by the Lehigh facility. Should additional data collected indicate that actions are warranted, the District will immediately work with Lehigh to minimize those impacts to the extent possible, and will modify any conditions as necessary. However, ambient air monitoring is not required as part of the Title V process and should not be linked to issuance of the permit.

C. Permits

1. The permits are defective because they allow Lehigh to use PM10 banking credits from shut down equipment for more expansion up to the same level.
District Response: Lehigh may apply for emission reduction (“banking”) credits per Regulation 2, Rule 4 Emission Banking, when an operation is shut down. Installation of any new equipment would be required to meet more stringent New Source Review requirements including Best Available Control Technology and Offsets. The use of banking credits to offset emission increases from new/modified sources is allowed under New Source Review, and does not make the permit “defective”.
2. A commenter suggests deletion of condition 779, part 3, that allows 5000 ton/day of clinker to be imported if the kiln is down for more than 45 days in the last 365 days.
District Response: This condition is not new and was not added as part of this Title V renewal. The commenter does not explain why the condition should be deleted. In general, deletion of a permit condition would be appropriate only if the condition is inconsistent with an applicable requirement or District regulations, which is not the case for this condition.
3. A commenter suggests adding a statement to prevent Lehigh from importing limestone into the facility from other quarries. Thus, no limestone, no kiln.
District Response: The Title V Permit Renewal lists all of the federal, state, and local air quality requirements that apply to the facility. Applicable requirements include emission limits and standards, and compliance requirements (i.e., monitoring, recordkeeping, and reporting requirements). The Title V permit does not place new or remove old limits on the facility’s air pollution emissions.
4. The clinker cooler process gas is comingled with process gas from S-154 kiln. Thus, it should be subject to the clinker cooler opacity standard in 40 CFR Part 63, Subpart LLL. Even though the kiln opacity standard is 20%

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opacity, the clinker cooler opacity standard is 10%. The overall limit should be 10%.

District Response: The Air District has reviewed the process and confirmed that the exhaust air from the kiln does not exit through the clinker cooler. Only the clinker is being cooled by a separate ambient air intake, which is then routed to the clinker cooler's dust collector. The two systems are separate and the exhaust air from the clinker cooler and the kiln are not mixed or comingled. No change is required in Table IV for the clinker cooler. The District agrees that the NESHAP limits the opacity of the clinker cooler to 10% and the kiln to 20%.

5. The NO_x and SO₂ levels are deliberately set very high. Lehigh has not and will not ever reach the maximum allowable emission limits.

District Response: The NO_x and SO₂ limits were set when the facility switched from a wet process to a dry process in 1982 and the reduction of NO_x and SO₂ that resulted were considered as Best Available Control Technology. Since then, the process has not been modified or triggered New Source Review; therefore, the source is entitled to retain its current permit limits. The upcoming new Air District Portland Cement Manufacturing rule will establish more stringent NO_x emissions. The adoption of this rule is anticipated in 2012.

The Lime Slurry Injection and Activated Carbon Injection systems that have recently been installed will reduce emissions of SO₂ as well as HCl and mercury.

6. The new EPA standards should be added to the Title V permit.

District Response: The Air District has incorporated the new requirements of the NESHAP Subpart LLL to all affected sources. The requirements of the NSPS, Subpart F, cannot be incorporated because the facility has not been modified as defined by 40 CFR 60.14.

7. The stockpile of coke and coal has not been contained. The Santa Clara County Hazardous Division cited the facility, but gave the facility time to develop a way to contain the hazardous contaminants.

District Response: The outside petroleum coke and coal storage pile moisture content and surface condition is maintained to limit air emissions. As explained in Application #19385, the coal and coke storage pile area is an existing source that is in compliance with all applicable regulations. Lehigh has since listed all toxics that are associated with the piles of coke and coal in its Hazardous Material Business Plan as required by the Santa Clara Health Environmental Department.

8. Why were S-56 and S-57, Cement Packers, taken out?

District Response: These sources are no longer in service.

9. Why was S-100, Precalciner Kiln Fuel Handling System, 400 ton/hr, added to Table II-A? This is a new system. How is it being monitored? Is this considered an increase in production? If so, how much of an increase?

District Response: The change was made through a permit application. Application #15342 explains that the maximum capacity of the conveyor

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belt is 400 tons/hr and includes conditions on the new system. Condition # 23942 requires recordkeeping of monthly throughput at S-100. The maximum fuel rate is specified in Condition #603, Part 2, which is 29 ton/hr of coal, 20 ton/hr of coke, or a combination of coal and coke as long as the fuel usage does not exceed an annual limit. The production rate of clinker remains the same at 1.6 million tons/yr; therefore, there is no increase of production. Please see the Engineering Evaluation Report for Applications #15342 and #18535 in Appendix C of the Statement of Basis for detailed information.

10. S-166, Bulk Clinker Rail Car Loadout System, was taken off the Title V permit. Will Lehigh be replacing it with trucks or something else?
District Response: S-166 was removed because it is not needed. Lehigh has not planned to replace it with anything else.
11. In Table II-A, the line for S-171 and S-172, Fuel Kiln Mill, does not state what fuel being used. It should.
District Response: Lehigh is allowed to use both coal and coke at this time. Therefore, the fuel mill is a general term that indicates both fuels. However, the information has been added to the table.
12. Why are S-173 and S-174, Kiln Coke Systems being taken out? Coal or coke needs to be reported each day, month, and year.
District Response: S-173 and S-174 were shut down and are no longer needed at Lehigh. Coal and coke usage at the kiln's Fuel Mills (S-171 and S-172) are recorded on a daily basis and reported to the Air District on a quarterly basis.
13. S-605 is replacing S-201. No drawing has been provided. This unit is bigger and handles more rocks, releasing more pollution. Who is going to monitor the use of this equipment within the correct levels of operation?
District Response: S-605 was withdrawn from Application # 15572 because Lehigh does not need to replace S-201 at this time.
14. Why have S-203, S-204, S-205, S-206, S-207, S-208, S-209, S-214 and S-215 been taken out?
District Response: These sources are no longer in service.
15. Why were the names of S-231 and S-240, Concrete Storage Silos, changed to S-231, Pressed Cake Bin, and S-240, Additive Conveyor/Bins?
District Response: The term "Concrete Storage Silos" was changed to more accurately describe the operations. There were no physical or operational changes to the equipment.
16. When were S-440 through S-443 removed?
District Response: Sources S-440 through S-443 were removed as part of the aggregate plant that was shutdown in Application #15216. The sources were permanently shut down on January 1, 2006.
17. S-444, Emergency Clinker Conveyor, was not needed before. Why is it being used now? It is not being used for emergencies, but to increase the

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rock processing. Who will monitor this to ensure it is used only during emergencies?

District Response: S-444 has operated at Lehigh since 1981, when the plant was last modernized. Lehigh has always considered this conveyor as part of S-17, Clinker Transfer Area, and S-165, Clinker Transfer System, and did not identify it as a separate source for its Title V permit. Lehigh has now permitted S-444 as a separate source, independent of S-17 and S-165, as discussed in Application #15217.

18. More information is needed on S-600, Quarry Blasting and Mobile Operations, to indicate processes and applicability of ordinances. Drawings of the equipment should be provided. An analysis of the quarry's effect on the San Andreas Fault line should be provided with regards to possible earthquakes in the future. The permit should ensure compliance with the Reclamation Plan. Lehigh should be closed down because they have never fully complied with the reclamation plan.

District Response: The focus of the Title V permit program is on describing air pollution regulatory requirements that apply to stationary sources. Please contact the County of Santa Clara Planning Office during the California Environmental Quality Act review of the Reclamation Plan Amendments for earthquake concerns.

19. More technical data indicating process, ordinances and drawings regarding S-601 through S-605, Rock Hopper, Conveyor System, etc. should be provided.

District Response: S-604 and S-605 will not be built. For more information, please see the permit evaluation for Application #15572, which is attached to the Statement of Basis for the proposed Title V permit renewal or request a public record of Application #15572.

20. Expansion of the storage piles, S-606 and S-607, means an increase in processing cement.

District Response: Lehigh has always considered the S-606 storage pile as part of its Rail Unloading System Area, S-111, and did not identify it as a separate source for its Title V permit. Lehigh has permitted S-606 as a separate source, independent of S-111 as discussed in Application #19385, attached in Appendix C of the Statement of Basis.

The S-607 storage piles are new as a result of low demand for the rock that Lehigh processes. The storage of unsold product does not mean an increase in cement production. The throughput limit for processing rock remained the same as in Condition #7246 and #7247.

21. S-601 through S-607 reflects the increase in production of rock into cement. There is no mention of how much rock can be crushed by S-605 New Jaw Crusher. Who would inspect to make sure there is no increase?

District Response: Information about the sources can be found in the evaluation for Application #15572, which is attached to the Statement of Basis.

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S-604 and S-605 will not be built. S-605 was withdrawn from Application #15572 because Lehigh does not need to replace S-201 at this time. Lehigh is limited by the annual rock throughput in Conditions #7246 and #7247, so there is no increase in rock throughput.

22. In Table II-B, Abatement Devices, it is difficult to see if they are complying with the process weight standard in BAAQMD Regulation 6, Rule 1.
District Response: For new abatement devices, the Air District required initial source tests to demonstrate compliance with all applicable requirements or limits. For existing abatement with no annual source test requirement, the Air District is implementing a five-year cycle source test to check for compliance. This is part of the enhanced monitoring effort in addition to the Operating and Maintenance Plan that Lehigh is currently required to maintain per Condition #24621.
23. A-2030, Water Sprays, at Screens S-2010, S-2050, S-2040, S-4400, and S-4430 were all deleted. Why?
District Response: The water sprays were deleted because the abated sources at the aggregate plant were deleted per Application #15216.
24. Why were A-606, A-607 (water trucks), and A-4501 water spray added to Title V permit? Water trucks are not enough. Water spray units with monitors should be purchased and used. The commenter requests that a non-biased government agency oversee this water spray. Ringelmann testing is not enough.
District Response: The stockpiles are required to be watered as necessary to prevent visible emissions and public nuisance. Stationary water sprays are not feasible for stock piles that can change in size. No violations have been issued to sources S-606 and S-607 Storage Piles Area #1 and # 2 since permit issuance.
25. More broken bag detectors have been added, which proves that more processing of cement is taking place. Commenter does not want Lehigh to increase the mining of more rock and the production of more cement.
District Response: Lehigh's limits on rock processing and clinker production have not changed for many years. More broken bag detectors mean enhanced monitoring for compliance purposes.
26. Table IIC-Exempt Sources includes the following two sources: S-60, Above Ground Diesel Storage Tank and S-62, Below Ground Diesel Tanks. These tanks should not be given an exemption and should be monitored and inspected due to past leakage and spills, which cause a problem with ground water contamination.
District Response: S-60 and S-62 are not subject to Air District regulation because they are deemed by the District to have negligible air emissions. Diesel tanks are exempt from Air District permit requirements per the provisions of Regulation 2, Rule 1, Section 123.3.2 for storage of high initial boiling point organic liquids that are greater than 302°F and exceed the actual storage temperature by at least 180°F.

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The underground tank is subject to the California Water Resources Control Board's "Underground Storage Tank" Program, while the aboveground storage tank is subject to the "Aboveground Petroleum Storage Act" program. These programs are administered by the local Certified Unified Program Agency (CUPA), which in this case is Santa Clara County Environmental Health.

The tanks have been upgraded to comply with new regulations with the following safety features:

1. Electronic leak detection system
2. Monthly inspection by a third party
3. Secondary containment

27. The flow rate of 263,000 scfm in Condition #11780, part D.3 for Source S-154, Cement Kiln, was deleted. Why?

District Response: Lehigh has installed continuous flow meters and will use the actual flow rate to calculate pounds of NOx per hour. Before the flow meter was installed, Lehigh had to use an estimated flow rate. This could lead to over- or under-estimating NOx emissions.

28. The vent discharge is not representative of industry practice. The release height is not considered as "good engineering practice" stack height to ensure that emissions are not entrained in local turbulent downwash eddy currents caused by wind-mediated structure aerodynamic downwash. Frequently, downwash sources such as S-154 may cause elevated short-term ambient impacts of SO₂. Air models should be used to evaluate compliance with the NAAQS and CAAQS for sulfur.

District Response: The Air District is currently running air models to determine compliance with the NAAQS and CAAQs for sulfur. Lehigh has stated that it intends to install a tall single stack for the kiln, which will meet good engineering practice and reduce exposure by September 9, 2013.

D. Procedural Issues

1. The Fact Sheet of January 2, 2009, states that the renewal is for 25 years, while the public announcement says that the renewal is for 5 years.

District Response: The permit to which the Fact Sheet refers is the land use permit from the county, which could allow quarrying for up to 25 additional years. The public announcement refers to the Title V permit, which contains the air quality requirements. The Title V permit should be renewed every five years, although a facility is allowed to continue to operate if an air district has not renewed the permit, but the facility has submitted a complete application.

2. The public record request process is a frustrating unresponsive or delayed process. If a person does not know the exact question to ask, the person does not get the information they want. The commenter found out about the switch from coal to coke only through a letter from EPA.

District Response: The Public Records Act is generally a procedure for obtaining documents that are specifically identified by the requestor. The

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District makes every effort to understand what information is being requested and provide it. However, the process can become more difficult when requests are for broad categories of information rather than specific documents.

3. The District has already decided to grant a Title V permit renewal to Lehigh instead of taking a fresh look whether to renew the permit.

District Response: The Air District disagrees with this characterization of the Title V permit renewal process. Renewal of Lehigh's Title V permit was proposed only after extensive review to ensure that the permit incorporates all applicable requirements and provides for sufficient monitoring.

The Title V permit is a tool to improve compliance with air quality related applicable requirements. These requirements are gathered into one document with sufficient monitoring, recordkeeping, and reporting to enable the facility to comply with all applicable requirements and to enable EPA, the District, and the public to determine the compliance status for the facility. For instance, the facility is required to submit reports of all non-compliance within 10 days of discovery (Standard Condition I.F).

If the facility is in continued non-compliance, the federal regulations require a schedule of compliance, not denial. In contrast, state permits require compliance before issuance (H&S Code 42301(b)). Therefore, the Title V process is oriented toward issuance, not denial.

If the District delays issuance of the Title V permit renewal, the facility will continue to operate with a valid, but out-of-date, permit. For example, the proposed new Fugitive Dust Control Plan will not be enforceable by the District until final issuance of the permit.

4. Commenter requests suspension of the Title V public comment period until all information requests in their comment letter of Sept. 30, 2009 are made available to the public and the public has had time to review the information. Then the public comment period should be restarted for a new 45-60 days comment period.

District Response: The Air District has already suspended and re-noticed the Title V permit renewal to the public and EPA for comments on January 21, 2011 after incorporating the newly-revised NESHAP regulation from EPA.

5. Per *Citizens Against Ruling the Environment vs. EPA*, 535 F3d670 (7th Cir. 2008), information requested by EPA should be made available to the public as part of the Title V permit process. Without information, the public cannot adequately assess or comment on Lehigh.

District Response: The Air District's practice is to make information available to the public sufficient to assess the proposed permit action. The Air District believes it has done so here. Typically, the only information that is withheld from the public is that which has been claimed by the permittee as trade secret/confidential. The Air District does not read the cited federal case to address the issue of whether trade secret information

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becomes public by virtue of being shared between EPA and the Air District.

6. Emissions of air pollutants must be considered as if the plant was operating at full capacity.

District Response: The calculated air emissions from Lehigh's permits were based on the maximum permitted limit. The Air District conducted the health risk analysis using these numbers; therefore, air emissions at full capacity were considered.

7. A commenter requests notification in writing 60 days prior to the deadline for any appeal of the agency action on the final decision action of Lehigh's Title V permit renewal issuance.

District Response: Notification of issuance of the permit will be provided to the commenter. In general, a person who intends to appeal a permit is responsible for doing so in a timely manner. BAAQMD Regulation 2-1-410.2 and Section 42302.1 of the California Health and Safety code have the deadlines for appeals. The Air District can assist with information, but does not provide official notification regarding the expiration of appeal opportunities.

8. No pollutant and process flow diagram for each piece of equipment was submitted. District staff requested such a flow diagram on September 17, 2007, but it was never received as shown by the record.

District Response: The commenter is referring to the P101B form. This form is used for District Authorities to Construct and Permits to Operate. It is not a Title V form and is not required for a Title V application.

9. The application fails to include the required emissions calculation information.

District Response: The absence of the emission calculation information in the Title V application does not affect the issuance of the Title V permit. First, the EPA Title V White Paper guidance dated July 10, 1995, titled "White Paper for Streamlined Development of Part 70 Permit Applications" explains EPA's view as to why all the information listed in Part 70 for applications need not be submitted.

Second, even if an application for a permit action is incomplete, the permit action is nevertheless appropriate if the record demonstrates that all applicable requirements are accounted for and other Title V requirements are being met. In other words, support for a valid permit renewal can come from sources other than the permit application.

Third, the District collects actual throughput data on an annual basis and estimates emissions. The District instructions for Title V applications allow facilities to use District estimates in their Title V applications, if the applicant believes them to be accurate. This is the basis of the emissions data in the "Total Stationary Source Emissions" and "Major Facility Detailed Emission Report" forms. The District's calculations are available upon request.

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The instructions also require emissions data for emissions that are “significant” as defined by BAAQMD Regulation 2-6-239. This means that if emissions of a regulated pollutant at a source are less than 2 tons per year and emissions of any hazardous air pollutant at a source are less than 400 pounds per year, the facility is not required to report the emissions on the “Major Facility Detailed Emission Report” form.

10. A commenter states that the applicant did not provide required information on alternate operating scenarios. The commenter proposes various alternate operating scenarios.

District Response: The instructions for Major Facility Review Applications (Title V) state that information on alternate operating scenarios is optional. This information is submitted only when a facility is requesting an alternate operating scenario. The scenarios proposed by the commenter are speculative.

The instructions can be found on the District’s website at: http://www.baaqmd.gov/~media/Files/Engineering/Forms/Title%20V/mfr_app_instructions.ashx?la=en.

11. The applicant failed to properly and specifically identify, locate and/or quantitatively characterize all fugitive emission sources as individual emission units in the Title V application.

District Response: Lehigh submitted source-by-source emissions based on their best estimates at the time of submittal. All detailed emission calculations of toxic air contaminants were included in their recent Health Risk Assessment Report dated March 30, 2011.

Title V permits include all existing requirements for control of fugitive emissions sources.

12. The applicant failed to disclose and characterize emissions that are PM10 and PM2.5 emissions.

District Response: When Lehigh submitted its application on April 24, 2008, EPA had promulgated a NAAQS for PM2.5, but had not yet promulgated a test method for PM2.5. EPA has recently promulgated a revised test method for PM2.5 (Method 201A) on December 1, 2010. Even now, testing may not be feasible at the kiln’s stack due to port (opening in stack for sampling equipment) dimension requirements.

Nationally, there is little PM2.5 emissions test data. Estimating what fraction of total particulate is PM10 and PM2.5 is difficult, but generally one can assume that most of the particulate from combustion is both PM10 and PM2.5. Particulate from material handling sources is likely to have a higher fraction of particles over 10 microns.

13. The applicant failed to identify the roads at the quarry as sources of fugitive emissions.

District response: The District will consider adding the haul road emissions to the inventory, but that would not change the applicable requirements.

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14. The applicant failed to identify two storage piles.
District response: The District has added S606 and S607, Storage Piles, to the source list.
15. The applicant listed 25 sources as having zero emissions, but the sources are controlled by abatement devices (fabric filters). The source numbers are S-21, S-45 to S-48, S-111 to S-113, S-121, S-122, S-143, S-144, S-153, S-161 to S-163, S-171, S-172, S-240, S-244, S-300, S-343, S-360, S-384, and S-390.
District Response: The applicant submitted emissions information in the application for S-21, stating that it emitted about 3.5 tons particulate matter per year. The District calculates that the other sources have emissions that are less than the threshold for reporting in the Title V application. BAAQMD Regulation 2-6-405.6 states that emissions must be reported for any source that has emissions over the significance thresholds as defined by Section 239. The BAAQMD Manual of Procedures Volume 2, Chapter 3, explains that emissions must be reported for any source that has emissions greater than 2 tons per year of a regulated air pollutant and greater than 400 pounds per year of any hazardous air pollutant. The emissions of regulated air pollutants and hazardous air pollutants are lower than these thresholds and therefore the applicant was not required to report the emissions in the application.
16. The total summary source PM emissions (84.9 ton/yr in 4/25/2008) from the Title V application is not the same as the detailed emission reports (77.0 ton/yr).
District Response: The absence or discrepancy of the items listed above in the Title V application does not affect the issuance of the Title V permit. First, the EPA Title V White Paper guidance dated July 10, 1995, titled "White Paper for Streamlined Development of Part 70 Permit Applications" explains EPA's view as to why all the information listed in Part 70 for applications need not be submitted.
- Second, even if an application for a permit action is incomplete, the permit action is nevertheless appropriate if the record demonstrates that all applicable requirements are accounted for and other Title V requirements are being met. In other words, support for a valid permit renewal can come from sources other than the permit application.
- Third, 84.9 tons per year is the total amount of emissions that the District calculated as the emissions for the year before the application was submitted. The applicant used this number in the "Total Stationary Source Emissions" form. The "Detailed Emissions Report," the applicant left out the detail for sources that had particulate emissions below 2 tons per year, as the applicant was entitled to do.
17. There are discrepancies between the reporting of hazardous air pollutants in the application and the reporting to EPA's Toxic Release Inventory (TRI in 2007). Following are the discrepancies:
- 20.5 ton/yr HCL in TRI vs. 1.4 ton/yr in Title V renewal application

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- b. 0.118 tons/yr (236 lb/yr) Mercury in TRI vs. 0.09 ton/yr in application
- c. 1.2 ton/yr formaldehyde, 2.4 ton/yr acetaldehyde, 1.2 ton/yr naphthalene, 6.4 tons/yr benzene, and 0.03 ton/yr of 1, 3 butadiene in application vs. none in TRI
- d. Dioxin/furan in TRI, none in the Title V application
- e. No other HAPs in Title V application

District Response: The Air District receives reports of toxic emissions for the Air Toxics Hot Spots Program, but is not directly involved with TRI reports which are sent to U.S.EPA.

The difference in values reported arises from differences in calculation methodologies used by the consultant who prepared the Title V permit renewal application hired by Hanson (former owner). The federal EPCRA SARA Title III Toxic Release Inventory (TRI) reporting of Toxic Air Contaminants (TAC) are based on scaling from the latest known source test value adjusted for throughput levels. As explained in comment XXIII.9 above, support for a valid permit renewal can come from sources other than the permit application.

18. The applicant's emission summary form provided a summary of total organics, which is not acceptable, since the applicant must provide criteria pollutant potential to emit totals. The use of total non-methane organic emissions does not provide accurate determinations of VOC emissions, which understates actual VOC emissions because the hydrocarbon analyzers do not properly address VOC species that are oxygenated chemical compounds (acid, aldehydes, ethers, alcohols, etc...)

District Response: The Air District's Regulation 1-236 definition of VOC is identical to that of non-methane organic compounds (NMOC) and non-methane hydrocarbon (NMHC). Appropriate analytical techniques must be used to determine organic compound concentrations. Oxygenated compounds do require special detection techniques to ensure accurate quantification. When oxygenated or halogenated hydrocarbons are present, the sufficiency of NMOC, NMHC, or VOC analyses depends on how significant those contributions are relative to the total organic emissions profile. The manner of reporting VOC (or NMOC or NMHC) is not an indication of the sufficiency of the analytical techniques used. It is only a label identifying the nature of the emissions; in this case, they are organic compound emissions that exclude methane.

In any case, the total organics number on the Total Stationary Source Emissions is derived from the annual District calculated estimates, not any analytical methods. As such, it is based on throughput multiplied by emission factors. Most of it is attributed to S-154, Kiln. The commenter is mistaken in the notion that the facility must report potential to emit. The application requires an estimate of actual emissions. Potential to emit is only required when there is a question of applicability of a requirement.

19. The 114 letter from the EPA should have been available during the public comment period as part of the Title V permit process. Attached is the September 14, 2009 letter from EPA to Lehigh.

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District Response: The public notice was published on August 12, 2009. The date of the EPA letter was September 14, 2009. The letter was not available at the beginning of the public comment period.

EPA's investigation is not part of the Title V renewal process and will proceed at its own pace.

20. BAAQMD advised Lehigh to apply permits in piecemeal to circumvent public hearings and scrutiny. In the November 2007 meeting, no one let the attendees know of the piecemeal process. BAAQMD is violating the intent of CEQA and its obligation as public employees.

District Response: Air District Regulation 1-104 prohibits any person from undertaking or authorizing any practice intended or designed to evade or circumvent District Rules or Regulations.

21. Lehigh should use activated carbon injection to control emissions.

District Response: Lehigh is in compliance with all current regulatory requirements. Lehigh did install an activated carbon injection system in May 2011, which is designed to reduce mercury emissions and keep exposures below thresholds requiring public notification under California's Air Toxics Hot Spots Program.

II. Particulate Matter

1. The proper response to an indication of a fabric filter leak is to conduct an inspection of the fabric filter compartment and bags, not just to make a stack visible emission observation using EPA Method 9 or 22.

District Response: Lehigh's Operation & Maintenance (O&M) Plan includes the procedures for maintenance, preventative maintenance and corrective action for dust collectors and baghouses including routine inspection and replacement of bags in addition to stack visible emission observation.

2. The draft permit has no provisions for a fugitive dust control plan, for documentation of all required work practices, and does not show measures that ensure compliance with required work practices. The District must determine whether a fugitive emission control plan constitutes a RACT PM control on existing cement plants to comply with the California State Implementation Plan.

District Response: Since the end of the first Title V Permit Renewal public notice, the Air District has required Lehigh to submit a Fugitive Dust Control Plan for sources not already included in the existing Operating & Maintenance Plan. Copies of both plans are available on the District's website at: <http://www.baaqmd.gov/Divisions/Engineering/Title-V-Permit-Programs/Title-V-Permits/Santa-Clara/A0017/Lehigh-Southwest-Cement-Company.aspx>.

3. The draft permit should be amended to require that all EPA Method 5 source tests require reporting of condensable PM emissions from the back-half method 5 sampling train.

District Response: On-going monitoring is generally performed to determine compliance with an applicable requirement. The standards in BAAQMD

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Regulation 6-1-310 and 6-1-311 are filterable particulate standards. They do not apply to condensable particulate and therefore reporting of the back-half is not appropriate for these standards.

NESHAPS Subpart LLL – Portland Cement Manufacturing Industry, Section 63.1350(b)(1) requires use of Method 5. Since there is no separate PM definition, this is a case where the method defines the pollutant that is regulated by the standard. In the case of NESHAPS Subpart LLL, the regulated pollutant is filterable particulate.

Testing for condensables may be required occasionally to help determine the inventory of particulate matter, but if there is no existing limit, this testing will not be used for periodic monitoring.

4. Visible particulate emissions occur on a daily basis, generally in the afternoon, and settle on the ground, cars, patios, skylights and residents. Attached are 18 pictures as credible evidence that Regulation 6-305 is violated daily.

District Response: Air District staff conducts frequent inspections of the facility to ensure that dust mitigation strategies are employed to reduce airborne fugitive dust emissions, trackout from trucks, and excessive visible dust emissions from operational equipment. When violations of air quality standards for visible emissions are documented by staff, Notices of Violation are issued and corrective action is sought. The Air District will continue to seek improvements by the facility to reduce fugitive dust emissions, which will reduce fugitive dust that might impact the community. At this time, the Air District has not documented any Regulation 6-1-305 violations at this facility.

Note that BAAQMD Regulation 6-1-301 does not prohibit any visible emissions. It prohibits emissions that have an opacity greater than Ringelmann 1 (about 20%) for more than 3 minutes in any hour. Therefore, emissions over Ringelmann 1 are allowed for 3 minutes in any hour. Visible emissions under Ringelmann 1 are allowed on a continuous basis. Therefore, it is possible for a source to have some visible emissions without being out of compliance.

Regulation 6-1-305: Visible Particles is violated if there is sufficient certainty that individually visible particles being emitted from a source are the same particles that fall on another person's property, and that those particles are emitted in sufficient number to cause annoyance to one or more members of the public. If an inspector can observe such particles leaving the source and can identify these same particles as landing on real property, than a violation may have occurred (assuming that one or more complainant is annoyed by the particles). If, however, there is some other possible source of the particles (e.g., other facilities, residents, vehicles, dust from roadways, non-anthropogenic sources), it may not be possible to conclude with reasonable certainty that the particles leaving the source are the same particles that are landing on real property.

Fall-out plates are typically used during Regulation 6-1-305 investigations, and these have been used by District inspectors in the vicinity of the Lehigh facility. Fall-out plate analysis has been inconclusive in terms of documenting a

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violation of Regulation 6-1-305 due to individually visible particle emissions from Lehigh.

The District has addressed the comments received regarding particulate fallout by incorporating a Dust Fugitive Control Plan into the Title V permit renewal. Implementation of the plan should help to minimize the generation of dust throughout the facility.

5. The Statement of Basis said that the operation is not out of compliance; thus, a compliance schedule is not required. There are discrepancies between what has been reported by Lehigh and what residents have observed.

District Response: While residents may make daily observations of the facility, they are not trained on regulatory procedures and how to document defensible violations. It is possible for a source to have some visible emissions without being out of compliance.

6. Only PM10, not PM2.5, is monitored. PM2.5 should be monitored because it is smaller and more harmful. The BAAQMD monitors PM10. It should be monitored by a neutral government policing agency.

District Response: The BAAQMD would be considered to be a neutral government policing agency.

PM2.5 is a subset of particulate matter that has recently come under heightened regulatory scrutiny. The District has plans to amend BAAQMD Regulation 2, Rule 2, New Source Review, and Regulation 6, Rule 1, Particulate Matter, General Requirements, which will specifically regulated PM2.5 emissions.

The Air District monitors both PM2.5 and PM10 in the air at a site in Cupertino, near the Lehigh facility.

7. The PM2.5 attainment plan should be submitted to EPA by 2011 or earlier instead of 2012.

District Response: BAAQMD is committed to reducing PM2.5 emissions and exposures, especially in communities that are more heavily impacted by emissions. To this end, the control strategy in the Bay Area 2010 Clean Air Plan includes Stationary Source Measure #9 to reduce emissions from cement kilns. This measure will reduce emissions of particulate matter, and of NOx which contributes to PM2.5 formation, as well as mercury and other air toxics. Air District staff has initiated the rule-making process to develop a proposed rule to implement Stationary Source Measure #9. Staff expects to bring the proposed cement manufacturing rule to the Board of Directors for their consideration in the first half of 2012.

Although recent monitoring data indicates that the Bay Area currently meets the 24-hour national PM2.5 ambient air quality standard, BAAQMD will fulfill the EPA PM2.5 requirements. Based on air quality monitoring data for the 2006-2008 period, EPA designated the Bay Area as non-attainment for the 24-hour national PM2.5 standard of 35 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) in December 2009. Non-attainment areas are required to prepare a State Implementation Plan (SIP) submittal to US EPA by late 2012 to demonstrate

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how they will attain the standard by December 2014. However, since that time, Bay Area PM_{2.5} levels have declined. Monitoring data for 2008-2010 and 2009-2011 shows that the Bay Area met the 24-hour national PM_{2.5} standard during this period.

8. S-360, total of 9 Wet Aggregate Loadout Systems, should be contained and sprinkled with water. They are in violation of the Clean Air Act and Clean Water Act.

District Response: The products in the loadout systems are purposely washed with water at the preceding sources; therefore, the wetted products do not need to be equipped with additional water spray.

9. S-370, Class 2 Aggregate Additive Transfer System, is also hazardous. Is this contained or sprinkled?

District Response: S-370 is required to be abated by the Haul Road Sprinkler System (water truck) per District Permit Condition #7251.

10. A-300, Water Spray System is not enough to maintain surface moisture at S-300, Wet Aggregate Storage Piles. Commenter does not believe that any water is sprayed.

District Response: Water spray systems are an effective method for controlling fugitive dust emissions. Please see EPA AP-42 Air Pollutant Compilation of Emission Factors, Chapter 13.2.4 at: <http://www.epa.gov/ttn/chief/ap42/ch13/final/c13s0204.pdf> for Aggregate Handling and Storage Piles. Lehigh has also implemented preventive techniques as described in the Fugitive Dust Control Plan for the control of fugitive dust emissions.

Permit condition #7252 requires that the piles be kept in a “surface-wet” condition. The owner/operator must record the surface condition on a daily basis.

11. A-350, A-360, A-370 and A-344, Water Spray Systems, have different operating parameters. Commenter doubts that water spray is being used. Commenter states that the inspector told her that the California Regional Water Quality Board told them not to spray down the dust, which could contaminate the ground water.

District Response: Sources 350 (Wet Screening and Conveying), 360 (Wet Aggregate Loadout System), 370 (Class 2 Aggregate Transfer System) and 344 (Wet Screening Feed Conveyor) are located at the rock plant. These sources are each equipped with water sprayers as required by their permit conditions. The permit conditions require for each source the water flow rate to be of such quantity as to maintain the material in a completely surface wet condition. The District inspections reflect that the stock pile water sprayers are keeping the surface wet as required.

The Regional Water Quality Board has indicated to the District’s Inspector that when using water anywhere at the facility they need to be careful not to create runoff that may contaminate the creek.

Note that the flow rates for these abatement devices in Table II-B in the draft Title V permit are mistaken. The parameters must be identical to any

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parameters in the permit conditions, which say that enough water must be used to keep the surface wet. In the case of a conflict between Table II-B and permit conditions, the permit conditions govern, since Table II-B is derived, in part, from the permit conditions. The flow rates will be deleted from Table II-B in the permit that is proposed to EPA.

A. Dust

1. Powder, dust and debris comes off big trucks between Stevens Creek Blvd & I-280.

District Response: Lehigh requires each aggregate truck exiting the plant to go through a wheel and vehicle truck wash system that removes debris that accumulated on the truck as a result of activities while in the plant. Lehigh controls fugitive dust from trucks transporting cement by providing vacuum equipment to the truck operators after loading and an optional truck wash system. Please refer to the “Fugitive Dust Control Plan” of the Title V permit renewal for the track-out prevention and control strategies. Also note that not all the gravel trucks on Stevens Creek Blvd. come from the Lehigh facility.

The County Sheriff’s Department is responsible for enforcement of truck vehicle code violations on Stevens Creek Blvd and other roadways which serve the plant. To report a suspected on-going violation, call the Sheriff’s non-emergency telephone number at (408) 299-2311.

2. The plant causes extreme dust pollution. There is dirt inside the houses, in the backyards, and on furniture. A commenter stated that he had to wash the car, clean the blinds, and clean the HEPA filters on the vacuum once a week.

District Response: Air District staff conducts frequent inspections of the facility to ensure that dust mitigation strategies are employed to reduce airborne fugitive dust emissions, track-out of material onto roadways from trucks, and excessive visible dust emissions from operational equipment. When violations of air quality standards for visible emissions are documented by staff, Notices of Violation are issued and corrective action is sought. Most often, violations are promptly corrected. The Air District will continue to seek improvements by the facility to reduce fugitive dust emissions, such as through the Fugitive Dust Control Plan, which should reduce fugitive dust emissions that might impact the community.

3. The plant spreads a grey ash over the area. It is likely to contain many toxic pollutants.

District Response: The gray ash may be a secondary plume. The plume is a phenomenon that forms after the kiln gas exhaust cools and comes in contact with atmospheric humidity and is detached from the kiln main stacks. The secondary plume is very rarely of sufficient opacity to exceed applicable emission standards. Nonetheless, the plant is currently investigating the contributing constituents in the plume and determining a solution. In addition, a recently installed hydrated lime injection system should mitigate the secondary plume.

4. The truck traffic generates a lot of diesel soot.

District Response: Diesel particulate matter is generated by truck engines and other diesel engines. Engines used to propel motor

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vehicles are regulated at the state and federal levels and are not subject to BAAQMD regulations per BAAQMD Regulation 1-110.1 and Health & Safety Code Section 42310(a). In addition, per BAAQMD Regulation 2-1-113.1.3, vehicles as defined in Section 670 of the California Vehicle Code are not subject to permits.

The District does not have regulatory authority over emissions of diesel particulate matter from trucks and other mobile equipment.

The Air District shares the community's concerns surrounding diesel particulate matter emissions from truck traffic. Air District staff has conducted outreach to South Bay trucking companies, including those that service Lehigh, to educate them about Air District grants available for truck retrofits to reduce diesel particulate matter emissions. Several interested firms have contacted the Air District to take advantage of the program. In addition, the California Air Resources Board has adopted stringent standards that will significantly reduce emissions of diesel particulate matter from off-road mobile equipment and on-road trucks in upcoming years. For further information about the Statewide Truck and Bus Regulation and future implementation dates, see: <http://www.arb.ca.gov/msprog/onrdiesel/documents.htm>. Information on available On-Road Vehicle programs at the Air District can be found on the Air District website at: <http://www.baaqmd.gov/Divisions/Strategic-Incentives/On-Road-Vehicles.aspx>.

5. A commenter stated that emissions of cement dust damaged his car, skylight, and window. The commenter stated that 9,000 cars had been damaged by cement dust.

District Response: The comments suggest that approval of the Title V permit renewal would likely result in air emissions that would continue or exacerbate such car and house damage. Because no evidence was presented establishing a causal relationship between the facility's air emissions and the damages mentioned, the District cannot find or reasonably infer that the facility is the sole cause or a significant contributor to this damage. Nor can we find or reasonably infer that the Title V permit renewal would cause or contribute to the damage. The proposed Fugitive Dust Control Plan and additional emission controls being installed on the cement kiln should reduce particulate matter emissions.

The District has been monitoring the air in Cupertino near Lehigh for particulate matter for the last several years and these data have not shown unusually high levels. PM10 and PM2.5 air concentrations near Lehigh have been similar to the levels seen in many other parts of the Bay Area, and are lower than some Bay Area sites.

6. There are often large quantities of grey powder in the bike lane, on the curb, and in the landscaped parking strip adjacent to the northbound vehicle lane on Foothill Blvd., which looks like cement and seems to originate at Lehigh and come off trucks traveling from Lehigh to Route

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280. This is unacceptable as it can become airborne, attack plants and parked cars, and wash into the storm drain and, therefore, the Bay.

District Response: Lehigh requires each aggregate truck exiting the plant to go through a wheel and vehicle truck wash system that removes debris that accumulated on the truck as a result of activities while in the plant. Lehigh controls fugitive dust from trucks transporting cement by providing vacuum equipment to the truck operators after loading and an optional truck wash system. Please refer to the "Fugitive Dust Control Plan" of the Title V permit renewal for the track-out prevention and control strategies. Also note that not all the gravel trucks on Stevens Creek Blvd. come from the Lehigh facility.

The Air District understands that the City of Cupertino provides street sweeping of Foothill Blvd. between Stevens Creek and 280 three times per week (Mon, Wed, and Thurs).

The County Sheriff's Department is responsible for enforcement of truck vehicle code violations on Stevens Creek Blvd and other roadways which serve the plant. To report a suspected on-going violation, call the Sheriff's non-emergency telephone number at (408) 299-2311.

7. Reduction of PM10 and PM2.5 are mandatory in Lehigh's Title V permit since at least 2 exceedances of the 24 hour PM10 standard have occurred in the past year [2009] in spite of reduced operation due to the economy.

District Response: There are no direct requirements for Lehigh's Title V permit to be revised to reduce PM10 or PM2.5 emissions as a result of exceedances of ambient air quality standards. The District's 2010 Clean Air Plan contains a number of proposed control measures to reduce emissions of fine particulate matter and their precursors. If these control measures result in the adoption of additional requirements applicable to the Lehigh facility, Lehigh's Title V permit will be revised to incorporate these requirements in the future.

8. A commenter asked that Lehigh be required to install adequate pollution control equipment with monitoring such as electrostatic filters in this new technology center.

District Response: Lehigh's cement kiln is already equipped with a membrane baghouse, which is equivalent or better than electrostatic filters. In order to comply with the future NESHAP amendments, the use of additional controls may be required and the Air District will ensure that adequate pollution controls and monitors are used at the cement kiln. The new NESHAP Subpart LLL will require Lehigh to have a continuous PM emissions monitor to demonstrate compliance with new standards.

9. The aggregate piles and the road outside are not being sprinkled with water or showered and this should be done.

District Response: The outside storage piles of coke, coal and aggregates are watered for dust control and mitigation. The roadways throughout the entire plant (including the Quarry) are also watered for

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dust control. The facility also maintains two street sweepers to minimize paved road dust emissions.

10. Please visit my home to see the dust.

District Response: The Air District responds to every air pollution complaint with a field response investigation. All air pollution complaints are received via a 24-hour complaint line, (800) 334-ODOR (6367), including those reporting dust, fall-out, and excessive emissions. District inspectors have investigated complaints alleging dust fallout emissions from Lehigh, but the results of these investigations have been inconclusive because dust is also emitted from roadways and many other sources outside of the Lehigh facility.

B. Smoke

1. There is a cloud of dust. What does it contain? A commenter stated that smoke was thick and gray in the early evening, after sunset. Another commenter stated that there are four or five miles of dust clouds south of Highway 17. A commenter stated that the plume is unacceptable. Emissions are visible daily after 3:00 pm, and from 6:00-6:30 pm.

District Response: District staff is aware of a visible plume that can be seen at certain times at the facility. The plume is composed of particulates that form from chemical processes above the kiln baghouses. This is known as a “secondary plume” because it forms after leaving the baghouse stacks. The appearance of the plume depends on certain variables such as the angle of the observer with respect to the plume and the sun, the point of observation of the detached plume, and the color contrast between the plume and the background against which it is being viewed. Enforcement staff utilizes EPA Method 9 when evaluating visible emissions and are required to follow specific criteria to document any potential violation. This particular plume, when viewed in late afternoon with the sun in the background, can appear darker when in actuality, read using proper EPA criteria, is almost always compliance with visible emission requirements. The hydrated lime injection system that has recently been installed at the Lehigh kiln is also expected to reduce the formation of a secondary plume.

Also, note that the facility is not prohibited from having any visible emissions. Per BAAQMD Regulation 6-1-301, the facility is not out of compliance unless the emissions exceed Ringelmann 1 for more than 3 minutes in an hour.

III. Toxics

A. Risk Assessment

1. Air Toxics Hot Spots Program, Boundaries and HRA: A 1000 foot radius does not cover schools, retirement communities, and nursing homes. The health risk assessment (HRA) is not health protective. It does not consider synergistic interactions (mutagenic, teratogenic) of HAPs, VOCs, TACs. HRA does not take into account individual cancer causing agents.

District Response: HRAs for the Air Toxics Hot Spots Program do not use a 1000 foot radius or any default regions of concern. The Air District is required by state law to use Health Risk Assessment Guidelines adopted by OEHHA for the Air Toxics Hot Spots Program. The OEHHA HRA procedures consider individual cancer causing agents and use an additive approach (rather than a synergistic approach). Nevertheless, the risk assessment process considers many risk and exposure factors and incorporates considerable margins of safety in order to protect public health. Please refer to the attached letter dated March 29, 2011 that was sent to Supervisor Liz Kniss regarding Dr. Singhal's comments regarding Synergistic Toxicity.

2. A commenter suggests adopting the Precautionary Principle to have the agencies and industry prove that a substance or process will not be harmful. It takes time to prove a substance is harmful, and time for regulation even to begin. Meanwhile, the children get sick and the environment has been degraded.

District Response: The Precautionary Principle suggests that action should be taken to prevent or minimize harm to human health and the environment even if scientific evidence is inconclusive. Unfortunately, the precautionary principle does not specify what should trigger action (e.g., how is a potential health threat established, and how is it determined if existing scientific information is inadequate or inconclusive?), nor does it specify what action should be taken after it is triggered. The precautionary principle is therefore difficult to craft into workable policies or regulations that are not capricious or arbitrary. The OEHHA HRA Guidelines are designed to err on the side of health protection when handling uncertainties in health effects data.

3. The applicant's Risk Assessment contains significant technical errors and fails to assess the lifetime incremental excess risk. The errors include:
 - a. The applicant's risk determinations on the use of alternate fuels and raw materials did not account for non-metal environmental carcinogen emissions such as chlorinated dibenzo dioxins/furans and several other airborne carcinogens discharged by cement plants.
 - b. The risk determination only includes the kiln and no other relevant emissions.

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- c. The applicant's SCREEN3 was based on a virtual single stack model instead of 32 vents at 2.2 ft diameter.
- d. The applicant did not provide any basis for the volumetric discharge rate specified as being used in the SCREEN3.

District Response: Lehigh submitted a revised HRA for the Air Toxics Hot Spots Program (ATHS) on March 30, 2011. The BAAQMD and OEHHA completed separate reviews of this document. Based on these reviews the District concluded that the HRA report is complete and was prepared in accordance with the state-wide ATHS HRA guidelines. The District approved the revised HRA report on November 8, 2011. OEHHA and the District have reviewed the risks and have found them to be below the levels that require AB2588 notification. The risk assessment is available at: <http://www.baaqmd.gov/Divisions/Engineering/Air-Toxics/Special-Reports.aspx>.

The Lehigh HRA addressed the emissions of a variety of emitted TACs, including chlorinated dioxins/furans and other non-metallic carcinogens. The HRA includes TAC emissions from the kiln and many other stationary sources at the Lehigh facility. The air dispersion model used in the HRA was EPA's AERMOD (and not SCREEN3).

- 4. The Title V permit renewal is based on an unreliable, outdated, and incomplete Health Risk Assessment. The HRA in the Statement of Basis is a year old, but states that they are meeting the health protective risk standard. Yet the Fact Sheet on June 24, 2009, said it was received in March 30, 2009. Page 3 of the Fact Sheet states risk levels are rising which suggests the HRA is no longer reliable. Updating the HRA is mandatory prior to the renewal of Lehigh's permit. The HRA used emission data from 2007 and only estimates and combined with other additional assumption to construct a model to predict the impact. The HRA based on Lehigh's last year report and only on 1 source. The 2001 Cr+6 was not corrected until 2008.

District Response: Lehigh submitted a revised HRA for the Air Toxics Hot Spots Program (ATHS) on March 30, 2011. The BAAQMD and OEHHA completed separate reviews of this document. Based on these reviews the District concluded that the HRA report is complete and was prepared in accordance with the state-wide ATHS HRA guidelines. The District approved the revised HRA report on November 8, 2011. OEHHA and the District have reviewed the risks and have found them to be below the levels that require AB2588 notification. The risk assessment is available at: <http://www.baaqmd.gov/Divisions/Engineering/Air-Toxics/Special-Reports.aspx>.

Note that the ATHS program is not a federal requirement, but rather a state requirement. Nonetheless, it is an applicable requirement as defined by BAAQMD Regulation 2-6-202. Submittal of HRAs is not an annual requirement. Facilities are not required to submit HRAs when they are requested to do so by the District. Lehigh has complied with

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the District's request for an HRA, and is otherwise in compliance with the requirements of the ATHS Program.

5. HRA should be based on local epidemiological data rather than those extrapolated from emission data.

District Response: The Title V permit renewal process does not by itself require the preparation of a Health Risk Assessment (HRA). The requirement for this facility to conduct an HRA stems from the California Air Toxics Hot Spot (ATHS) Program. An HRA conducted for the ATHS program must be prepared in accordance with emissions inventory guidelines adopted by California Air Resources Board (CARB) and HRA guidelines adopted by the Office of Environmental Health Hazard Assessment (OEHHA). These HRA guidelines require the use of OEHHA approved health effects values to evaluate the health impacts from a facility rather than epidemiological data.

Lehigh submitted a revised HRA for the Air Toxics Hot Spots Program (ATHS) on March 30, 2011. The BAAQMD and OEHHA completed separate reviews of this document. Based on these reviews the District concluded that the HRA report is complete and was prepared in accordance with the state-wide ATHS HRA guidelines. The District approved the revised HRA report on November 8, 2011. OEHHA and the District have reviewed the risks and have found them to be below the levels that require AB2588 notification. The risk assessment is available at: <http://www.baaqmd.gov/Divisions/Engineering/Air-Toxics/Special-Reports.aspx>.

6. There may be short-term and long-term health impacts that may not be recognized at this time.

District Response: The HRA is based on the emissions of known or suspected toxic air contaminants (TAC) from the facility. Health impacts are determined by applying the current OEHHA adopted risk assessment health values to the modeled concentrations of each TAC. If previously unknown compounds are identified or if toxicity values of known compounds are changed in the future due to a better understanding of the impacts, the risk from the facility would be re-assessed. The BAAQMD collects air toxics emissions data from Lehigh on an annual basis.

7. The health risk assessments is inadequate. There is not adequate real data. The heavy metals assessment is done through modeling and is an estimate.

District Response: The risk assessment performed for Lehigh is adequate based on regulatory requirements. The methodology for assessing risk is based on the guidelines of the California EPA Office of Environmental Health Hazard Assessment (OEHHA). As noted, the health risk from Lehigh is estimated, but the procedures used are designed to over-predict risk in order to be health protective.

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8. The HRA based on a model. There is no actual check of the health risks. Risk should be based on toxic metals and chemicals that are part of the plume.
District Response: The HRA was based on toxic metals and other toxics air contaminants that are emitted from the facility (most emissions are from the kiln exhaust, but some are “fugitive”, i.e., not from stacks). The District has also calculated health risks in the community near Lehigh based on monitored levels of toxic air contaminants in the ambient air (see summary of results in Appendix B).
9. BAAQMD must demand an accurate account of HAPs and classify the Lehigh’s status of major HAPs in the Title V permit.
District Response: The Air District required that Lehigh collect additional data regarding chromium (as well as mercury, other metallic toxic air contaminants (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 Air District on March 30, 2009. It was later updated, and submitted to the Air District on March 30, 2011. The Air District added a sentence in the Statement of Basis specifying that Lehigh is a major source of HAPs.
10. Cumulative effects have not yet been reviewed and will never be. The medical test to humans about the exposure has never been done and should be done by EPA. Bio-monitoring in humans will show how much pollution we are accumulating in our cells.
District Response: The Air District suggests that the commenter contact their city or county health officer regarding bio-monitoring. Nevertheless, bio-monitoring is not a state or federal requirement and this comment is not within the scope of the Title V permit renewal. The District has calculated health risks in the community near Lehigh based on monitored levels of air pollutants in the ambient air (see summary of results in Appendix B). This monitoring records air concentrations resulting from the cumulative impacts of all sources of emissions.

B. Mercury

1. The mercury emission rates are one of the highest in the nation. The mercury (585 lb/yr) is linked to autism. Autism is highest in Cupertino schools. There are fish advisories in Stevens Creek and SF Bay. 1 in 6 women has high mercury levels that may damage a fetus. A UT Health Science presentation links mercury from coal firing to autism, but UT does not want to share the presentation. For every 1000 pounds of mercury released, there was a 2.2 % increase in autism rates. Cupertino ranks #2. 15.4 children out of every 1,000 are known to be diagnosed with autism. There has been a 30% increase in the last 3 years, 300 % higher than Alum Rock and Campbell Schools. Stevens Creek elementary ranks #28, 1 in 150 children born, higher in boys with 1 in 94.

District Response: There has not been a conclusive finding that links mercury emissions to autism; however, Lehigh is not unconcerned about mercury emission and any potential health impacts. Lehigh has 1) taken the lead in reporting mercury emissions based on a more conservative mass balance approach (other facilities most likely are still using a stack testing methodology to estimate mercury emissions, making meaningful comparisons between facilities difficult), and 2) proposing and incorporating mercury emission reduction technologies. Controls already installed include a Kiln Mill Dust Collector (KMDC) dust shuttling system and activated carbon injection system. Lehigh installed a mercury CEM, which will monitor mercury emissions continuously.

Lehigh will continue to investigate and institute emission reducing technologies for other pollutants in order to comply with future-effective emission limits and standards.

2. A commenter suggests that mercury be limited to the 47 pounds per year in EPA's proposed NESHAP standard.

District response: NESHAP Subpart LLL was finalized on September 9, 2010. The final standard for mercury is 55 lb/million tons of clinker. The facility will be required to comply by September 9, 2013. This is the standard that the District is required to incorporate into Lehigh's Title V permit.

3. The mercury emissions were 454 pounds in 2006 (5th in the country). Was it revised to 238 pounds in 2007?

District Response: The Air District has reviewed Lehigh's comprehensive toxic emission inventory, has required Lehigh to revise the emission estimates, and has ultimately approved these emission estimates for the ATHS program. During the review process, data collected indicated significantly higher mercury emissions (based on a mass balance approach) compared to previous estimates based on source testing. Lehigh is now reporting mercury using the material

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balance approach and used the higher emission estimates in the health risk assessment.

4. Lehigh's sister plant in Maryland already reduced 85% mercury by 2012. Why not do a similar thing in Cupertino?

District Response: Lehigh has already implemented early mercury emission reduction measures by installing a KMDC dust shuttling system, and an activated carbon injection system, and has recently reported reductions of about 90%. It is important to note, however, that the regulatory standards for mercury are not based on a percent reduction basis.

5. The District wants to take the path of least resistance by issuing the Title V before the new EPA Mercury restrictions (Subpart LLL) become effective. Mercury from cement plants are linked to autism cases in Texas.

District Response: See responses above. In addition, Title V permits are intended to be renewed on a five year cycle. There would be no benefit to delaying the issuance of permit renewal until after the NESHAP amendments become effective. In that scenario, the current permit would remain in effect and Lehigh would still be required to meet all applicable regulatory requirements whether or not the requirements are incorporated into their Title V permit.

C. Asbestos

1. BAAQMD has done a poor job in testing benzene and asbestos. Impose a requirement to test for asbestos in quarry rock by a State-certified geologist in the Title V permit.

District Response: The Air District has approved an integrated multi-sample testing approach for benzene that was used for the comprehensive emission inventory report and health risk assessment for the ATHS program. While any emission estimation approach using sampling or source testing has some uncertainty, usually using multiple samples will provide a more representative estimate of emissions. The results of the integrated multi-sample test produced results that were consistent with historical testing.

Naturally-occurring asbestos can be found in ultramafic rock, which includes serpentine formations throughout California. In July 2002, the CARB adopted an Air Toxic Control Measure (ATCM) for Naturally Occurring Asbestos (NOA), which applies to Construction, Grading, Quarrying, and Surface Mining Operations.

NOA is not a concern at the Permanente site. While the site lies within a mapped ultramafic geologic unit, third-party reviews by State-Certified Geologists indicate that the underlying geology is not a type likely to produce NOA.

Moreover, between 1981 and 2007, the Permanente site was tested on numerous occasions for the presence of NOA in response to community requests and regulatory directives. None of these investigations revealed any evidence of NOA at the site.

In 2007, in response to an inquiry from the Cupertino community, CARB and Air District staff conducted an investigation into the applicability of the ATCM relating to NOA. No evidence of NOA could be found and CARB determined that at this time, Lehigh is not subject to the requirements of the ATCM.

D. Chromium

1. The recent hexavalent chromium adjustment (2 x previous modeled estimated amount) was an example of setting new toxic standards to accommodate the amount emitted. Therefore, the statement “Permit renewal can also be denied if a facility is found to be incapable of complying with its permit conditions” is a moving target. BAAQMD made a false statement that everything is OK and that they are being protected from harmful pollutants by saying the facility is in compliance.

District Response: The Air District did not raise any toxic standard. As explained in the Engineering Evaluation for permit Application #18535, the toxic baseline limits needed to be corrected in accordance with Regulation 2, Rule 5 – New Source Review of Toxics Air Contaminants, because the limit was mistakenly set using an incremental increase without the baseline level. The condition (Condition #603) limit is the baseline emissions plus the incremental emissions.
2. The hexavalent chromium in the 2001 source test was conveniently reset from 0.457 lb/yr to 1.059 lb/yr (double the amount) and claimed to be a miscalculation. The same is true for beryllium and lead. There have been no announcements or recording by Lehigh of its Cr6+ until now with the official statement that they had been understated. Title V should not include the increase of Cr6+.

District Response: See response above.
3. The BAAQMD approach is “hands off.” The SCAQMD approach is “proactive.” BAAQMD did not install a CR6+ monitor until EPA ordered it. BAAQMD continues to avert community scrutiny and stating that alerting residents is not required because the cement plant is located more than 1000 feet from a public school.

District Response: Air 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 in the Bay Area uses a naturally occurring iron ore that has much lower chromium levels than steel slag, and also utilizes enclosed silos rather than storage piles for clinker storage. The Air District therefore did not have any reason to expect elevated level of hexavalent chromium existed near Lehigh. The monitoring conducted at Stevens Creek Elementary school by EPA and the District confirmed that there were not elevated levels of hexavalent chromium in the air.

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There are specific public notice requirements in BAAQMD Regulation 2-1-412 for a new or modified source that has an increase in toxic air contaminants as defined by BAAQMD Regulation 2, Rule 5, and is located within 1000 feet of a school. Evaluations of applications for District permits routinely contain an analysis of whether this requirement is triggered, and if so, how the District has complied with the requirement. The sources of emissions at Lehigh are not within 1000 feet of a school, and so permit applications submitted by Lehigh do not require public notification under this provision.

The District acknowledges that information about emissions is public information. A District-wide report of the emissions of toxics air contaminants from stationary sources is also prepared for public information on a periodic basis. The last report was published on December 31, 2009, and can be found on the District's website at: <http://www.baaqmd.gov/Divisions/Engineering/Air-Toxics/Toxic-Air-Contaminant-Control-Program-Annual-Report.aspx>. The information is available by location, by facility, and by county. Summaries of air monitoring data collected near Lehigh are also available to the public.

E. NESHAP Subpart LLL

1. Add a clause in the Title V permit stating that NESHAPS, Subpart LLL, shall be effective upon release of the EPA rule.

District Response: The requirements of the amended NESHAP, Subpart LLL have been incorporated into the proposed Title V permit renewal. These requirements become effective as specified in the EPA rule.

2. Will all applicable EPA requirements apply when it becomes law [when the NESHAPS, Subpart LLL, regulation is applicable] with no grandfathered clauses?

District Response: As an existing facility, Lehigh is subject to the NESHAP standards for existing sources. These applicable requirements have been incorporated into the proposed Title V permit renewal. As an existing source, Lehigh will also not be subject to emissions standards for criteria pollutants as established in EPA's New Source Performance Standard (NSPS) for emissions from Portland Cement Manufacturing. The Air District will be proposing emissions limits for criteria pollutants in a new regulation to control emissions from Portland cement manufacturing operations. A public workshop for this proposed rule was held in Cupertino on December 12, 2011, and rule adoption is anticipated in the first half of 2012.

F. Toxics-General

1. Pages 1 and 2 of the Monitoring Report dated May 30, 2009, indicate 7 exceedances of the Ringelmann opacity standard. The exceedances of the opacity limit imply increased emissions of toxic components.

District Response: The seven exceedances of the Ringelmann opacity standard are associated with 3 Notices of Violation: A50008, A50009, and A50010. Following is a description of each incident.

- A50008 at S-141,154, Raw Mill and Kiln: This violation of excessive dust emissions occurred due to an abatement device problem involving two fiberglass bags in the baghouse. Compliance was achieved on the same day when the bags were replaced with new ePTFE¹ membrane bags. Prior to restarting the unit, all bags in that compartment were fully inspected and prioritized for June 2009 replacement.
- A50009 at S-16, Clinker Transfer System: This violation of excessive dust emissions occurred for a short period at the clinker cooler bucket elevator discharge point the day that kiln operations

¹ Expanded polytetrafluoroethylene

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resumed after a 2½ month shutdown. Compliance was achieved during the investigation when the violation ended.

- A50010 at S-161, Gravity Cooler: This violation of excessive dust emissions occurred when operations restarted following a power outage shutdown that resulted in fine, raw clinker material flushing from the precalcining tower through the kiln into the clinker cooler. Compliance was achieved when the fine materials were flushed through the process.

The emissions during these incidents would contain PM including mercury and other metals; however, the exceedances were promptly corrected, so the increases in emissions were not significant.

2. Burning coke since May 30, 2007 may increase emissions of vanadium, selenium, cadmium, hexavalent chromium and SOx. The emission information should be made available to the public so that the public can fully assess the proposed Title V permit.

District Response: The fuel change was evaluated in permit Application #15398, which is available starting on page 106 of the Statement of Basis published in January 2011. The evaluation stated that there could be a small increase in hexavalent chromium emissions, but that the increase in risk would be within acceptable limits.

Information on emissions of metals is available through submitting a Public Record Request and requesting the December 2007 – NESHAP source test results.

Detailed information on the emission rates of metals is also in the facility's updated health risk assessment, which is available at: <http://www.baaqmd.gov/~media/Files/Engineering/Air%20Toxics%20Programs/Lehigh%20HRA%202011/Lehigh%20AB2588%20Health%20Risk%20Assessment%20March%202011.ashx?la=en>.

3. There is no real meaningful monitoring of TACs. The BAAQMD relies on third party data after validating or confirming any data that Lehigh chooses to provide.

District Response: Third party test data is subject to review and approval by staff in the BAAQMD Source Test Section. The District is provided advance notification of compliance tests. It is required that results from noticed testing be provided to BAAQMD Source Test staff for review and disposition. Additionally, Lehigh is required to disclose the results of in-house engineering study work (unnoticed testing) any time a violation of permit conditions is indicated. Results reported by third party testing contractors are generally very reliable. Failure to conduct accurate tests and report the unbiased results could result in the third party testing contractors losing their California Air Resources Board approval pursuant to Section 91207 of Title 17 of the Code of California Regulations.

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4. In the absence of direct monitoring of Lehigh emissions and dangerous chromium and mercury emission at other cement plants, the Title V permit should not be renewed.
District Response: Emissions of mercury, chromium, and a variety of other toxic air contaminants are directly monitored at the Lehigh facility. Lehigh installed a new continuous in stack mercury monitor in October 2011. This mercury monitor is the first to be installed at a cement plant in the United States and is waiting for the required certification and approval from EPA and BAAQMD. There is no known continuous emission monitor for chromium at this time. The renewed permit will require Lehigh to perform an annual source test and report the results for hexavalent chromium and total chromium on an annual basis. District staff is unaware of a cement plant subject to more rigorous air toxics monitoring requirements.
5. Lehigh is a major source of hazardous air pollutants.
District Response: A major source of hazardous air pollutants is a facility that has a potential to emit more than 10 tons/yr of any hazardous air pollutant (HAP) or more than 25 tons/yr of any combination of hazardous air pollutants. The District acknowledges that Lehigh is a major source of HAPs.
6. The diesel exhaust is choking us. Diesel exhaust contains PM2.5.
District Response: Truck engines are not subject to District regulations. The California Air Resources Board regulates truck emissions and those requirements are not appropriate to be included in the BAAQMD Title V permit renewal. CARB has adopted stringent standards for trucks and mobile equipment that should result in significant decreases in the emissions of diesel particulate matter and other pollutants in upcoming years.
7. Synergistic toxicity, a new field of medical science, states that toxins together trigger disease. The District has to think of the effect in 45-50 years from now for the younger generation.
District Response: Please refer to the attached letter dated March 29, 2011 that was sent to Supervisor Liz Kniss regarding Dr. Singhal on Synergistic Toxicity.
8. Toxics data from Lehigh are not accurate.
District Response: The toxic emissions inventory for Lehigh is updated each year. This emissions inventory will be updated as new source test data and emission monitoring data become available. Where there is uncertainty regarding emissions calculation procedures, the BAAQMD uses conservative emission calculation approaches that tend to result in an over-estimate of the emissions rather than an under-estimate of emissions, because such methods are the most protective of public health.

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9. A commenter is concerned about Hydrochloric acid (HCl) because of no data.
District Response: Lehigh is required to perform an annual source test for hydrochloric acid. Ultimately, Lehigh will continuously monitor emissions of HCl at the kiln stack with a CEMS as required pursuant to the new NESHAP requirements.
10. Emissions of HAPs (Mercury, Lead, CR+6, Vanadium, SO₂, NO_x, CO₂ and many others) should be tested by a nonbiased agency. Why is this not being done? Who is responsible?
District Response: Part of the reason the Source Test Section reviews reports is to assess the accuracy and potential bias of data. There is ample raw data required to be included with every report to allow a knowledgeable reader the ability to reconstruct the conclusions presented. Results reported by third party testing contractors are generally very reliable.
11. Lehigh should establish a large reserve fund as a running operating expense in event that community medical costs ensue from the horrendously concentrated truck traffic.
District Response: The District does not have the authority to require such a fund.

G. Health Concerns

1. Silicon (like chards of glass) particles effect seniors causing silicosis in lungs.
2. A commenter stated that he coughs from a constant dry throat.
3. My son has lots of allergies.
4. Commenter has nasal congestion and eyes going crazy. It takes 15 miles before symptoms disappear near Camden off Highway 85.
5. Commenter has asthmatic cough.
6. Bay Area Breast Cancer in Asian women is much higher than the nation. Is there any study on that?
7. 72% of cement plant workers had significant loss of their tooth surface enamel.
8. Commenter has asthma.
District Response to 1-8: Although these are all potential legitimate health concerns, these comments are outside the scope of the Title V permit renewal process.

IV. Greenhouse Gases

1. The District must establish new CO2 reduction guidelines pursuant to AB32.

District Response: AB32 does not require the Air District to adopt rules or guidelines to reduce emissions of CO2 and other greenhouse gases (GHG). Rather, CARB is required to adopt these GHG control measures. Lehigh is subject to CARB's GHG Cap-and-Trade regulation. Under separate authorities, the Air District has included a number of control measures in its 2010 Clean Air Plan to reduce emissions of GHGs. These control measures include:

- Livestock Waste (methane)
- Natural Gas Processing & Distribution (methane)
- Greenhouse Gases in Permitting (CO2)
- Energy Efficiency (CO2)
- Renewable Energy (CO2)
- Urban Heat Island Mitigation
- Tree planting
- CEQA Guidelines
- Indirect Source Review

Note that the District does not have the authority to adopt every one of the above measures. The implementing agencies for the Clean Air Plan are the District, the Association of Bay Area Governments, the Metropolitan Transportation Commission, and the cities and counties of the Bay Area.

V. Air Monitoring

1. Commenter wants to see test data or monitoring results for Redwood Dr./Vineyard Dr. in Los Altos.

District Response: The Air District operated only one monitoring station in the City of Los Altos, which was located on Covington Road and operated from 12/6/91 to 3/3/92 as part of an Air District wood smoke study. Air monitoring data is available on the District's website at: <http://gate1.baaqmd.gov/aqmet/aq.aspx>.

2. Monitoring should be every month instead of 6 months.

District Response: There are no Air District monitors that operate on a one sample every 6 months cycle. The current monitor at Monta Vista Park in Cupertino measures carbon monoxide (CO), nitrogen oxides (NOx), ozone (O3), sulfur dioxide (SO2), and fine particulates (PM2.5) continuously, and toxic gases and metals every 6 days.

3. Stevens Creek Elementary School (upwind) should not be the only location for air quality monitoring – Kennedy School and Monta Vista Park are downwind, so the data are not relevant.

District Response: This location was chosen by the EPA as part of the Schools Air Toxics Monitoring Initiative. The Air District provided input based on available meteorological information, which identified Stevens Creek Elementary School as a school potentially impacted by plant operation. This EPA program was scheduled to last for 60 days, but the Air District funded the operation for a full year, so that changes in air quality due to seasonal variations in meteorology were measured.

The results have shown that Cr6+ air concentrations are not a concern at the site. Meteorological measurements were also included at Stevens Creek Elementary as part of this project. Analysis of the meteorological data show that on a number of sampling days, predominate winds were from the direction of the facility. In addition, wind direction varies throughout the day and night so that emissions from the source would have impacted the monitoring location throughout the monitoring effort.

The Air District worked with the City of Cupertino to establish an ambient air monitoring station at Monta Vista Park, since September 1, 2010. A summary of the first year of monitoring at this site is included in Appendix B.

4. Commenter wants to see test data or monitoring results for schools, hospitals, and especially at the Sunnyview retirement home.

District Response: There are over 100 cities and towns in the Bay Area with thousands of industries. There are simply not enough resources to place sampling equipment at every location with sensitive receptors. Modeling can provide this information in a more cost-effective manner.

VI. Enforcement

1. Is there a time limit that corrective or preventative actions can be implemented?

District Response: The Air District begins a two-step process once a violation is discovered and a Notice of Violation (NOV) is issued. The first step is to end the violation and bring the alleged violator back into compliance. Once compliance is achieved, the second step is to proceed with penalty assessment. If a facility does not achieve compliance in a timely manner, the Air District proceeds with additional enforcement action. A 5-year compliance review conducted by the Air District of the Lehigh facility showed that most violations returned to compliance either before or shortly after NOV issuance and that there were no ongoing violations or patterns of recurring violations. The Fugitive Dust Control Plan should help prevent many of these violations from occurring in the future.

2. There is a problem with the inspectors' working hours. There is no one to call after 5:00 pm.

District Response: The Air District responds to every air pollution complaint with a field inspector investigation. All air pollution complaints are received via a 24-hour complaint line, (800) 334-ODOR (6367), including those reporting dust and excessive visible emissions. Depending on the severity of the air pollution problem, staff may be called back to work on evenings, nights, and weekends to investigate. Complaint investigations can determine violations even when investigations are conducted at a later date.

3. Violations are not being paid attention. Dust can be seen from the post office and is not being fixed within 24 hours.

District Response: The public may call the air pollution complaint number 1-800-334-ODOR (6347) whenever an air pollution problem is observed. A field inspector will investigate the complaint and take appropriate enforcement action if a violation is documented. The appearance of dust does not necessarily result in the issuance of an NOV. The regulations do not require absolutely no visible emissions, but rather no emissions over Ringelmann 1 for more than 3 minutes in any hour using a specific observation method. District inspectors frequently visit the facility and evaluate any dust plumes observed, following EPA methodology. Even if a violation isn't documented, inspectors advise facility operators to address dust issues in order to minimize dust emissions.

4. Inspectors have large areas to cover. The response time is not quick enough, so residents give up. There are few reports even though the nuisances are significant and ongoing.

District Response: The Air District makes every effort to dispatch and respond to air pollution complaints from potential nuisance sites in a timely manner. Each air pollution complaint receives a field inspector investigation.

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5. Why are violations still pending at least 5 years later?
District Response: Non-compliance issues associated with Notices of Violation are addressed quickly. Pending settlement can take an additional amount of time as the District handles cases.

6. Violations go unresolved for years and then are “resolved” by a compromise in the meaning of the regulation or by a miniscule fine.
District Response: Non-compliance issues associated with Notices of Violation are addressed quickly. Pending settlement can take an additional amount of time as the District handles cases.

Notice of Violation penalties are governed by State statute that limit maximum penalties the District can assess, based on circumstances of the individual violation. Penalty assessments are typically resolved through settlement negotiations and must take into account a number of findings, including past violation history, length of time of violation, extent of harm, etc. For large facilities such as Lehigh, it is not uncommon for several Notices of Violation to be settled as a group, rather than individually. Lehigh recently settled two groups of Notices of Violation for \$73,500 and \$25,000, respectively.

7. There were 350 complaints between 1989 to 2009, but only 27 confirmed complaints. There is a suspicion that the confirmed citations are kept low to ensure that the Title V permit is not jeopardized. Citation fees are low just like parking tickets, while the community is continually subject to ongoing pollutions and lives are lost.

District Response: In the past 5 years, from 2004 to 2009, the Air District received 105 complaints, 9 of which were confirmed to Lehigh. All air pollution complaints registered in the Bay Area are confirmed using established procedures, whether reported against Lehigh or any other facility. It is important to note that confirmed complaints are different than violations, in that there may not be a violation associated with a confirmed complaint.

Notice of violation penalties are governed by State statute that limit maximum penalties the District can assess, based on circumstances of the individual violation. As mentioned in VI.5 above, penalty assessments are typically resolved through settlement negotiations and must take into account a number of findings, including past violation history, length of time of violation, extent of harm, etc.

8. How does BAAQMD regulate the fugitive dust created from the trucks that transport cement? Has a waterless street sweeper been considered?

District Response: The District regulates fugitive dust using BAAQMD Regulations 6-1-301, Ringelmann No. 1 Limitation. In addition, the Fugitive Dust Control Plan contained in the proposed Title V permit renewal, will help focus the efforts of Lehigh staff to reduce fugitive dust from trucks, as well as other dust generating activities at the plant to help reduce violations. Lehigh controls fugitive dust from trucks transporting cement by providing vacuum equipment to the truck operators after loading and an optional truck wash system.

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The plant also has a water truck for roadways and a waterless street sweeper.

9. The District should have an explicit term in the permit that requires Lehigh to comply with all past, present and future federal, state and local regulations instead of saying “we have no authority...”

District Response: The Air District updated Lehigh’s Review of Compliance Record in the Statement of Basis, under Attachment A, which certified that there are no ongoing non-compliance issues as of October 31, 2011.

In addition, the permit has a statement in Section V, Schedule of Compliance, that states:

“The permit holder shall comply with all applicable requirements cited in this permit. The Permit holder shall also comply with applicable requirements that become effective during the term of this permit on a timely basis.”

The permit does not address past non-compliance. The Review of Compliance Record mentioned above does analyze the compliance status of the facility since the issuance of the initial Title V permit in 2003.

10. There is a compliance issue; therefore, a compliance plan needs to be included in the Title V permit. There should be a compliance schedule and the company must report any deviations from the permit requirements.

District Response: There are no ongoing violations or pattern of recurring violations that would require a compliance schedule. The Air District’s compliance report is attached in Appendix A of the Statement of Basis for the Title V permit renewal.

11. Lehigh is not in compliance. For the compliance certification submitted by Lehigh for the time period, Nov. 1, 2007-October 31, 2008, Dick Hansen Rodriguez checked a non-compliance box, signed on August 13, 2009. It was initialed by the supervisor on September 4, 2009. (See Title V Annual Compliance Certification Form, Site A0017).

District Response: Title V facilities are required to submit semi-annual monitoring reports and annual compliance certifications. In those documents, the companies are required to report any instances of non-compliance that occurred during the reporting period, even after the source achieved compliance. There have been instances when Notices of Violation were issued resulting from Lehigh reporting non-compliance in those documents. The designation of “in-compliance” or “not in-compliance” is based on the facility’s status at any time during the reporting period. If a facility reports non-compliance in the report, as it is required to do, the inspector will check the box indicating “not in-compliance” on the form. That check box is an indicator of non-compliance for the period under evaluation. It is not necessarily an indicator that the facility is in ongoing non-compliance.

In all cases during this Title V review period, non-compliance was corrected quickly and there were no ongoing or recurrent violations at the facility that would require a schedule of compliance. To improve compliance and

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reduce dust emissions, a requirement for a Fugitive Dust Control Plan has been incorporated into the proposed Title V permit renewal. Lehigh's next Annual Compliance Certification was due on October 31, 2011.

12. Pages 1 and 2 of the Monitoring Report dated May 30, 2009, indicate 7 exceedances of the Ringelmann opacity standard. Ringelmann reading required the presence of an inspector, but most of the time the inspector is not on duty. Thus, the number of exceedances reported did not reflect the actual number of exceedances.

District Response: Lehigh is required at several sources to take daily visible emissions readings by its own staff. Lehigh's staff is required to attend and be certified by the California Air Resources Board, following Method 9, in the same way as Air District staff. If Lehigh staff observes and records a deviation, they are required to report it to the Air District, which then reviews whether or not enforcement action is appropriate. If nearby residents observe excessive visible emissions, they should report it as soon as possible using the Air District's complaint system.

13. A commenter was horrified to hear residents of other communities tell them about the highly inadequate, lax and unprotective regulations by the BAAQMD in areas such as West Oakland, Bay View Hunter's Point, Berkeley, Richmond, where polluting industries get a Fast Pass to pollute.

District Response: The Air District is the public agency which regulates stationary sources of air pollution in the nine counties surrounding the San Francisco Bay. Its rules and regulations apply throughout the region and are applied and enforced equally in order to provide a healthy breathing environment for Bay Area residents. The Air District recognizes that some localized areas, including those listed above may be impacted by greater concentrations of toxic air contaminants (TACs), predominantly diesel particulate, due to their proximity to transportation corridors. To address health impacts from airborne TACs, the Air District's CARE (Community Air Risk Evaluation) Program and CACI (Clean Air Communities Initiative) seek to reduce health disparities due to these pollutants. These initiatives will benefit these communities.

14. The inspectors are ineffective. All complaints must be before 3 PM. Residents are discouraged, so only 4 violations have been reported although emissions occur almost daily.

District Response: The Air District responds to every air pollution complaint with a field inspector investigation. All air pollution complaints are received via a 24-hour complaint line, (800) 334-ODOR (6367), including those reporting dust and excessive visible emissions. Depending on the severity of the air pollution problem, staff may be called back to work on evenings, nights, and weekends to investigate. Complaint investigations can determine violations even when investigations are conducted at a later date.

15. A commenter wants to know why the BAAQMD has overlooked and ignored the nuisance requirement at Lehigh and has not demanded action.

District Response: Public nuisance is a community-based standard. Any nuisance claim must be consistent with the Health and Safety Code's

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criterion of affecting a “considerable number of people” under the statute. Under the statute, the District must be able to demonstrate that members of the public are adversely affected by the air pollution on any particular day. Although inspection staff has not documented a public nuisance violation against Lehigh, all air pollution complaints called into the Complaint Line, (800) 334-ODOR (6367), are investigated.

16. Non-compliance should result in denial of Title V permit renewal. Who will carry out justice as the Lehigh continues to be a nuisance and in non-compliance?

District Response: In all cases during this Title V review period, non-compliance was corrected quickly and there were no ongoing or recurrent violations at the facility that would require a schedule of compliance. Under these circumstances, there is no authority under Title V and its implementing regulations to deny the permit renewal.

17. The permit holder is responsible for compliance. Who will enforce the law?

District Response: The Air District is responsible for enforcing EPA, State and local applicable air requirements. Inspections, permits and penalties for violations are tools that the Air District uses to keep facilities in compliance.

18. The maximum capacity for each source is shown in Table II. The table states that exceedance of the maximum allowable capacity is a violation of Regulation 2, Rule 2, Section 301. Who enforces these limits?

District Response: Lehigh has not exceeded the maximum capacities in Table II-A. The District is the agency that enforces the limits in the Title V permit.

VII. Monitoring and Reporting

1. The stacks are not adequately monitored. There is no single stack, and data is not accurate.

District Response: The combined emissions from the 32 stacks are regulated as if they are from a single emission point. It is not practicable, and not necessary, to routinely sample all 32 stacks to develop that source's emissions. Gaseous pollutants such as CO, NO_x and many metal vapors are distributed homogeneously throughout the emission train. Baghouses abating these sources do not alter the emission rates or concentrations of these gases. Particulate matter is subject to wider variability, since baghouse filters do not wear uniformly, fan speeds vary to some degree, and the equipment and consumable items are maintained on an "as-needed" basis.

The Air District recognizes that extrapolating a testing subset as a whole may be subject to larger tolerances. Nevertheless, the Air District believes that sampling a random selection of three individual baghouse cell vents (stacks) adequately addresses representative sampling criteria. The average of emissions from three randomly chosen stacks deemphasizes abnormally high or low results obtained from any single stack. The Air District judges the tolerance of error associated with those measurements to be usually acceptable. Sampling from a broader cross-section of the stacks is considered on a case-by-case basis, and so directed when deemed necessary.

Lehigh is planning to upgrade the kiln baghouse and merge the configuration of the 32 stacks into one tall, single stack. This change will enhance the dispersion of emissions from the stacks as well as simplify and improve the emissions monitoring systems. Lehigh anticipates this change prior to the effective date of the NESHAP LLL amendments.

2. A commenter wants a mercury monitoring system as soon as the rule becomes effective.

District Response: Lehigh was required by the District to meet the mercury monitoring requirement before the NESHAP rule becomes effective. In May 2011, Lehigh installed an activated carbon injection system to reduce mercury emissions. In October 2011, Lehigh installed the mercury continuous emission monitoring system (CEMS). The District expects certification of this CEMS in the near future.

3. The plant should install monitors on all points of emissions, so that we can have accurate data. The commenter requests data from an independent source, not from the plant itself.

District Response: As noted above, Lehigh is working on the re-design of the new stack. The Air District is recommending installation of either one or two stacks with adequate continuous emission monitors.

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The Title V program imposes an obligation on facilities to perform their own monitoring. Facilities cannot rely exclusively on District testing or inspections to determine compliance.

4. The permit does not specify the technical requirements for parameter monitoring.

District Response: The District relies on the requirements in BAAQMD Regulation 1-523 to ensure that parametric monitors are properly maintained and calibrated. In cases where the applicant believes that the manufacturer's instructions are not appropriate, the applicant must have and follow its own written maintenance policies. These policies must justify any deviations from the manufacturer's instructions.

5. The application should be amended to show how EPA Method 1, Sample and velocity traverses for stationary sources, and 1A, Sample and velocity traverses for stationary sources with small stacks or ducts, would be carried out on pre-calciner kiln, S-154. Technical methods concerning testing and monitoring requirements should be cited, and the applicant should not rely on an un-promulgated Manual of Procedures.

District Response: EPA Method 1 is a well-established test protocol used in conjunction with other promulgated methods to determine stack gas flow rate. Exhaust flow rates are corrected to standard conditions that include temperature, pressure, humidity and cyclonic flow adjustments. The commenter is mistaken in assuming that the BAAQMD's Manual of Procedures (MOP) is not promulgated. The Manual of Procedures is adopted by the District's Board of Directors following proper notice and comment. MOP Method ST-17 and ST-18 are recognized as EPA test equivalents. All of these methods are considered to be applicable reference methods for flow determination at sources such as the cement kiln, S-154.

6. Testing a single vent cannot be considered as surrogate for monitoring the 31 other fabric filter vents.

District Response: Per the December 2, 2009 letter from Heidelberg Technology Center (Lehigh's parent company), Lehigh has indicated that it will install a single dust collector, which will be compartmentalized, followed by a single stack before the effective date of NESHAP LLL.

7. Monitoring reports should be submitted every month instead of every 6 months.

District Response: The federal Title V regulations require submittal of reports of all required monitoring at least every six months. Some regulations may require submittal of certain reports on a more frequent basis. Based on the District's Manual of Procedures, Lehigh submits the results of the continuous emission monitoring of NO_x and SO₂ every month. The amount of clinker production is also reported on a monthly basis.

8. CEMS data should be readily accessible to the public to ensure compliance and enforcement of rules.

District Response: CEMS data are available through Public Records Requests at: <http://www.baaqmd.gov/Divisions/Legal/Public-Records-Request.aspx>, or by calling (415) 749-4761.

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9. Lehigh can shut down the monitors at any time. They calibrate the machine and file a report once a month that they generate themselves. This leaves much room for speculation and concern about the true accountability of the system, which has been shown to contain errors. The information should go directly to a policing agency where there is no room for errors.

District Response: The CEMS are always on and the CEMS' responses are recorded without interruption. Automatic calibration checks and calibration adjustments are a part of the official data acquisition system (DAS) record. Any tampering with the system would be similarly recorded. Compliance and Enforcement staff routinely examines the DAS for proper calibration and operation. Additionally, the accuracy of the monitors is checked by the BAAQMD Source Test Section on an unannounced basis.

The District does not have the resources at this time to continuously receive the data and store it.

10. Self-reporting is not reliable.

District Response: The federal Title V regulations require the facility to assume the responsibility of monitoring including source testing, recordkeeping, and reporting.

However, the Air District also tests the accuracy of the CEMS twice a year. In addition, Air District inspectors make unannounced visits to Lehigh at least once every week. The CEMS data are also being spot checked on demand to assure accuracy of the reports.

11. The permit should require COMS for opacity monitoring instead of relying on EPA Method 9, which cannot be done at night and during certain conditions, and pressure drop monitoring for the kiln, raw mills and finish mills and other high gas flow fabric filters.

District Response: Since EPA is replacing the opacity standard and opacity monitoring with a PM standard in the amended NESHAP, Lehigh will be proposing the use of a continuous PM monitor instead of COMS for compliance determination with the new NESHAP standards.

12. Title V calls for a re-examination of all monitoring and compliance. There is no source monitoring for TACs. Source tests only involve third party input and output analysis. Real problem must be addressed with real data, not simply hypothetical modeling.

District Response: The Lehigh kiln is currently subject to annual source tests for filterable particulate matter, every 5 years for the existing 0.3 lb PM10/ton of feed limit in 40 CFR 63.1343(e), and every 30 months for the existing dioxin/furan limit in 40 CFR 63.1343(e). After the Title V permit is finalized, the kiln will be subject to annual source tests for lead, Cr6+, trace metals, benzene, HCl, and THC. On September 9, 2013, the kiln will be subject to initial source tests for filterable particulate, dioxins and furans, mercury, THC, and HCl, and CEMs for mercury, THC, and HCl. Compliance with the dioxin/furan will be determined through continuous temperature monitoring.

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The clinker cooler will be subject to continuous particulate monitoring, an annual source test for filterable particulate and PM10.

The following sources will be newly subject to the enhanced monitoring requirements in 40 CFR 64, Compliance Assurance Monitoring:

- S-17 Clinker Transfer Area
- S-19 Clinker Storage Area
- S-21 Roll Press clinker Surge Bin and Feeder
- S-45 West Silo Top Cement Distribution Tower
- S-46 Middle West Silo Top Cement Distribution Tower
- S-47 East Silo Top Cement Distribution Tower
- S-48 Bulk Cement Loadout Tanks #1 and #2,
- S-49 Bulk Cement Loadout Tank # 28
- S-50 Bulk Cement Loadout Tank #29
- S-74 Type II Mechanical Transfer System
- S-151 Homogenizer 5-S-1 & 5-S-2
- S-153 Kiln Feed System
- S-162 Clinker Silo A
- S-163 Clinker Silo B
- S-164 Free Lime Storage Bin
- S-165 Clinker Transfer System
- S-414 Kiln Dust Additive Bin

In recent year, the Air District has proactively installed PM10 and hexavalent chromium ambient air monitors within the community near Lehigh. The Air District also added a monitoring station at Monta Vista Park, where air pollutants such as NO_x, SO₂, CO and PM_{2.5} are analyzed. The Air District is also working on a Portland Cement Manufacturing rule, which was identified in the District's 2010 Clean Air Plan. The District is also working with Lehigh to install advanced pollution control techniques for total hydrocarbon (THC), hydrogen chloride (HCL), mercury (Hg) and particulate matter (PM) and install continuous emission monitors to meet the amended cement NESHAP requirements.

13. More tests should be done for TACs, air, water and soil by a non-biased agency to make sure that the tests are legal and that no tampering occurs.
District Response: The Air District already required an annual source test for TACs at the kiln. Water and soil are not regulated by the District. Third party test data are subject to review and modification by the Air District Source Test staff. The Air District is provided with advance notification of compliance tests. It is required that results from noticed testing be provided to the Air District Source Test Section for review and disposition. Additionally, Lehigh is required to disclose the results of in-house engineering study work (unnoticed testing) any time a violation of permit conditions is indicated. Results reported by third party testing contractors are generally very reliable. Failure to conduct accurate tests and report the biased results could result in loss of the contractor's California Air Resources Board approval pursuant to Section 91207 of Title 17 of the Code of California Regulations.
14. Ringelmann is not a good indicator of opacity. A monitoring device should be used.

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District Response: Ringelmann is one of the established methods of monitoring the particulate matter emissions. In addition, Lehigh is also required to maintain and operate pressure drop monitors or bag leak detectors at abatement devices. Please refer to permit Condition #24781, Compliance Assurance Monitoring (CAM), for the frequencies of visual inspections, pressure manometer readings, and manometer or bag leak detector calibrations. Pages 19 through 22 of the Statement of Basis explain the CAM applicability for each source. Lehigh will be installing a continuous monitor to measure particulate matter emissions from the kiln as required under the amended NESHAP LLL.

15. How do the flow meters work?

District Response: The facility uses Kurz Series 454 FTB flow monitors. Generally, they work by detecting thermal differences between faster and slower flows. Additional information can be reviewed at: <http://kurz-instruments.com/products/454FTB.htm>.

16. The inspector never sees the full report of the continuous emission monitoring and relies on Lehigh's words. There should be a policing agency to monitor overall.

District Response: All continuous monitors at Lehigh are being tested for field accuracy twice a year by the Air District's Source Test Section. In addition, the District's inspector visits Lehigh once a week for compliance verification. All continuous monitors are required to comply with Regulation 1-522, which describes the requirements for monitoring and recordkeeping procedures and Manual of Procedures, Volume V. Please refer to Air District's website at: <http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/Rules%20and%20Regs/reg%2001/rq0100.ashx>, and <http://www.baaqmd.gov/~media/Files/Records/MOP/vol%205/vol5.ashx?la=en>, respectively.

17. The best baghouse leak detector should be used and taking out any bag monitors should not be allowed. Baghouse filters need to be monitored and filters replaced regularly.

District Response: Lehigh is required to maintain an Operating and Maintenance Plan for abatement devices including dust collectors. Visual monitoring, pressure drop monitoring, and/or use of bag leak detectors are techniques used to determine compliance. In addition, Lehigh tests the kiln's baghouse and other large dust collectors once a year. For smaller sources, source tests are required once every five years per the Operating and Maintenance Plan/Fugitive Dust Control Plan. This is consistent with the Compliance Assurance Plan as required by EPA through the use of Condition #24626.

VIII. Odor

1. Once per day, it smells like burning tires. There are foul smelling gases. Awful air was smelly in the evening like vaporized mercury. The fire department was dispatched, but the odor could not be confirmed. A heat camera cannot detect anything.

District Response: Odor complaints are handled by Air District staff in a similar manner to visible emission complaints. To report an odor complaint, a resident can call the Air District complaint line at (800) 334-ODOR (6367). The Air District responds to every air pollution complaint and an inspector will contact the resident and attempt to confirm the odor with the resident and trace it back to its source. There were no confirmed odor complaints attributed to emissions from Lehigh during the compliance review conducted by District staff for the Title V permit renewal.

2. The company should compensate neighbors for highly filtered home air conditioning home that will eliminate home odors, and make yearly payments to homeowners for damage to their local environment.

District Response: The District does not have the authority to require this type of mitigation.

IX. Fuels

1. The cheapest fuel from the bottom of the barrel is used at Lehigh.
District Response: The cement plant is not designed to operate on 100% natural gas due to the high operating temperature. Historically, solid fuels such as coal and mixtures of coal/coke have been used in the kiln. This is true nationwide at other cement plants. Since May 2007, Lehigh has been allowed to use up to 20 ton/hr of petroleum coke instead of coal. The Air District determined the switch in fuel did not result in a significant change in air emissions.
2. The amount of coal burned has increased to 29 tons/hr.
District Response: Prior to the condition change in permit Application #18535, there was no limit on the coal usage. Condition #603 imposed 29 tons/hr of coal to explicitly specify the maximum allowable coal usage limit based on the existing (equivalent) clinker throughput limit of 1.6 million tons/yr. Therefore, there was no increase of fuel usage.
3. The coal which was tested may or may not have had the same content as coal previously burned in the kiln prior to May 30, 2007.
District Response: The coal composition varies to some degree even if it comes from the same mining source and may change if Lehigh uses a different coal supplier. However, the change of composition is insignificant to the total emissions since the fuel usage composes only 7% to 8% of kiln feed.
4. The District did not let the public know Lehigh switched the fuel used despite many meetings. The commenter was not aware of the switch and not notified that the tests were performed on coke and coal.
District Response: The commenter has already requested and received a copy of permit Application #15398, which approved switching the fuels. This permit application did not trigger public notification requirements under District rules.
5. Coal and coke are used in the kiln, S-154. Why BAAQMD is trying to hide this from the public?
District Response: Lehigh was permitted to use coke in permit Application # 15398 in 2007. Permit Condition #603 specified the throughput limit of coal and coke on page 438 of the proposed Title V permit renewal. Please see the Engineering Evaluation Report for permit Application #15398 in Appendix C of the Statement of Basis for detailed information.
6. Lehigh should not be allowed to increase the coke usage from 8 to 20 ton/hr. No coal burning should be allowed.
District Response: The production of clinker requires a high amount of heat. Coal and coke are the traditional fuels that release large amount of heat when they are burned. The use of coal and coke fuels is allowed as long as it does not cause the cement kiln to exceed any regulatory conditions or requirements. Note that usage of coke was increased while

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the usage of coal was decreased. The heat input remained approximately the same.

X. Failure to Regulate

1. The mission statement of the BAAQMD is, "To protect and improve public health, air quality, and the global climate." However, the District is an agency that issues permits to pollute. The regulations and regulatory process are weak and lax.

District Response: The Air District disagrees with the commenter regarding the regulations and the regulatory process. Regulation of air pollution has resulted in dramatic improvements in air quality in the Bay Area despite significant increases in the region's population. Additional adopted and proposed regulatory measures should ensure that this trend continues.

2. BAAQMD staff should take the Bay Area 2009 draft Clean Air Plan to the Board of Directors directly rather than filter it through upper management. The staff should also propose and support changes to 70% of the rules and regulations under which the BAAQMD operates to reduce emissions. BAAQMD should use its authority to make actual and significant reductions in air pollution.

District Response: The 2010 Clean Air Plan was adopted by the Board of Directors on September 15, 2010. It is available on the District's website at: <http://www.baaqmd.gov/Divisions/Planning-and-Research/Plans/Clean-Air-Plans.aspx>. It has a long list of potential measures to control ozone precursors, particulate matter, air toxics, and greenhouse gases, including:

- Stationary source measures
- Transportation control measures
- Mobile source measures
- Land use and local impact measures
- Energy and climate measures

All stakeholders, including the public, were provided opportunities to provide input to the decision. The District held 14 meetings and workshops on the Clean Air Plan. The plan includes measures to control emissions from cement kilns and to lower particulate from general operations.

The Air District is currently working on a Portland cement manufacturing rule (Regulation 9, Rule 13) that will further reduce the emissions from Portland Cement Manufacturing. A public workshop for this rule was held in Cupertino on December 12, 2011.

The District is also working on amendments to BAAQMD Regulation 6, Rule 1, Particulate Matter, General Requirements. The public will be invited to participate in this rulemaking process when the draft rule amendments have been prepared.

3. A commenter asks that the NSR criteria in the proposed BAAQMD 2009 Clean Air Plan be applied and incorporated into Lehigh's Title V permit as

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soon as it is enacted. An NSR review investigation regarding recent actions, equipment, processes should be completed before issuance of Title V permit renewal. PSD potentials should be investigated as well.

District Response: The Clean Air Plan discusses Regulation 2, Rule 2, New Source Review, and Regulation 2, Rule 5, New Source Review for Toxic Air Contaminants. The proposed modification to Regulation 2, Rule 2, concerns the addition of PM_{2.5} as a pollutant. These rules are applied to new and modified sources and are not retroactive. The District controls existing sources by imposing “retrofit” rules on these sources. The Air District is currently working on a new Portland Cement Manufacturing rule, a retrofit rule to control emissions from the cement kiln.

The District routinely conducts inspections of the Lehigh facility. These inspections include review of any new or modified equipment that might have been installed without the proper NSR permits. If it is determined that the facility installed or modified any equipment without first having undergone the appropriate preconstruction permit reviews, the facility is required to submit a permit application to have the review completed (appropriate penalties are also assessed).

4. Quality of life is being destroyed because the NO_x and SO₂ emissions limits are set at very high levels.

District Response: The District is in the process of proposing a new rule for Portland Cement Manufacturing to establish more stringent emission standards for criteria air pollutant. This is being done because these gaseous pollutants react in the atmosphere over time to contribute to regional levels of ozone and fine particulate matter which at times exceeds established ambient air quality standards.

5. The corrective action and fees applied to citations is not enough. Pollution is still happening and killing people. EPA and BAAQMD and 18 other agencies listed are not doing enough. Stop passing the buck to some other agency and do whatever is necessary to clean up this community and planet.

District Response: Since October 1, 2009, the end of the first comment period, the Air District has worked to make the following changes to Lehigh’s Title V Permit Renewal:

- a. Incorporate new requirements from the amended EPA NESHAP rule.
- b. Require Lehigh to maintain and operate a Fugitive Dust Control Plan for all sources that have not been subject to the revised EPA NESHAP.
- c. Incorporate the Compliance Assurance Monitoring Plan (CAM) permit Condition #24781
- d. Add an air monitoring system that monitors a wide variety of air pollutants at Monta Vista Park.
- e. Install advanced control techniques such as activated carbon injection and KMDC dust shuttle to control mercury emissions.
- f. Install the hydrated lime slurry injection system to control hydrogen chloride (HCl) emissions.
- g. Install new continuous emission monitoring systems for mercury.
- h. Replace continuous emission monitoring systems for NO_x, SO₂, CO, and O₂.

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- i. Continue to test all toxic contaminants once a year at the kiln.
- j. Add five year source testing requirement for small dust collectors
- k. In the future, consolidate the exhaust from the kiln's baghouses into one or two stacks.

XI. Trucks

1. The only limit on trucks is the 70,000 cement trucks/any consecutive 12-month period limit. Commenters requested addition of limits on the number of trucks for all materials and a prohibition on night time operating hours.

District Response: Generally, the District does not have the authority to restrict the number of trucks or when they operate. The truck engines in particular are not subject to BAAQMD regulations. Restrictions on cargo carriers are generally imposed as part of a CEQA process when a facility is proposing an increase in emissions or a change to their land use permit and when the change is not considered to be a ministerial project as defined by CEQA Guidelines §15268.

The Title V permit does not place new or remove old limits on the facility's air pollution emissions or truck traffic.

There may be an opportunity to address mitigation of the truck traffic during the next action that is subject to CEQA. Please contact Santa Clara County Planning Office during the CEQA review of the Reclamation Plan Amendments regarding truck concerns.

2. Lehigh should promptly discontinue all truck traffic leaving or arriving with many fewer trains instead for product redistribution.

District Response: See response to comment above.

3. The number of trucks should be reduced.

District Response: Tailpipe emissions from trucks do not fall within the category of stationary sources; therefore, trucks are outside the regulatory authority of the District and the scope of applicable requirements addressed in a Title V permit. The California Air Resources Board regulates truck emissions and those requirements are not included in the BAAQMD Title V permit renewal. The District has occasionally been able to impose such limits through a CEQA process. CEQA is only triggered when there is a new project.

4. The trucks are not qualified for diesel retrofit grants. Six other communities were chosen instead of Cupertino.

District Response: Information regarding the Transportation Fund for Clean Air can be found at: <http://www.baaqmd.gov/Divisions/Strategic-Incentives/Funding-Sources/TFCA.aspx>. Please visit the website to find out about eligibility for grants.

5. How many trucks average per year go out of the facility?

District Response: This number varies each year according to market demand. In 2009, this number was approximately 66,000 trucks. Information on the truck traffic is available through a public records request at: <http://www.baaqmd.gov/Divisions/Legal/Public-Records-Request.aspx>, or by calling (415) 749-4761.

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6. The trucks are very noisy.
District Response: Noise from equipment is outside of the regulatory authority of the BAAQMD and the scope of applicable air quality requirements addressed in a Title V permit. The County Department of Environmental Health enforces the County's noise ordinances.
7. The trucks slow traffic during school & work hours.
District Response: Traffic is generally outside of the regulatory authority of the BAAQMD and the scope of applicable air quality requirements addressed in a Title V permit. Traffic may be addressed in a CEQA document when a facility proposes a new project.
8. Attached are pictures showing a white line coming down from the plant on the road. This is from cement trucks. Dust is all over the place. The trucks create a noise nuisance. This happens from very early morning hours to late at night.
District Response: The Fugitive Dust Control Plan contained in the proposed Title V permit renewal would help focus the efforts of Lehigh staff to reduce fugitive dust from trucks, as well as other dust generating activities at the plant. Lehigh controls fugitive dust from trucks transporting cement by providing vacuum equipment to the truck operators after loading and an optional truck wash system.

The County Sheriff's Department is responsible for enforcement of truck vehicle code violations on Stevens Creek Blvd and other nearby roadways which serve the plant. To report a suspected on-going violation, call the Sheriff's non-emergency telephone number at (408) 299-2311.

Noise nuisance from trucks is out of the scope of the Title V permit renewal and is not regulated by the Air District. To report violations of the City's noise ordinance, please contact the County Sheriff's Department or Cupertino Code enforcement. To report violations of the County's noise ordinance, please contact the County Environmental Health Department.

XII. Operating Hours

1. A commenter would like the facility to cease production during sleeping hours.

District Response: The kiln at Lehigh requires up to 96 hours to start up and 24 hours to shut down; therefore, it is not feasible to shut down and startup every night. There is no difference in plant operating procedures during the day or night.

2. A commenter suggests that operation of trucks should be halted from sunset until 7 AM. The trucks should not be allowed to operate 24 hours per day.

District Response: Customer truck traffic is not specifically tied to plant operations, but more to market demand. However, most raw materials and fuels that are delivered via truck are delivered during normal business daylight hours. The District generally does not have the authority to prescribe when truck deliveries occur.

3. Does Lehigh's operation shut-down on Spare the Air days?

District Response: The Air District currently does not have regulations requiring curtailment of emissions during Spare the Air alert days for this source category. Also, note that the kiln at Lehigh requires up to 96 hours to startup and 24 hours to shut down making it infeasible for the facility to readily curtail emissions from its operations during a Spare the Air alert day.

BAAQMD Regulation 4, Air Pollution Episode Plans, does require major facilities to prepare plans to curtail operations during advisories, alerts, warnings, and emergencies as defined by the regulation. However, this regulation is rarely invoked because the air pollution concentrations at which a facility must follow its plan are higher than the concentrations generally found in the District.

4. Lehigh discharges air pollution after hours, so we cannot take samples.

District Response: This potential problem will be addressed after Lehigh re-designs the kiln's stack. The Air District recommends installation of either one or two stacks with continuous emission monitors and adequate sampling ports for conducting source testing for pollutants where continuous monitoring is not warranted or is infeasible.

XIII. Non-Air Quality Concerns

1. Commenter is opposed to allowing Lehigh to store fuels and potentially hazardous or dangerous or polluting materials outside which could be washed and drained into the Permanente Creek. Commenter requests an EIR before such storage is allowed.

District Response: As explained in permit Application #19385, the coal and coke storage pile area is an existing source that does not require a new Environmental Impact Report (EIR). Lehigh has been in contact with the San Francisco Bay Regional Water Quality Control Board for their industrial storm water inspection. All findings will be reported and corrected as specified by the responsible agency. Please contact the Regional Water Quality Control Board for additional information on this. Water quality is not within the purview of the Air District. None of the water issues are caused by storing the fuels and raw materials as outside piles according to the Regional Water Quality Control Board's reports.

2. Lehigh is in violation of the Clean Air Act and the Clean Water Act. Lehigh received a citation from the Santa Clara County Hazardous Environmental Division for non-compliance and non-containment of the piles of coke and coal. Lehigh is in violation of the Hazardous Material storage ordinances. Lehigh was cited by the Santa Clara Health Environmental Department for not disclosing the coal and coke on its Hazardous Material Business Plan (HMBP).

District Response: Lehigh has since listed all toxics that are associated with the piles of coke and coal in its Hazardous Material Business Plan as required by the Santa Clara Health Environmental Department. The Clean Water Act and hazardous material storage ordinances are not within the purview of the Air District.

3. The groundwater is already contaminated by Lehigh.

District Response: Water quality is under the jurisdiction of the Regional Water Quality Control Board and not the Air District.

4. Lehigh has their own sanitation system and is not hooked up to the Cupertino Sanitation Department, which is a great problem.

District Response: The sanitation system is not within the jurisdiction of the Air District, unless it was to cause air emissions such as odors.

Nonetheless, information regarding the sanitation system follows. Lehigh receives municipal water for use in its rest rooms & washing. The water is collected and treated in the Sewage Treatment Plant, which is permitted and controlled by the Regional Water Quality Control Board under Order # 94-038. The treated water is then combined with the reclaimed storm water (10 parts storm water to 1 part treated water) and used to cool the hot gases from the kiln before they enter the baghouses. Therefore, there is no water discharge into the city municipal system.

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5. The Water Resource Board needs to test the water at all locations on Lehigh. A commenter wants testing soon and by a non-biased Government Department, not by a contractor hired by Lehigh. There is a strong possibility that the ground water from Permanente Creek, Stevens Creek and wells in Cupertino is polluted by Lehigh and Stevens Creek Quarries. The EPA should direct funding for testing to determine the exact level of contamination.
District Response: The focus of the Title V permit program is on describing air pollution regulatory requirements that apply to stationary sources. Please contact the San Francisco Bay Regional Water Quality Control Board with concerns regarding groundwater.
6. No transfer of deed was ever filed that transferred title from Hanson Permanente Cement to Lehigh Heidelberg. There is no proof of legal ownership and name of the company.
District Response: Per Regulation 1-241, the Air District defines the Owner or Operator as any person who owns, leases, operates, controls, or supervises a facility, building, structure, installation, or source which directly or indirectly results or may result in emissions of any air pollutant. Therefore, the legal ownership of a company is not a concern at the Air District as long there is an operator that is responsible for the sources of emissions.
7. The plant hums loudly at night. Lehigh cranks up noisy equipment from midnight to 2 AM.
District Response: Noise from equipment is outside of the regulatory authority of the BAAQMD and the scope of applicable air quality requirements addressed in a Title V permit. The County Department of Environmental Health enforces the County's noise ordinances.
8. Trucks are polluting the Stevens Creek Reservoir and the Recharge Pond on Budd Road and McClellan.
District Response: The focus of the Title V permit program is on describing air pollution regulatory requirements that apply to stationary sources. Please contact San Francisco Bay Regional Water Quality Control Board or the local fire department with concerns about the potential reservoir contamination.
9. Lehigh left their chemicals outside the building, which is a fire and health hazard.
District Response: The focus of the Title V permit program is on describing air pollution regulatory requirements that apply to stationary sources. Please contact the local fire department with concerns about fire hazards.
10. Mountain Top Mining at the periphery of this area is unique and inappropriate.
District Response: The District does not have jurisdiction over land use issues.

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11. The operation should be extended for 5 years maximum.
District Response: The District does not have jurisdiction over land use issues. Title V permits are renewed on a 5 year cycle, and a facility may continue to operate under their existing permit until action is taken on a renewal application.
12. If the operation is not conducted in a way that enhances immediate and final appearance as a recreational area, then Lehigh should be sued for concurrent damages which enable the county to restore the environment. If this bankrupts the company, the county should be first in line. Legal action should be initiated immediately to secure guarantees that existing pits are concurrently restored for public use, or penalties for negligent preparation and failure to comply with existing law.
District Response: The Air District does not have jurisdiction over land use issues.
13. The Water District should release a running transcript following any meeting in which they organize or participate at principals. Public meetings should be audio taped and the results put on the public web.
District Response: The Air District does not have jurisdiction over water quality issues.
14. Lehigh should put a set of maps on the web, with explanations of status and development to be continuously reevaluated.
District Response: The District does not have jurisdiction over land use issues.
15. Stop the expansion.
District Response: The focus of the Title V permit program is on describing air pollution regulatory requirements that apply to stationary sources. Please contact the County of Santa Clara during the California Environmental Quality Act process for projects requiring Environmental Impact Reports (EIR).
16. Lehigh pays property tax. Does Lehigh pay income tax and corporate income tax? The commenter understands that Lehigh is an off-shore company.
District Response: Lehigh pays taxes required by the governing agencies. Specific questions about tax obligations can be answered by viewing Lehigh's financial statements or the Santa Clara County records. Both are public records. Lehigh's taxes are not within the purview of the Air District.
17. What are the total employees' salaries?
District Response: The monies spent on salaries at Lehigh are not within the purview of the Air District.

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18. Study showed significant decrease in olive production in areas where cement plant is located in Greece.
District Response: The focus of the Title V permit program is on describing air pollution regulatory requirements that apply to stationary sources. This comment is outside the scope of the Title V permit renewal process.
19. Taxes from nearby properties would make up for the income tax from Lehigh.
District Response: Property taxes are not within the purview of the Air District.
20. If mortars and bullets in training areas hit people outside, it would not be allowed, but the effluent from cement plants are allowed.
District Response: The focus of the Title V permit program is on describing air pollution regulatory requirements that apply to stationary sources. This comment is outside the scope of the Title V permit renewal process.
21. Public agencies should pay attention and listen to the residents' requests.
District Response: The District agrees, but not all requests are within the limits of an agency's authority or the applicable regulations.
22. A commenter suggested the use of rubberized asphalt to reduce road noise.
District Response: An essential focus of the Title V permit program is on describing air pollution regulatory requirements that apply to stationary sources. Road noise is not within the scope of the Title V permit renewal. The County of Santa Clara Department of Environmental health enforces the County's noise ordinances.
23. The local roads are hazardous due to truck traffic. Rocks fly off the road hitting windshields. A dog was killed by a truck.
District Response: The focus of the Title V permit program is on describing air pollution regulatory requirements that apply to stationary sources. These comments are not within the purview of the Title V permit renewal. Trucks are required to comply with the California Vehicle Code. Complaints such as these should be reported to the California Highway Patrol or the Santa Clara County Sheriff's Department.
24. Green is replaced with brown and gray hill sides. Plant life and wildlife have been destroyed.
District Response: The focus of the Title V permit program is on describing air pollution regulatory requirements that apply to stationary sources. Please contact County of Santa Clara during the California Environmental Quality Act process review of the Reclamation Plan Amendments for ecological and aesthetic concerns.

Response to 2009 Comments on Lehigh Title V Renewal

25. A commenter suggested that the landscaping in the islands/berms not be trimmed, since it acts as a buffer for noise.
District Response: This idea could be brought to the City of Cupertino or Cal Trans operators, who are in charge of the public landscaping in the area.
26. Lehigh did not notify the Santa Clara County Hazardous Environmental Department of the coal and coke storage. Lehigh has been irresponsible in reporting the hazardous materials. This negligence has caused contamination of the ground water in the community.
District Response: Please contact the San Francisco Bay Regional Water Quality Control Board with concerns regarding the groundwater and Santa Clara County Environmental Health regarding the hazardous materials concerns.
27. The Lehigh buildings are dangerously combustible due to the chemical dust on the buildings. The structures should be inspected for cracks in the structures. There should be inspections of the electrical and plumbing systems. There is an overgrowth with weeds, grass, and downed trees. The grounds are overbearing, junkie and dumpy looking. The Santa Clara County Weed Abatement Department has been notified, but nothing was done. (Pictures of the building are included)
District Response: The focus of the Title V permit program is on describing air pollution regulatory requirements that apply to stationary sources. Please contact the local fire department with concerns regarding the building structures or potential fire hazards.
28. A commenter asked the Santa Clara County representative how much it costs the community if 911 is called for fire or report of some chemical, gas or emissions. Lehigh costs tax payer a great deal that could be used for something else. A commenter has requested an evacuation plan and how quickly can the fire department notify people in case of an emergency.
District Response: The focus of the Title V permit program is on describing air pollution regulatory requirements that apply to stationary sources. Please contact the local fire department or Santa Clara County Health Department with concerns regarding the cost and evacuation plan.
29. The workers on site are in danger of fire. There is only one way in and out of the plant. They are subject to pollution 24/7 and so are the cement truck drivers.
District Response: The focus of the Title V permit program is on describing air pollution regulatory requirements that apply to stationary sources. This comment is not within the scope of the Title V permit renewal.

XIV. Other Comments

1. Lehigh helps by providing jobs, by lowering the cement price, and by making air and noise control improvement.
District Response: Comment noted.
2. The commenter knew it is safe to breathe the air, and knew about truck traffic before buying the house.
District Response: Comment noted.
3. Lehigh has provided a lot of jobs to other firms.
District Response: Comment noted.
4. Lehigh has done good job of mitigating the pollution.
District Response: Comment noted.
5. Lehigh has spent millions of dollars collecting dust. Get them to clean up, but shutting them down will create more pollution due to shipping cement from China.
District Response: Comment noted.

APPENDIX A

**March 29, 2011 Letter from Jack Broadbent, Executive Officer of the Air District, to
Supervisor Liz Kniss, Santa Clara Board of Supervisors**



**BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT**

March 29, 2011

Supervisor Liz Kniss
Santa Clara County Board of Supervisors
70 West Hedding Street
San Jose, CA 95110

ALAMEDA COUNTY
Tom Bates
(Chairperson)
Scott Haggerty
Jennifer Hosterman
Nate Miley

Re: Dr. Singhal and Synergistic Toxicity

CONTRA COSTA COUNTY
John Gioia
(Vice-Chair)
David Hudson
Mark Ross
Gayle B. Uilkema

Dear Supervisor Kniss:

In response to your letter dated February 11, 2011, we have reviewed the letter that you received from Dr. Singhal regarding synergistic toxicity. We have researched the topic, including contacting Cal/EPA's Office of Environmental Health Hazard Assessment (OEHHA).

MARIN COUNTY
Harold C. Brown, Jr.

NAPA COUNTY
Brad Wagenknecht

SAN FRANCISCO COUNTY
John Avalos
Edwin M. Lee
Eric Mar

In accordance with California Health and Safety Code § 44360, health risk assessments (HRAs) prepared under California's Air Toxics "Hot Spots" Program, must be prepared in accordance with guidelines established by OEHHA. OEHHA's HRA guidelines were initially developed in 2003, and are updated on an ongoing basis. Notable OEHHA HRA guideline updates include revisions to the Technical Support Documents (TSDs) for Non-cancer Reference Exposure Levels, and Cancer Potency Factors, which were adopted on December 19, 2008, and June 1, 2009, respectively, to address the requirements of the Children's Environmental Health Protection Act (SB 25, Escutia 1999).

SAN MATEO COUNTY
Carole Groom
Carol Klatt

SANTA CLARA COUNTY
Susan Garner
Ash Kalra
(Secretary)
Liz Kniss
Ken Yeager

OEHHA strives to use the best scientific information available in developing their HRA guidelines. However, there is a great deal of uncertainty associated with the process of risk assessment, particularly in quantifying risks from environmental exposures, which are typically much lower than exposures addressed by animal and epidemiological studies. This uncertainty arises from lack of data in many areas necessitating the use of assumptions. The assumptions used in OEHHA's HRA guidelines are designed to err on the side of health protection in order to avoid underestimation of risk to the public. For example, the cancer potency factors used by OEHHA represent the 95th percent upper confidence limits of the slope of the dose response curve, and maximum cancer and non-cancer chronic health risks (for residents) are calculated assuming that an individual will be exposed nearly continuously over a 70-year lifetime at the location of maximum exposure.

SOLANO COUNTY
James Spering

SONOMA COUNTY
Susan Gorin
Shirlee Zane

Current OEHHA HRA guidelines make the assumption of additivity in addressing multiple chemical exposures for both cancer and non-cancer risk assessment. With respect to this assumption, OEHHA indicates (for cancer risks):

Jack P. Broadbent
EXECUTIVE OFFICER/APCO

Response to 2009 Comments on Lehigh Title V Renewal

To: Supervisor Kniss
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“Cancer risks from different substances are treated additively in the Hot Spots Program in part because many carcinogens act through the common mechanism of DNA damage. However, this assumption fails to take into account the limited information on substance interactions. However, the overall uncertainty in the cancer potency factors and the variability in the human population is probably far greater than the uncertainty from the assumption of additivity. In addition, cancers are life threatening serious diseases so it is not unreasonable to consider total additive risk. Therefore, the additive assumption is reasonable from a public health point of view. (*The Air Toxics “Hot Spots” Program Guidance Manual for Preparation of Health Risk Assessments*, Aug. 2003, OEHHA).

Where there are adequate data, assessment of synergistic (greater than additive) toxicity can be conducted. For example, there is ample evidence from epidemiological studies of workers exposed to asbestos that the combination of cigarette smoking and asbestos is far more harmful than either by itself. However, to our knowledge, evidence of synergistic interactions of chemicals at the relatively low exposure levels present in ambient air currently does not exist. OEHHA indicates that the assumption of additivity is therefore most appropriate.

OEHHA staff indicates that they closely follow developments in toxicological and epidemiological research that may warrant revisions to established HRA methodologies. Nonetheless, I would encourage Dr. Singhal to share with OEHHA any technical information that she may have on assessing synergistic toxicity of environmental exposures to chemical mixtures.

Sincerely,



Jack P. Broadbent
Executive Officer/APCO

BB:bb

APPENDIX B

Summary and Analysis of Cupertino Air Monitoring Results

Bay Area Air Quality Management District
Summary and Analysis of Cupertino Air Monitoring Results
December 8, 2011

The Air District's Cupertino Air Monitoring Station began operating on September 1, 2010. The monitoring station is located at Monte Vista Park, approximately one mile east of the Lehigh Cement Plant (see Figure 1). After collecting an entire year of data from September 2010 through the end of August of 2011, Air District staff reviewed the data and developed the following summary and analysis of the results.

CRITERIA POLLUTANTS

Criteria pollutants are air contaminants for which the U.S. Environmental Protection Agency (EPA) and/or the California Air Resources Board (CARB) have adopted health-based ambient air quality standards. Ambient air quality standards adopted by EPA are National Ambient Air Quality Standards (NAAQS), and standards adopted by CARB are State Ambient Air Quality Standards. Criteria pollutants include PM₁₀, PM_{2.5}, ozone, carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂) and lead. Ozone, CO, SO₂, and NO₂ are gases. PM₁₀ is particulate matter with a diameter less than or equal to 10 microns, and PM_{2.5} is particulate matter with a diameter less than or equal to 2.5 microns. Lead is a component of particulate matter.

Table 1 summarizes Cupertino monitoring results for all criteria pollutants, provides a comparison to applicable National and State ambient air quality standards, and specifies locations with similar air quality.

GASES: Based on one year (2010 -2011) of monitoring data, Cupertino air quality levels were well below all applicable State and National Ambient Air Quality Standards 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. 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. Cupertino PM levels were among the lowest in the Bay Area, and have not exceeded 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 the more stringent annual average State standards, with levels similar to, but lower than, Livermore.

Response to 2009 Comments on Lehigh Title V Renewal

LEAD: Cupertino lead levels were less than 1% of the State standard, less than 10% of the recently revised national standard, and less than levels in San Francisco.

Table 1. Criteria Pollutants Measured at the Cupertino Monitoring Site Compared to State and National Ambient Air Quality Standards

Pollutant	Averaging Time	State Standard	National Standard	Cupertino Concentrations	Location(s) with Similar Air Quality
Ozone	1 Hour	0.09 ppm	N/A	0.09 ppm	Napa, Vallejo
	8 Hour	0.070 ppm	0.075 ppm	0.067 ppm	
PM ₁₀	24 Hour	50 µg/m ³	150 µg/m ³	27 µg/m ³	San Francisco, San Pablo, Napa
	Annual Average	20 µg/m ³	N/A	14.6 µg/m ³	
PM _{2.5}	24 Hour	N/A	35 µg/m ³	20 µg/m ³	Redwood City, Gilroy
	Annual Average	12 µg/m ³	15.0 µg/m ³	8.7 µg/m ³	Livermore
CO	8 Hour	9.0 ppm	9 ppm	1.0 ppm	Pittsburg, Oakland
	1 Hour	20 ppm	35 ppm	1.3 ppm	
NO ₂	Annual Average	0.030 ppm	0.053 ppm	0.0087 ppm	Vallejo, Redwood City, Livermore
	1 Hour	0.18 ppm	0.100 ppm	0.043 ppm	
SO ₂	Annual Average	N/A	N/A	0.0008 ppm	San Pablo, Concord
	24 Hour	0.04 ppm	N/A	0.003 ppm	
	1 Hour	0.25 ppm	0.075 ppm	0.009 ppm	
Lead	30 Day Average	1.5 µg/m ³	N/A	0.002 µg/m ³	San Francisco
	3 Month Average	N/A	0.15 µg/m ³ (Recently Revised)	0.002 µg/m ³	

Note: Cupertino concentrations listed are design values based on the form of the NAAQS recorded for the applicable 1-hr, 8-hr, 24-hr, 30 day, and 3 month averaging periods.

TOXIC AIR CONTAMINANTS

Tables 2 and 3 summarize toxic air contaminant monitoring results for Cupertino, and provide comparisons to several other sites in the Bay Area and in the South Coast AQMD (North Long Beach and Rubidoux). Sample durations were 24-hours for either a 6-day or 12-day interval schedule. Table 2 contains the maximum concentrations for the 24-hour samples and Table 3 contains the results for all samples averaged over a 1-year period.

The Air District estimated health risks using the ambient monitoring data and health effect values [cancer potency factors and noncancer Reference Exposure Levels (RELs)] established by Cal/EPA's Office of Environmental Health Hazard Assessment (OEHHA). Four health risk summary tables are provided as follows: cancer risk, chronic non-cancer risk, 8-hour chronic non-cancer risk, and acute non-cancer risk. Note that each health risk summary table lists only the measured toxic air contaminant compounds for which a corresponding cancer or non-cancer health effect value has been adopted by OEHHA. Health risks were based on the following exposure pathways, where applicable, under OEHHA health risk assessment 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.

Table 4 lists the estimated cancer risk associated with lifetime exposure to the measured levels of toxic air contaminants. The estimated cancer risk includes an Age Sensitivity Factor to account for inherent increased susceptibility to carcinogens during infancy and childhood. The total cancer risk is based on the sum of the cancer risks determined for each individual compound. Total cancer risk based on the monitoring results in Cupertino is somewhat less than the risk in Benicia and significantly less than risk in San Jose, Berkeley, San Francisco and North Long Beach and Rubidoux. A comparison of cancer risk at the different monitoring sites is illustrated in Figure 2. The compounds that contribute most significantly to cancer risk in Cupertino are diesel PM, benzene, 1,3-butadiene, carbon tetrachloride and formaldehyde. This is consistent with other 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.

Table 5 indicates the estimated chronic non-cancer risk 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 one indicates that no adverse effects would be anticipated to occur. The chronic hazard index is less than one for Cupertino, the other Bay Area comparator sites, and for the South Coast comparator sites. A comparison of chronic noncancer risk at the different monitoring sites is illustrated in Figure 3.

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Table 6 lists the estimated 8-hour chronic non-cancer risk. The 8-hour hazard indices are 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 8-hour chronic hazard index is less than one for Cupertino, the other Bay Area comparator sites, and for the North Long Beach site. The 8-hour chronic hazard index is greater than one for Rubidoux. A comparison of 8-hour noncancer risk at the different monitoring sites is illustrated in Figure 4.

Table 7 lists the estimated acute non-cancer risk. The acute hazard indices are 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 (see table footnote for derivation of this adjustment factor). The acute hazard index is less than one for Cupertino, the other Bay Area comparator sites, and for the North Long Beach site. The acute hazard index is greater than one for Rubidoux. A comparison of acute noncancer risk at the different monitoring sites is illustrated in Figure 5.

Table 2. Maximum 24-hour Average Toxic Air Contaminant Ambient Air Monitoring Data in the Bay Area and South Coast AQMD

Compound	Cupertino 2010/2011, µg/m ³	San Jose 2009, µg/m ³	Berkeley 2009, µg/m ³	San Francisco 2009, µg/m ³	Benicia 2008/2009, µg/m ³	Rubidoux 2009, µg/m ³	N Long Beach 2009, µg/m ³
Acetaldehyde	4.7E+00	4.3E+00	2.8E+00	3.5E+00	2.5E+00	6.0E+00	3.5E+00
Arsenic	5.0E-05	<MDL	2.2E-03	<MDL	N/A	N/A	N/A
Benzene	1.1E+00	3.9E+00	1.9E+00	1.8E+00	1.1E+00	3.6E+00	3.2E+00
1,3 Butadiene	2.4E-01	8.3E-01	3.4E-01	4.0E-01	2.2E-01	7.6E-01	7.4E-01
Carbon Tetrachloride	8.2E-01	7.6E-01	8.3E-01	8.3E-01	7.6E-01	8.0E-01	8.0E-01
Chloroform	4.0E-01	2.5E-01	3.0E-01	2.5E-01	N/A	N/A	N/A
Chromium (Total)	5.3E-04	5.0E-03	1.9E-02	4.4E-03	8.5E-02	6.0E-03	4.0E-02
Copper	1.7E-03	2.6E-02	4.3E-02	3.4E-02	N/A	N/A	N/A
Ethylbenzene	4.3E-01	3.0E+00	1.3E+00	1.3E+00	N/A	N/A	N/A
Ethylene Dibromide	<MDL	<MDL	<MDL	<MDL	N/A	N/A	N/A
Ethylene Dichloride	<MDL	<MDL	<MDL	<MDL	N/A	N/A	N/A
Formaldehyde	5.7E+00	5.5E+00	3.5E+00	4.5E+00	4.5E+00	9.8E+00	5.9E+00
Lead	4.1E-04	9.6E-03	2.3E-02	9.6E-03	2.5E-02	2.0E-02	1.6E-02
Manganese	2.5E-03	2.2E-02	1.3E-01	1.5E-02	1.7E-01	5.0E-02	4.0E-02
Mercury	4.9E-05	N/A	N/A	N/A	N/A	N/A	N/A
Methyl Chloroform	<MDL	1.7E-01	2.2E-01	1.1E-01	N/A	N/A	N/A
Methylene Chloride	1.1E+00	2.1E+00	2.9E+00	1.6E+00	N/A	N/A	N/A
Methyl Ethyl Ketone	2.7E+00	1.5E+00	1.7E+00	1.3E+00	N/A	N/A	N/A
Nickel	3.1E-04	3.6E-02	5.3E-02	<MDL	1.0E-01	1.0E-02	1.0E-02
Perchloroethylene	1.5E-01	1.1E+00	4.2E-01	4.8E-01	1.0E-01	1.4E+00	9.6E-01
Selenium	1.2E-04	<MDL	5.5E-03	2.1E-03	N/A	N/A	N/A
Toluene	3.4E+00	1.9E+01	7.3E+00	7.1E+00	N/A	N/A	N/A
Trichloroethylene	1.6E-01	2.2E-01	<MDL	<MDL	1.6E-01	1.6E-01	2.2E-01
Vanadium	6.9E-04	2.8E-03	2.0E-02	1.4E-02	N/A	N/A	N/A
Vinyl chloride	<MDL	<MDL	<MDL	<MDL	N/A	N/A	N/A
M&P Xylene	1.7E+00	1.2E+01	4.8E+00	4.8E+00	N/A	N/A	N/A
O Xylene	7.0E-01	3.9E+00	1.7E+00	1.8E+00	N/A	N/A	N/A

Table 2 Notes:

- MDL is the Method Detection Limit. <MDL indicates less than Method Detection Limit.
- Benicia monitoring data for 2009 were not available for the following compounds, instead 2008 data are presented: Elemental carbon, 1, 3-Butadiene, Acetaldehyde, Benzene, Carbon tetrachloride, Formaldehyde, Perchloroethylene and Trichloroethylene.
- For Rubidoux and North Long Beach data:
 - Data for carbon tetrachloride are not available; values represent average of Bay Area sites, which are consistent with global background levels.
 - Some data for lead and nickel are for samples collected in 2007.

Table 3. Annual Average Toxic Air Contaminant Ambient Air Monitoring Data in the Bay Area and South Coast AQMD

Compound	Cupertino % of Samples above MDL	Cupertino 2010/2011, µg/m ³	San Jose 2009, µg/m ³	Berkeley 2009, µg/m ³	San Francisco 2009, µg/m ³	Benicia 2008/2009, µg/m ³	Rubidoux 2009, µg/m ³	N Long Beach 2009, µg/m ³
Acetaldehyde	100%	1.1E+00	1.6E+00	9.7E-01	1.1E+00	8.5E-01	2.2E+00	1.3E+00
Arsenic	34%	1.3E-05	<MDL	<MDL	<MDL	N/A	N/A	N/A
Benzene	100%	4.8E-01	9.8E-01	5.4E-01	6.2E-01	3.4E-01	8.8E-01	1.4E+00
1,3 Butadiene	5%	7.4E-02	1.7E-01	9.3E-02	<MDL	6.2E-02	1.1E-01	2.2E-01
Carbon Tetrachloride	100%	6.4E-01	5.8E-01	5.9E-01	6.3E-01	6.0E-01	6.1E-01	6.1E-01
Chloroform	93%	1.1E-01	9.9E-02	9.7E-02	9.3E-02	N/A	N/A	N/A
Chromium (Total)	98%	1.5E-04	2.6E-03	5.2E-03	2.3E-03	5.0E-03	3.8E-03	5.0E-03
Copper	100%	5.4E-04	1.0E-02	1.6E-02	1.4E-02	N/A	N/A	N/A
Diesel PM	100%	5.2E-01	8.6E-01	8.9E-01	7.7E-01	6.8E-01	1.7E+00	1.6E+00
Elemental Carbon	100%	5.0E-01	8.3E-01	8.5E-01	7.4E-01	6.6E-01	1.6E+00	1.5E+00
Ethylbenzene	36%	1.5E-01	4.6E-01	3.0E-01	5.0E-01	N/A	N/A	N/A
Ethylene Dibromide	0%	<MDL	<MDL	<MDL	<MDL	N/A	N/A	N/A
Ethylene Dichloride	0%	<MDL	<MDL	<MDL	<MDL	N/A	N/A	N/A
Formaldehyde	100%	1.7E+00	2.2E+00	1.5E+00	1.4E+00	1.3E+00	3.9E+00	2.6E+00
Lead	85%	1.5E-04	4.3E-03	6.3E-03	5.1E-03	5.0E-03	8.0E-03	8.0E-03
Manganese	100%	5.5E-04	6.5E-03	2.9E-02	6.2E-03	9.0E-03	2.9E-02	1.6E-02
Mercury	3%	3.1E-05	N/A	N/A	N/A	N/A	N/A	N/A
Methyl Chloroform	0%	<MDL	7.4E-02	<MDL	5.4E-02	N/A	N/A	N/A
Methylene Chloride	43%	3.2E-01	6.6E-01	4.9E-01	5.6E-01	N/A	N/A	N/A
Methyl Ethyl Ketone	77%	6.2E-01	6.0E-01	5.7E-01	5.9E-01	N/A	N/A	N/A
Nickel	74%	8.5E-05	5.8E-03	9.8E-03	<MDL	7.0E-03	5.0E-03	5.0E-03
Perchloroethylene	80%	5.6E-02	2.1E-01	7.0E-02	1.4E-01	3.1E-02	1.4E-01	2.8E-01
Selenium	75%	3.7E-05	<MDL	1.4E-03	<MDL	N/A	N/A	N/A
Toluene	98%	1.0E+00	3.2E+00	2.0E+00	2.3E+00	N/A	N/A	N/A
Trichloroethylene	75%	5.8E-02	5.9E-02	<MDL	<MDL	3.5E-02	5.5E-02	8.2E-02
Vanadium	93%	1.7E-04	1.1E-03	3.9E-03	2.3E-03	N/A	N/A	N/A
Vinyl chloride	0%	<MDL	<MDL	<MDL	<MDL	N/A	N/A	N/A
M&P Xylene	98%	5.7E-01	2.0E+00	1.2E+00	1.5E+00	N/A	N/A	N/A
O Xylene	62%	2.4E-01	6.8E-01	3.9E-01	5.1E-01	N/A	N/A	N/A

Table 3 Notes:

1. MDL is the Method Detection Limit. <MDL indicates less than Method Detection Limit. When a sample is identified as <MDL, 1/2 the MDL is used to calculate the annual average concentration. If 95% or more of the sample values are <MDL, the annual average concentration is listed as <MDL.
2. Benicia monitoring data for 2009 were not available for the following compounds, instead 2008 data are presented: Elemental carbon, 1, 3-Butadiene, Acetaldehyde, Benzene, Carbon tetrachloride, Formaldehyde, Perchloroethylene and Trichloroethylene.
3. For Rubidoux and North Long Beach data:
 - a. Data for carbon tetrachloride are not available; values represent average of Bay Area sites, which are consistent with global background levels.
 - b. Elemental carbon data are from 2004-2006.
 - c. Some data for lead and nickel are for samples collected in 2007.
4. Elemental carbon data for Cupertino and San Francisco are from the period September 9, 2010 to August 31, 2011. Elemental carbon data for San Jose and Berkeley are from 2010 calendar year data.
5. Diesel PM is estimated from elemental carbon data using the MATES II factor of 1.04.
6. At the Cupertino monitoring site, the annual average concentration of the following toxic air contaminants were less than their respective MDLs: Arsenic, 1, 3-Butadiene, Ethylbenzene, Ethylene dibromide, Ethylene dichloride, Mercury, Methyl chloroform, Methylene chloride, Trichloroethylene and Vinyl chloride.
7. At the San Jose monitoring site, the annual average concentration of the following toxic air contaminants were less than their respective MDLs: Arsenic, Chromium, Ethylene dibromide, Ethylene dichloride, Nickel, Selenium, Vanadium and Vinyl chloride.
8. At the Berkeley monitoring site, the annual average concentration of the following toxic air contaminants were less than their respective MDLs: Arsenic, 1, 3-Butadiene, Ethylene dibromide, Ethylene dichloride, Methyl chloroform, Selenium, Trichloroethylene and Vinyl chloride.
9. At the San Francisco monitoring site, the annual average concentration of the following toxic air contaminants were less than their respective MDLs: Arsenic, 1, 3-Butadiene, Chromium, Ethylene dibromide, Ethylene dichloride, Methyl chloroform, Nickel, Selenium, Trichloroethylene and Vinyl chloride.

Table 4. Cancer Risk Based on Ambient Air Monitoring Data in the Bay Area and South Coast AQMD

Compound	Unit Risk Values ¹ , ($\mu\text{g}/\text{m}^3$) ⁻¹	Cupertino Cancer Risk ² (in a million)	San Jose Cancer Risk ² (in a million)	Berkeley Cancer Risk (in a million)	San Francisco Cancer Risk (in a million)	Benicia Cancer Risk (in a million)	Rubidoux Cancer Risk (in a million)	N Long Beach Cancer Risk (in a million)
Acetaldehyde	2.9E-06	5.4	8.0	4.8	5.3	4.2	10.8	6.4
Arsenic	1.7E-02	0.4	<MDL	<MDL	<MDL	N/A	N/A	N/A
Benzene	2.9E-05	23.8	48.4	26.5	30.3	16.9	43.3	68.9
1,3 Butadiene	1.7E-04	21.9	49.9	27.6	<MDL	18.3	32.5	65.0
Carbon Tetrachloride	4.3E-05	47.6	42.8	43.3	46.5	44.2	45.0	45.0
Chloroform	5.5E-06	1.0	0.9	0.9	0.9	N/A	N/A	N/A
Diesel PM	3.2E-04	280.1	468.3	481.1	419.2	368.9	923.6	844.8
Ethylbenzene	2.5E-06	0.7	2.0	1.3	2.2	N/A	N/A	N/A
Formaldehyde	6.1E-06	17.6	22.3	15.6	14.3	13.4	40.3	26.9
Lead	5.1E-05	0.0	0.4	0.5	0.4	0.4	0.7	0.7
Methylene Chloride	1.0E-06	0.6	1.1	0.8	1.0	N/A	N/A	N/A
Nickel	2.6E-04	0.0	2.6	4.4	<MDL	3.1	2.2	2.2
Perchloroethylene	6.1E-06	0.6	2.2	0.7	1.4	0.3	1.4	2.9
Trichloroethylene	2.0E-06	0.2	0.2	<MDL	<MDL	0.1	0.2	0.3
Total Cancer Risk:		400	649	608	521	470	1100	1063

Table 4 Notes:

1. Except for Arsenic and Lead, which have multipathway impacts, the Unit Risk Values (URVs) are for the inhalation pathway only. The URVs for Arsenic and Lead represent the combined inhalation and noninhalation pathways (dermal, soil ingestion, mother's milk, homegrown produce ingestion); those URVs were derived using HARP and default exposure values.
2. Cancer risk is based on a residential exposure duration of 24 hours per day, 350 days per year over a 70-year lifetime and includes a cancer risk adjustment factor of 1.7 to account for the inherent greater susceptibility to carcinogens during infancy and childhood.

Table 5. Chronic Noncancer Risk Based on Ambient Air Monitoring Data in the Bay Area and South Coast AQMD

Compound	Chronic REL, $\mu\text{g}/\text{m}^3$	Cupertino Chronic Hazard Quotient	San Jose Chronic Hazard Quotient	Berkeley Chronic Hazard Quotient	San Francisco Chronic Hazard Quotient	Benicia Chronic Hazard Quotient	Rubidoux Chronic Hazard Quotient	N Long Beach Chronic Hazard Quotient	Target Organ System
Acetaldehyde	140	0.008	0.012	0.007	0.008	0.006	0.016	0.009	Respiratory
Arsenic	0.00037	0.036	<MDL	<MDL	<MDL	N/A	N/A	N/A	Cardiovascular, Developmental, Nervous, Respiratory, Skin
Benzene	60	0.008	0.016	0.009	0.010	0.006	0.015	0.023	Developmental, Hematologic, Nervous
1,3 Butadiene	20	0.004	0.008	0.005	<MDL	0.003	0.006	0.011	Reproductive
Carbon Tetrachloride	40	0.016	0.014	0.015	0.016	0.015	0.015	0.015	Alimentary, Developmental, Nervous
Chloroform	300	0.000	0.000	0.000	0.000	N/A	N/A	N/A	Alimentary, Developmental, Kidney
Diesel PM	5	0.103	0.173	0.178	0.155	0.136	0.341	0.312	Respiratory
Ethylbenzene	2000	0.000	0.000	0.000	0.000	N/A	N/A	N/A	Alimentary, Developmental, Endocrine, Kidney
Formaldehyde	9	0.189	0.239	0.168	0.154	0.144	0.433	0.289	Respiratory
Manganese	0.09	0.006	0.073	0.327	0.068	0.100	0.322	0.178	Nervous
Mercury	0.0045	0.007	N/A	N/A	N/A	N/A	N/A	N/A	Developmental, Kidney, Nervous
Methyl Chloroform	1000	<MDL	0.000	<MDL	0.000	N/A	N/A	N/A	Nervous
Methylene Chloride	400	0.001	0.002	0.001	0.001	N/A	N/A	N/A	Cardiovascular, Nervous
Nickel	0.05	0.002	0.117	0.196	<MDL	0.140	0.100	0.100	Alimentary
Perchloroethylene	35	0.002	0.006	0.002	0.004	0.001	0.004	0.008	Alimentary, Kidney
Selenium	20	0.000	<MDL	0.000	<MDL	N/A	N/A	N/A	Alimentary, Cardiovascular, Nervous
Toluene	300	0.003	0.011	0.007	0.008	N/A	N/A	N/A	Developmental, Nervous
Trichloroethylene	600	0.000	0.000	<MDL	<MDL	0.000	0.000	0.000	Eye, Nervous
M&P Xylene	700	0.001	0.003	0.002	0.002	N/A	N/A	N/A	Nervous, Respiratory
O Xylene	700	0.000	0.001	0.001	0.001	N/A	N/A	N/A	Nervous, Respiratory
Chronic Hazard Index:		0.3	0.4	0.4	0.3	0.3	0.8	0.6	Respiratory

Table 5 Notes:

1. A chronic inhalation hazard quotient (HQ) is the ratio of the annual average concentration to the chronic inhalation REL. A noninhalation HQ is the ratio of the estimated noninhalation dose to the oral REL. The HQ for each compound is the sum of the chemical specific inhalation HQ and non-inhalation HQ. A Hazard Index (HI) is the sum of the hazard quotients (HQ) for all compounds that affect a particular target organ system. The highest target organ specific HI is the overall HI. Arsenic, Mercury, and Nickel have noninhalation pathways; the chronic RELs for these compounds were derived from HARP and included the impacts of the noninhalation pathways.

2. Adverse health effects are not expected to occur, even for sensitive members of the population, for hazard indices less than one. An exceedance of one does not indicate that adverse effects will occur; rather, it is an indication of the erosion of the margin of safety, and that the likelihood of adverse health effects is increased.

3. Arsenic, Mercury, and Nickel have noninhalation pathways; the chronic RELs for these compounds were derived from HARP and included the impacts of the inhalation and noninhalation pathways: inhalation, dermal adsorption, soil ingestion, mother's milk ingestion and home grown produce ingestion pathways (urban area).

Table 6. 8-hour Chronic Noncancer Risk Based on Ambient Air Monitoring Data in the Bay Area and South Coast AQMD

Compound	8-hour Chronic Inhalation REL, µg/m ³	Cupertino 8-hour Chronic Hazard Quotient	San Jose 8-hour Chronic Hazard Quotient	Berkeley 8-hour Chronic Hazard Quotient	San Francisco 8-hour Chronic Hazard Quotient	Benicia 8-hour Chronic Hazard Quotient	Rubidoux 8-hour Chronic Hazard Quotient	N Long Beach 8-hour Chronic Hazard Quotient	Target Organ System
Acetaldehyde	300	0.011	0.016	0.010	0.011	0.009	0.022	0.013	Respiratory
Arsenic	0.015	0.003	<MDL	<MDL	<MDL	N/A	N/A	N/A	Cardiovascular, Developmental, Nervous, Respiratory, Skin
Formaldehyde	9	0.567	0.718	0.505	0.461	0.432	1.300	0.867	Respiratory
Manganese	0.17	0.010	0.115	0.520	0.109	0.159	0.512	0.282	Nervous
Mercury	0.06	0.002	N/A	N/A	N/A	N/A	N/A	N/A	Developmental, Kidney, Nervous
8-hour Chronic Hazard Index:		0.6	0.7	0.5	0.5	0.4	1.3	0.9	Respiratory

Table 6 Notes:

1. An 8-hr hazard quotient is calculated by dividing the 8-hour average concentration (e.g., for a worker or student or child at daycare that is repeated over an annual period) by the 8-hr REL. A hazard index is the sum of the hazard quotients for all compounds that affect a particular target organ system. The greatest target organ HI is the overall HI.

2. Adverse health effects are not expected to occur, even for sensitive members of the population, for hazard indices less than one. An exceedance of one does not indicate that adverse effects will occur; rather, it is an indication of the erosion of the margin of safety and that the likelihood of adverse health effects is increased.

3. The maximum 8-hour chronic exposure was conservatively estimated based on the assumption that all the pollutants for a 24-hour sample were collected within an 8-hour period. Therefore, an adjustment factor of 3 (24 hr/8 hr) was applied to the annual average concentrations (averages of multiple 24-hr samples).

Table 7. Acute Noncancer Risk Based on Ambient Air Monitoring Data in the Bay Area and South Coast AQMD

Compound	Acute Inhalation REL, µg/m ³	Cupertino Acute Hazard Quotient	San Jose Acute Hazard Quotient	Berkeley Acute Hazard Quotient	San Francisco Acute Hazard Quotient	Benicia Acute Hazard Quotient	Rubidoux Acute Hazard Quotient	N Long Beach Acute Hazard Quotient	Target Organ System
Acetaldehyde	470	0.075	0.068	0.045	0.055	0.039	0.096	0.056	Eye, Respiratory
Arsenic	0.2	0.002	<MDL	0.083	<MDL	N/A	N/A	N/A	Cardiovascular, Developmental, Nervous
Benzene	1300	0.007	0.022	0.011	0.011	0.007	0.021	0.018	Developmental, Hematologic, Immune, Reproductive
Carbon Tetrachloride	1900	0.003	0.003	0.003	0.003	0.003	0.003	0.003	Alimentary Tract, Developmental, Nervous, Reproductive
Chloroform	150	0.020	0.012	0.015	0.012	N/A	N/A	N/A	Developmental, Nervous, Reproductive
Copper	100	0.000	0.002	0.003	0.003	N/A	N/A	N/A	Respiratory
Formaldehyde	55	0.773	0.754	0.473	0.611	0.612	1.336	0.805	Eye
Mercury	0.6	0.001	N/A	N/A	N/A	N/A	N/A	N/A	Developmental, Nervous
Methyl Chloroform	68000	<MDL	0.000	0.000	0.000	N/A	N/A	N/A	Nervous
Methylene Chloride	14000	0.001	0.001	0.002	0.001	N/A	N/A	N/A	Nervous
Methyl Ethyl Ketone	13000	0.002	0.001	0.001	0.001	N/A	N/A	N/A	Eye, Respiratory
Nickel	6	0.000	0.045	0.066	<MDL	0.125	0.013	0.013	Immune, Respiratory
Perchloroethylene	20000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	Eye, Nervous, Respiratory
Toluene	37000	0.001	0.004	0.001	0.001	N/A	N/A	N/A	Developmental, Eye, Nervous, Reproductive, Respiratory
Vanadium	30	0.000	0.001	0.005	0.004	N/A	N/A	N/A	Eye, Respiratory
M&P Xylene	22000	0.001	0.004	0.002	0.002	N/A	N/A	N/A	Eye, Respiratory
O Xylene	22000	0.000	0.001	0.001	0.001	N/A	N/A	N/A	Eye, Respiratory
Acute Hazard Index:									0.9 0.8 0.5 0.7 0.7 1.4 0.9

Table 7 Notes:

1. An acute hazard quotient is the value of the maximum one-hour average concentration divided by the acute REL. A hazard index (HI) is the sum of the hazard quotients (HQ) for all compounds that affect a particular target organ system. The greatest target organ specific HI is the overall HI.
2. Adverse health effects are not expected to occur, even for sensitive members of the population, for hazard indices less than one. An exceedance of one does not indicate that adverse effects will occur, rather, it is an indication of the erosion of the margin of safety and that the likelihood of adverse health effects is increased.
3. Max. 1-hr concentrations were assumed to be 7.5 times the max. 24-hr concentration. This adjustment factor was determined by multiplying a 1-hr to 24-hr meteorological persistence factor of 1 / 0.4 = 2.5 ("Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised, October 1992, EPA-454/R-92-019, page 4-16), by an emission rate scalar of 3 (24 hr/8 hr), that accounts for temporal differences in emissions over the 24-hour period. This technique was used for this report to adjust concentrations based on the 24 hour monitoring data in Table 2.

Figure 1. Location of the Air District's Cupertino Air Monitoring Station





