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23 May 2012

5/24/2012
Supplemental Packet
Item # 3

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Mr. Scott Lefaver, Chair
Santa Clara county Planning Commission
70 W. Hedding St.
San Jose, CA 95110

Re: Agenda Item #1, Lehigh Southwest Cement Company

Dear Chair Lefaver & Commissioners,

The San Jose Silicon Valley Chamber of Commerce supports the certification of the Final Environmental Impact Report (FEIR) with findings and Statement of Overriding Consideration and the approval of the Reclamation Plan Amendment (RPA) for LeHigh Cement.

The FEIR under consideration has evaluated and disclosed the potential environmental impacts that would result from implementation of the RPA including potential significant environmental impacts, public comments and responses with feasible mitigation measures identified to reduce significant impacts as required by CEQA.

Additionally, the SJSV Chamber recommends the approval of the LeHigh RPA under review. Approval of the proposed reclamation plan will provide:

- The reclamation of just over 600 acres of active operations and
- The set aside of an additional 600 acres of undisturbed buffer area
- The backfill of the existing mining area to the elevation of Permanente Creek w/slope stabilization
- The West Material Storage Area returned to late 1800's elevations with enhanced northerly views
- The application of cutting edge reclamation science, including solar radiation studies, to determine the best place to plant trees and shrubs
- Upon reclamation completion, the screening of plant operations from valley floor views

LeHigh Cement continues to provide more than 65% of the cement used in Santa Clara County and more than 55% of the cement used throughout the Bay Area. LeHigh helped build the expansion of the San Jose International Airport; Highways 85, 87, 101 & 280; the Bay Bridge; and Shasta Dam. LeHigh is an integral partner in the development and success of Silicon Valley. As a highly regulated company by numerous public agencies, the Reclamation Plan under consideration will be a responsible implementation tool for LeHigh management, the county and other public agencies and the Silicon Valley community to monitor and evaluate all future operations.

Sincerely,

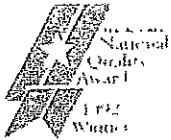
Patricia E. Sausedo, Vice President
Public Policy
San Jose Silicon Valley Chamber

Cc: Michele Napier, Board Clerk



May 21, 2012

Mr. Scott Lefaver, Chairman and
Members of the Santa Clara County Planning Commission
70 W. Hedding Street, 7th Floor
San Jose, CA 95110



Re: Permanente Quarry Reclamation Plan Amendment
Information Regarding Quality of Limestone

Dear Chairman Lefaver and Members of the Planning Commission:

This letter provides, at the request of Hanson Permanente Cement, Inc. and Lehigh Southwest Cement Company (together, "Lehigh"), information regarding the importance and the quality of the limestone mined at Lehigh's Permanente Quarry ("Quarry").

I currently serve as President and CEO of Granite Rock Company, a 112-year old construction materials provider based in Watsonville, California ("Graniterock"). Graniterock has business operations in Santa Clara County and I am a resident of Cupertino. Graniterock purchases 100 percent of its cement from Lehigh's Permanente cement plant, located adjacent to the Quarry. Graniterock uses Lehigh's cement because it has the highest quality. In particular, Permanente cement has low alkali levels, which is critical to preventing structural disintegration arising from an alkali-silica reaction between cement and some common aggregate varieties. This reaction causes a gel-like substance to form within the concrete and exert pressure that eventually destroys structural integrity.

I am a former member of the Caltrans Technical Advisory Committee, and know that a number of California's infrastructure projects, especially in Southern California, are showing deterioration as a result of this alkali-silica reaction. The San Francisco Bay Area, however, is relatively free of structural issues caused by the alkali-silica reaction in large part, I believe, due to use of cement from Permanente. Material from other cement plants in California and imported cement can meet minimum Caltrans Standard Specifications, but concrete research studies show that the minimum specifications do not consistently protect against alkali-silica decay.

One important factor in the overall quality of the Permanente cement is the quality of the Quarry's limestone, which is the primary ingredient in cement production. There are few, if any, large deposits of limestone of this quality remaining in California. Limestone

- Monterey County
- San Benito County
- San Mateo County
- Santa Clara County
- Santa Cruz County
- Alameda County
- City and County of San Francisco

Material Supplier/ Engineering Contractor
License #22



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is a difficult mineral to extract because the limestone is often situated in layers, called limestone lenses, interspersed with deposits of other minerals and rocks.

If Lehigh became unable to supply limestone from the Quarry (and consequently, Permanente cement) for public projects, I do not believe that a cost-effective alternative source exists that is equivalent in quality, and that the consequence would be a lower quality of material in the market at a higher cost.

I appreciate the Planning Commission's consideration and would be pleased to present further information upon request.

Sincerely,
Graniterock

A handwritten signature in cursive script, appearing to read "Bruce W. Woolpert".

Bruce W. Woolpert
President and CEO

cc: Kari D. Saragusa, Lehigh Hanson
Marvin E. Howell, Lehigh Hanson
Elizabeth G. Pianca, Esq., Office of County Counsel
Mark D. Harrison, Esq.

Subject: Please oppose the proposed Lehigh Reclamation Plan

Date: Thursday, May 24, 2012 12:29 AM

From: Gary Waldeck <gcwaldeck@gmail.com>

To: <planning.commission@pln.sccgov.org>, <jackbohan@hughes.net>, <JTVidovich@aol.com>

Conversation: Please oppose the proposed Lehigh Reclamation Plan

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Hello

I am Gary Waldeck, Vice Mayor of Los Altos Hills.

For more than a year now, I have been leading a joint LAH – Los Altos Committee in reviewing the Lehigh Quarry and its associated issues. I am writing now to ask you, as planning commission members, to reject the final EIR proposal because it clearly misses the mark in so many ways, only a few of which follow:

CEMENT PLANT - The Cement Plant is a major source of pollution including Green House Gases. But it is excluded from the EIR on the basis that 5 years ago, the OMR said it could be; CEQA says to be included it must be related to the Project. And, it really is.

The State buys cement not limestone from Lehigh as a qualified AB3098 list supplier.

The Bay Area Air Quality Management District states that leakages such as lime slurry in the Cement Plant are the responsibility of the County.

Lehigh defined the RPA to not include the Cement Plant and the County has embraced that definition but Lehigh has argued concurrently in the Vesting resolution that the Cement plant was integrated and inseparable from the Quarry. So which is right? Only one must be. It is important to determine which statement is correct and follow that conclusion to the logical answers. The attempt by the County to eliminate the Cement Plant from consideration is obvious and just plain wrong. The Cement Plant must be included in the EIR.

SCENIC EASEMENT - The FEIR states that the Ridgeline Scenic Easement above Los Altos is not a component of the Reclamation Plan even though it is part of the current Plan that is being amended. So ... what has happened to cause this dichotomy of opinion? It further states that "A complete restoration of the ridgeline within the conservation easement is not proposed under the Project and

thus is not evaluated in the EIR". But, this easement was key to the current RPA being approved and was not only part of the Plan but was also Deeded! It cannot be silently put away without a Public Hearing. The justification suggested is that the ridgeline collapsed from an Act of God. In reality, it collapsed because the Quarry Operator quarried too close to the edge with no County NOV ever being issued. This set the stage for an earthquake trigger that soon readily occurred. The ridgeline must be restored. As a member of the Los Altos Hills government, we have counted on the County to do the right thing. But this proposal misses the mark by a lot. **PERMANENTE CREEK** - The FEIR confirms that Permanente Creek is polluted due to Selenium in the water that is dumped into every day from the Quarry Pit. This is a fact agreed in detail by all. According to the County, Lehigh has a vested right to do this for another 20 years and accepts that the pollution will rise over that period. The County presumes there is no current economic way to remove the selenium but the Water Board differs.

The County proposes to override the Water Board and is asking the Planning Commission to make a "Statement of Overriding Considerations" that says **Pollution trumps the Environment**. As an inducement the County says it will study the matter for 30 months as long as the EIR and RPA are approved immediately. That position is a fallacious delaying tactic! The Creek must be cleaned up now.

According to the CA Regional Water Quality Control Board's letter of 2012-02-21 to the SCC Planning office, the Board emphatically states that:

- *The environmental impacts have been significantly underestimated and under identified.*
- *The standards of work required under the dEIR are not consistent with level required by the Surface Mining and Reclamation Act (."SMARA."), Title 27 of the California Code of Regulations (."CCR27."), the Federal Clean Water Act and the Porter-Cologne Water Cologne Water Quality Control Act, (at Water Code Sections 13000 et seq.).*

An additional alternative should be analyzed in the DEIR, an alternative that allows no further placement of waste within the EMSA and the immediate removal of all material that has been placed there, and immediate site restoration. Further, the alternative overburden disposal should have been included in the DEIR. These alternatives would avoid the significant and "unavoidable" impacts identified in the DEIR related to the EMSA. The alternatives presented in the DEIR, including the Preferred Project, attempt to address the Project's significant impacts when Lehigh is finished with them, as opposed to avoidance of impacts or immediate mitigation of existing impacts. Per CEC the stated DEIR objectives, alternatives considered must be capable of eliminating or reducing significant environmental effects. The removal of the EMSA would eliminate and/or reduce the significant and unavoidable impacts identified in the DEIR. Per CEQA this alternative is also feasible and capable of being accomplished in a successful manner.

Compared with the FEIR's conclusions, it seems as if there really are existing alternatives that both have merit and that can be accomplished. It is indeed unfortunate that our planners seemed to have overlooked these very reasonable and achievable alternatives. Similarly, to reject the Water Board's recommendations seems to be the height of folly. These are the people who are charged with protecting our citizen's health ... they have forcefully stated that this plan is just plain wrong ... Selenium is dangerous. A water treatment plant is the minimum that should be included instead of poisoning Permanente creek for 20+ years.

I agree.

So, it is for these reasons and so many others, I would counsel

- *The analysis is based on data not capable of statistical analysis to support the conclusions drawn. It is premature to approve the dEIR as it is currently written. To do so would ignore the better practical alternatives and the reclamation activities' real threats to water quality or human health.*

These are telling statements from our own State water quality experts. To ignore them is folly and just plain wrong.

To go a bit further, in their letter of 2011-02-17, the Mid-Peninsula Regional Open Space District has cited a number of meritorious points, I encourage you to read it in its entirety.

Perhaps their statements that cut to the chase are:

An additional alternative should be analyzed in the DEIR, an alternative that allows no further placement of waste within the EMSA and the immediate removal of all material that has been placed there, and immediate site restoration. Further, the alternative overburden disposal should be included in the DEIR. These alternatives would avoid the significant and "unavoidable" impacts identified in the DEIR related to the EMSA. The alternatives presented in the DEIR, including the Preferred Project, attempt to address the Project's significant impacts when Lehigh is finished with them, as opposed to avoidance of impacts or immediate mitigation of existing impacts. Per CEQA the stated DEIR objectives, alternatives considered must be capable of eliminating or reducing significant environmental effects. The removal of the EMSA would eliminate and/or reduce the significant and unavoidable impacts identified in the DEIR. Per CEQA this alternative is also feasible capable of being accomplished in a successful manner.

..... AND ...

that a vote to disapprove the proposed Reclamation Plan be made.

Thank you for your time and your consideration.

Gary Waldeck

Vice Mayor, Los Altos Hills

GCWaldeck@Gmail.com <mailto:GCWaldeck@Gmail.com>

650 739-8823 (Office/Cell)



Regional
OpenSpace

Midpeninsula Regional Open Space District

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Larry Hassett
Cecily Harris

County Planning Commission
c/o Ms. Marina Rush
Santa Clara County Planning Office
County Government Center
70 W. Hedding Street, 7th Floor, East Wing
San Jose, CA 95110

May 23, 2012

RE: Planning Commission Hearing Concerning Lehigh Permanente Quarry Reclamation Plan Amendment
Final Environmental Impact Report (SCH No. 2010042063, Project File # 2250-13-66-10P)

On behalf of the Midpeninsula Regional Open Space District (District) I would like to provide the following comments on the Final Environmental Impact Report for the Lehigh Permanente Quarry Reclamation Plan Amendment. This letter is intended to address County responses to comments raised in our Draft EIR comment letter dated February 17, 2011. We have also previously submitted numerous comment letters regarding recent Reclamation Plan Amendments and the Legal Non-Conforming Use determination for the Permanente Quarry. These comment letters are on file at the Planning Office, are referenced in the FEIR, and are referenced as exhibits to this letter.

We are concerned with the short time frame afforded concerned agencies and members of the public to comment on the Final EIR, but will attempt to comment within this hurried schedule.

A6-1 The District remains opposed to the use of the East Materials Storage Area (EMSA) for quarry waste disposal. We disagree with the conclusion of the Board of Supervisor's that the EMSA parcel is an existing non-conforming quarry use. Instead, we came to a shared independent conclusion with the County Geologist (January 26, 2011 Memorandum), and the analysis by Shute, Mihaly, & Weinberger (February 4, 2011) that the subject parcel did not show evidence of quarry related activities prior to 1948, the vesting date as determined by the County. The FEIR incorrectly concludes that the parcel now being utilized as the EMSA quarry waste dump was in 1948 an existing parcel used for quarry operations. The record clearly shows that the substantial grading evident in exhibits from the time were related to the construction of the manufacturing plant facilities, not quarry related grading as purported by the project proponent. Therefore, the EMSA is in fact a new quarry use of the parcel.

The County response comment states that the former aluminum plant and incendiary materials manufacturing facility site are not within the project area. This is misleading. The main aluminum foil plant and magnesium plant buildings are located just outside of the EMSA footprint. However, the DEIR and County fails to recognize numerous other related facilities buildings which formerly existed within the project footprint. These other buildings are shown on County Exhibit 21 (1944 Record of Survey) and

Exhibit 48 (Metals Facility Site Plan) to the Non-conforming Use Analysis presented to the Board of Supervisor's. The DEIR project area (EMSA) is located within the "Lands of the Permanente Metals Corporation" on the 1944 Record of Survey, and depicts numerous plant-related structures that are also within the project area. The Metals Facility Site Plan shows a conveyer connecting facility structures located both inside and outside of the FEIR project area.

A6-2, A6-3. The County response states that the EIR does not analyze issues related to conformity of existing conditions or proposed reclamation with the Permanente Ridge Scenic Easement because the easement is an existing legal agreement between the applicant and the County. This response is somewhat baffling. The 1985 County Staff Report to the Planning Commission and 1985 Mitigated Negative Declaration in support of the original Reclamation Plan for the quarry, addresses the Permanente Ridge Scenic Easement. This easement was an important scenic "protection" dedicated to the public, related to the quarry development and visual impacts/ protection important at the time for the County and surrounding cities. In fact, the 1985 Environmental Assessment (Mitigated Negative Declaration) discusses the scenic easement as mitigation for an otherwise significant impact under Section 2 (Resources and Parks), and Section 5 (Aesthetic).

Mapping by Cotton, Shires and Associates (March 2003) show four landslides which have impacted the scenic easement. The current FEIR Reclamation Plan Amendment appears to defer implementing substantial beneficial stability measures to protect the scenic easement until late Phase 2 (2021-2025), but primarily during Phase 3 (2026-2030). The proposed quarry pit infill still does not appear to buttress the upper portion of the excavated quarry slope, which may still be subject to slope failure into the scenic easement, even after the proposed reclamation.

The geologic analysis by Golder and Associates characterizes the existing quarry slopes abutting the scenic easement as marginally stable, at best, in their current configuration. This conclusion has also been challenged by Cotton, Shires and Associates in their Preliminary Geotechnical Peer Review of the current Reclamation Plan Amendment, dated February 20, 2012, and quarry slope/ landslides could actually be less stable than presented in the FEIR.

An Emergency Grading Authorization was requested by the quarry in 2002 for a repair of a landslide that had failed removing a substantial portion of District land. In a letter to then owner Hanson Permanente Cement, the County responded that *"one major concern is how this work and the continuing slope instability problems at the quarry are affecting the County's ridgeline easement. In order for this office to give further consideration to the emergency grading authorization proposal, additional information must be submitted to more specifically define the proposed emergency grading project. This office is cognizant that the rainy season is imminent, but also takes note that it has been 10 months since the slope stability problems were identified, and that any areas that are identified as unsafe due to slope instability should be cordoned off and closed to workers for a safe distance. Hanson Permanente can and should suspend work in the area of the hazard until the area is made safe."*

To date this "emergency" work has not been enacted to our knowledge, but clearly the County recognized the scenic easement issue needed to be addressed for this permit request at the time.

Not only does the proposed reclamation plan amendment prolong instability issues within the County scenic easement that have already been deferred for 10-25 years prior, but the existing quarry slope conditions also pose potential safety concerns as well.

In 2006, The Executive Officer's Report to the State Mining and Geology Board (Meeting of July 13, 2006) states that "The landslides along the rim of the mine pit were caused in part, if not in whole, by the mining operation, and thus the County had a responsibility and obligation to request that the operator amend its reclamation plan. The report also states that the County claims that the repair process (as of 2006) "has taken longer than anticipated due to potential adverse impacts to a ridgeline easement and slope stability issues."

The District disagrees with the omission of an analysis regarding the County scenic easement within the FEIR. Further prolonging action to protect the easement, granted to the County (public) in 1972 in recognition of the important scenic resource protected, will likely result in additional impacts to the scenic easement, and inmitigable visual impacts incurred by the public.

A6-4 We note the correction regarding the baseline condition of 2007 related to the EMSA. It is difficult to maintain perspective related to the EMSA given the mountain of quarry waste that continues to grow, under County agreement with Lehigh in response to a County Notice of Violation, yet we are reviewing it as a "proposed" part of the reclamation plan amendment. The EIR assumes that the EMSA is constructed. The level of construction just varies from the 2007 baseline (no project alternative) which has not been fully characterized or quantified, to the assumption of all the other "alternatives" that 6,500,000 tons of quarry waste have been dumped. We strongly agree with the EIR conclusion that the visual impact associated with the EMSA is significant, and unfortunately at present, unavoidable. We refer back to our DEIR comment letter regarding our characterization of the EMSA and the extent of visual impact "proposed."

We also disagree with response A6-3 that the "completion of the proposed reclamation of the EMSA, including revegetation, would improve views of the EMSA relative to baseline conditions" since the quarry waste dumped by 2007 was substantially less than what exists now, or what is envisioned under the preferred alternative.

A6-5 The County response to our prior comment states "the historic manufacturing plant uses of the site are located near, but not within the project Area. These historic facilities would not be 'buried' by the EMSA as suggested in the comment." As with comment A6-1 above, the response comment is misleading. The main aluminum foil plant and magnesium plant buildings are located just outside of the EMSA footprint. However, the EIR fails to recognize numerous other related facilities buildings which formerly existed within the project footprint. These other buildings are shown on County Exhibit 21 (1944 Record of Survey) and Exhibit 48 (Metals Facility Site Plan) to the Non-conforming Use Analysis presented to the Board of Supervisor's. The DEIR project area (EMSA) is located within the "Lands of the Permanente Metals Corporation" on the 1944 Record of Survey, and depicts numerous plant-related structures that are also within the project area. Historic facilities shown on The Metals Facility Site Plan and on the 1944 record of survey will in fact be buried by the project. A review of recent aerial imagery appears to show that some of these locations have already been heavily disturbed, and portions buried.

A6-6,7,8,9 We remain vehemently opposed to the extensive new visual impact associated with the "proposed" EMSA. Not only do we believe that the EMSA is a new use located on a parcel without evidence of quarry activity prior to the 1948 date established by the County, but the EMSA is also incompatible with County scenic policies C-CR 57, 58, 59, 60, 61, Land Use Compatibility and Minimizing Environmental Impacts sections of the Mineral Resources section of the Resource Conservation policies, and policy C-RC 47, and the Permanente Ridge Scenic Easement.

A6-10 The EIR has not adequately address cumulative air quality impacts of the quarry operation and the cement plant facility. There has been no collection (and related analysis) of air quality parameters at the District's shared property line with the quarry. We again request that a continuous air monitoring station be established near the District property line, adjacent to the EMSA.

A6-11,12 The County response provided does not address the concerns that we raised. Please refer to our prior comments for the DEIR. We agree with the comment that "Removal of mining overburden from the EMSA would abate the notice of violation related to mining related use of this area, remove an existing source of selenium and thereby preclude its mobilization into downstream waterways, and return views from the valley floor and beyond to a pre-mining condition." We however believe that the EMSA is a new source as opposed to an existing one, grandfathered by the 2007 baseline date established in the EIR.

The County response offers a comment that "CEQA does not give lead agencies the discretion to require alternatives to or mitigation of existing significant environmental effects for which the Project now under consideration is not the source of the existing problem." The Reclamation Plan Amendment evaluated in the EIR is the first Project under consideration by the County to propose the EMSA waste dump, and thus should not be characterized as an existing problem.

A6-13 We stated the concern that reclamation activities associated with the EMSA may be constructed in soils that may have been contaminated from past activities related to the metals manufacturing that occurred on the site. As with comment A6-1 and A6-5 above, the response comment is misleading, and dismisses this significant concern. The main aluminum foil plant and magnesium plant buildings are located just outside of the EMSA footprint. However, the EIR fails to recognize numerous other related facilities buildings which formerly existed within the project footprint. These other buildings are shown on County Exhibit 21 (1944 Record of Survey) and Exhibit 48 (Metals Facility Site Plan) to the Non-conforming Use Analysis presented to the Board of Supervisor's. The DEIR project area (EMSA) is located within the "Lands of the Permanente Metals Corporation" as shown on the 1944 Record of Survey, and depicts numerous plant-related structures that are also within the project area. Historic facilities locations shown on The Metals Facility Site Plan and on the 1944 record of survey will in fact be disturbed and buried by the project. A review of recent aerial imagery appears to show that some of these locations have already been heavily disturbed, and portions buried.

Building facilities that existed within the "proposed" EMSA project area are identified on the Metals Facility Site Plan and include: the Main Laboratory, Foundry-converted to the research machine shop in 1955, compressor building-transformers, electrical building, switch house-substation, hydrogen building, nitrogen building, batter building, briquette building, electrical storage building, and an undefined storage building.

The EMSA quarry waste dump portion of the project area has not been evaluated for potential hazardous materials. As stated in our prior comments, the grading keyways, proposed per the geotechnical fill placement details in the DEIR, will excavate into these areas to buttress the EMSA waste fill. Given the long industrial history on the site and within the project area, we believe that a thorough investigation should be completed.

Relying on other regulatory agency records alone to identify hazardous sites, particularly when there is no record of this site ever being tested, and given the site history, is clearly problematic. Attempting to dismiss this concern because the main aluminum and magnesium plant buildings are located just outside of the project area is also problematic. The geologic map of the east materials storage area (Figure 4, Golder Associates) shows the EMSA footprint as close as 50 feet from the edge of these main plant buildings. Regardless of the presence of the other Metals Facility buildings noted, 50 to even hundreds of feet distance from the main plant buildings is still plenty close for potential toxic hazards to exist. This is particularly true with the level of grading that has occurred within the immediate area which could spread toxic material, not to mention the potential for groundwater contamination which is well known to have the potential to spread for miles.

With regard to potential hazardous materials within the project site (EMSA), the EIR has failed to investigate this potentially significant environmental impact.

A6-14 Please refer to our original comment for the DEIR. We respectfully disagree with the baseline date established in the DEIR.

A6-15,16,17 Regarding disagreement with the baseline date noted above, we believe that a baseline that uses the approved original reclamation plan is a more appropriate place to establish what the reclamation plan amendment is actually amending. This should include a comparison of the former reclamation plan and the proposed amendment, including area and cross-sections of the two. Simply showing the footprint, while impressive in the area that the quarry has disturbed in excess of the original reclamation plan, does not provide for the appropriate level of analysis.

The County response states that this detail and analysis was not provided in the DEIR because the "DEIR evaluates the significance of Project-related changes relative to actual physical conditions in the environment, not to physical limits established by prior approvals." The quarry clearly has an excess of overburden that was not envisioned at the time of the original reclamation plan. This is evidenced by the WMSA which is out of compliance, and the EMSA which was initiated by the quarry, and received a notice of violation from the County. The waste generated is a result of quarrying methods and conditions. These are clearly changes to the physical environment appropriate for analysis.

A6-18 The District remains extremely concerned with existing water quality impacts and biological resource impacts and the project potential to increase and or prolong these impacts. Please refer to our DEIR comment letter for discussion.

A point of clarification to the County response. We acknowledge that the quarry has obtained a permit from the Regional Water Quality Control Board- San Francisco Bay Region (RWQCB), following their order from the RWQCB. The RWQCB has noted that this is essentially a stop-gap until the required individual permit is completed and approved. Clearly, the limestone quarry is not an aggregate mining, sand washing, and sand offloading facility, as referenced in the FEIR.

A6-19 The District stands by our DEIR comments related to water quality impacts.

A6-20 We support the inclusion of vegetated buffer areas with the conditions discussed in our DEIR comment letter.

A6-21 We appreciate the response and clarifying discussion, but defer to our DEIR comment .

In closing, the District believes that the FEIR is deficient in many critical areas as noted in these comments and our prior comments that we have submitted throughout the process. We respectfully request that the County Planning Commission deny the Permanente Quarry Reclamation Plan Amendment FEIR.

Sincerely,

Matt Baldzikowski
Resource Planner III

Cc: District Board of Directors
Stephen E. Abbors, District General Manager
Erin Garner, Chair, State Mining and Geology Board
Jim Pompy, Director, Office of Mine Reclamation
George Shirakawa, President, County of Santa Clara Board of Supervisors

From: "Bill Almon" <balmon@pacbell.net>
Subject: FEIR Comments
Date: May 24, 2012 8:45:26 AM PDT
To: "Marina Rush" <marina.rush@pln.sccgov.org>

QUARRYNO

May 24, 2012

Marina,

I have attached below our additional comments on the final EIR and RPA in advance of the Planning Commission Meeting May 24, 2012. We appreciate the efforts to respond to our prior comments and applaud the additional information that came from the Workshop. We still object to the hurried effort to get the EIR and RPA approved particularly since it will bind the residents for another 20 years minimum. That demands careful scrutiny and wise review.

CEMENT PLANT-The Cement Plant even though it is a major source of pollution is not included in the EIR on the basis that 5 years ago OMR stated it did not have to be. This is very misleading. In a letter to the County dated September 22, 2006 OMR stated the opposite. Specifically they said that the Cement Plant met the definition of mined lands as that term is defined in Public Resources Code (PRC) Section 2729. OMR directed the County to include the area occupied by the Cement Plant in a required amendment to the reclamation plan.

The Quarry operator objected and argued the Cement Plant was a separate and distinct operation from the Quarry and that no surface mining operations had ever occurred there. OMR accepted this pleading as correct and the County then embraced it. However on February 8, 2011 Lehigh argued the exact opposite that all parcels in the area of the Cement Plant had been disturbed by mining activity and that the Cement Plant and Quarry were totally integrated with one set of management and ownership. That is a matter of public record and another example of the County accepting whatever Lehigh says.

In addition to the questionable OMR position the exclusion of the Cement Plant is justified on the basis of CEQA. CEQA Guidelines 15041(a) and 15126.4(a)(4) are quoted stating there must be a reasonable relationship between the project proposed and the impact of it. There is such a relationship for the Cement Plant to the Quarry. In fact there are many reasonable relationships.

The rush to get the EIR and RPA approved is justified on the basis that Lehigh will be removed from the State's list of qualified cement suppliers if EIR and RPA approval is not immediate. Lehigh sells the State cement not

limestone. The limestone must be produced by the Cement Plant in order to be sold. This is a very real relationship.

The Air District stated on May 21, 2012 at a Public Hearing in Cupertino that leakages such as lime slurry in the Cement Plant are the responsibility of the County even though the lime slurry is fed by feeders that are permitted by the Air District. The dust generated by Quarry crushers and trucks is regulated by the Air District not the County. The Cement Plant and the Quarry are one integrated entity.

In order to avoid the pollution inherent from the operation of the Cement Plant Lehigh deliberately defined the RPA to not include the Cement Plant and the County embraced that definition while Lehigh argued at the same time in resolving the Vesting issue that the Cement plant was integrated and inseparable from the Quarry. Indeed exhibits from the Vesting Hearing, presented by Lehigh, claimed quarrying activity on the land parcels now designated as Cement Plant. The two are one except when they are two. The attempt by the County to slice and dice the EIR just to eliminate the Cement Plant is obvious. The Cement Plant must be included in the EIR.

TRUCKS-The exclusion of the Cement Plant leads to the exclusion of the Diesel and Aggregate delivery trucks. They are excluded from the EIR and Reclamation Plan on the basis they are part of the Cement Plant. They come in empty and leave loaded but always add to particulate emissions that give the County a failing rating by the EPA. Obviously those carrying aggregate never come close to the Cement Plant but still are not counted. However all uncounted truck emissions are equal to the total toxic emissions from the Kiln.

In essence half of the toxic emissions are omitted from public sight by this sleight of hand. The trucks must be counted for the EIR to have any credibility and they must be represented before they can be mitigated. The Port of Oakland received \$25.7 million from the Air District last year to reduce the emissions of their Diesel Trucks. Santa Clara County will only receive similar relief after admitting the problem exists.

SCENIC EASEMENT-According to the FEIR the Ridgeline Scenic Easement above Los Altos is not a Component of the Reclamation Plan even though it is part of the current Plan that is being amended. It further states that "A complete restoration of the ridgeline within the conservation easement is not proposed under the Project and thus is not evaluated in the EIR". This easement was key to the current RPA being approved and was not only part of the Plan but was also Deeded. It cannot be removed by inaction.

Some have suggested that the ridgeline collapse was due to natural causes. However evidence shows it collapsed from quarrying too close to the edge in violation of the Easement. However as so often has been the case the County took no action. Now to avoid further embarrassment the County simply wants to forget about it. The abandonment of a public easement requires a Public

Hearing. The ridgeline must be restored as part of the RPA.

PERMANENTE CREEK- According to the FEIR Lehigh dumps Pit Water containing high levels of Selenium every day into Permanente Creek. There is additional secondary selenium seepage from adjacent mine waste but the daily dumping is the primary cause of the pollution. The County suggests this is a vested right that must be allowed for another 20 years. However 20 years can easily become 40 years with yet another Reclamation Plan Amendment. History suggests that there is no limit to the endless Amendments that Lehigh can submit.

Lehigh must find another way to dispose of the Pit water. It can certainly be trucked away but only now within days of RPA approval are other alternatives being talked about. The EIR must be revised to include other alternatives. They should have been in the DEIR as suggested by the Water Board but were not. Instead the County asks the Planning Commission to make a "Statement of Overriding Considerations" that says the need for cement is more compelling than the public good. That will be difficult as the mission of the Planning Commission as stated on the County website is to protect Santa Clara County's natural resources and protect public health. The dumping of Pit Water must end now. It is up to Lehigh to find a solution not the County or the Public.

Because of the above conclusions we hope the Commission will reject the EIR and RPA.

Bill



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DAVID PACKARD

May 24th, 2012

Scott Lefaver
Chairperson
Santa Clara County Planning Commission
70 W. Hedding Street, 7th Floor
San Jose, CA 95110

Dear Chairperson Lefaver,

The Silicon Valley Leadership Group urges your approval of the Reclamation Plan Amendment for the Lehigh Southwest Company Permanente Quarry, and to certify the Environmental Impact Report (EIR) prepared by County staff.

By way of background, the Silicon Valley Leadership Group, founded in 1978 by David Packard of Hewlett-Packard, represents more than 375 of Silicon Valley's most respected employers on issues, programs and campaigns that affect the economic health and quality of life in Silicon Valley. Leadership Group members collectively provide nearly one of every four private sector jobs in Silicon Valley.

Maintaining a local, reliable, and economic source of Portland cement-grade limestone and construction aggregate to serve market demands in Santa Clara County, the San Francisco Bay Area and northern California is vital. As you know, the Lehigh Permanente Quarry provides more than 70% of the cement used in Santa Clara County - and more than 55% of the cement used in the Bay Area. It is also important in order to achieve the area's environmental goals. In fact, the Leadership in Energy and Environmental Design (LEED) Green Building Rating System, provides points for using locally produced cement which helps contribute to a building's ability to obtain LEED certification.

The company is an important local employer. The existing limestone quarry is uniquely situated to provide for future regional needs. It also lies in a state-classified MRZ-[11] resource area, meeting the requirements of the State Mining and Reclamation Act (SMARA) and County Code Section 4.10.370.

Again, we support the approval of the Reclamation Plan Amendment and certification of the EIR. Thank you for taking our views into consideration.

Sincerely,

Carl Guardino
President and CEO

CC: Board of Supervisors, Members of the Planning Commission, Office of Planning and Development Director, Nash Gonzales



News Release

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U.S. Department of Labor
Office of Public Affairs
Washington, D.C.
Release Number: 11-1137-NAT

For Immediate Release

July 28, 2011

Contact: Amy Louviere

Phone: 202-693-9423

Email: louviere.amy@dol.gov

MSHA announces results of June impact inspections

ARLINGTON, Va. – The U.S. Department of Labor’s Mine Safety and Health Administration today announced that federal inspectors issued 194 citations, orders and safeguards during special impact inspections conducted at 12 coal mines and two metal/nonmetal mines last month. The coal mines were issued 154 citations, 12 orders and three safeguards, while the metal/nonmetal operations were issued 21 citations and four orders.

These inspections, which began in force in April 2010 following the explosion at Upper Big Branch Mine, involve mines that merit increased agency attention and enforcement due to their poor compliance history or particular compliance concerns, including high numbers of violations or closure orders; indications of operator tactics, such as advance notification of inspections that prevent inspectors from observing violations; frequent hazard complaints or hotline calls; plan compliance issues; inadequate workplace examinations; a high number of accidents, injuries or illnesses; fatalities; and adverse conditions such as increased methane liberation, faulty roof conditions and inadequate ventilation.

“The impact inspection program has been an invaluable tool for identifying and addressing mines with serious compliance issues,” said Joseph A. Main, assistant secretary of labor for mine safety and health. “While we are still finding mines with chronic problems, we are cautiously optimistic that the majority of operators are getting the message.”

As an example from last month’s impact inspections, MSHA conducted an impact inspection June 13–16 at Lehigh Southwest Cement Co.’s Lehigh Permanente Cement Co. This is a large cement facility located in Santa Clara County, Calif., employing approximately 106 miners. MSHA issued 21 citations and four unwarrantable failure orders during the inspection.

Inspectors noted a number of hazardous conditions, including tripping hazards in workplaces, passageways, storerooms and service rooms; safety defects not repaired in a timely manner, including not securing inspection doors on a kiln and sharp metal roofing hanging down in a travelway; miners working at elevation without proper scaffolding or working platforms; warning signs not readily visible to prohibit smoking and open flames where a fire or explosion hazard exist, and not securing guards while operating machinery. These are conditions commonly associated with injury or death in the mining industry. This is the third impact inspection at this mine. Previous inspections were conducted in January and April 2011.

As a second example from last month, an inspection party arrived during the evening shift on June 3 at S&H Mining Inc.’s S and H Mining Inc. mine in Anderson County, Tenn. Inspectors immediately captured the mine phones on the surface to prevent advance notification. They issued 32 citations and orders, nearly half of them designated as significant and substantial. This is the second impact inspection conducted at this mine; the first was conducted in March 2011.

-- more --

News Release



U.S. Department of Labor
Office of Public Affairs
Washington, D.C.
Release Number: 10-1774-NAT

For Immediate Release
Dec. 21, 2010
Contact: Amy Louviere
Phone: 202-693-9423

MSHA announces results of November impact inspections

ARLINGTON, Va. – The U.S. Department of Labor’s Mine Safety and Health Administration today announced that federal inspectors issued 250 citations, orders and safeguards during special impact inspections conducted at 12 coal and 10 metal/nonmetal mine operations last month.

These inspections, which began in force during April following the explosion at Upper Big Branch Mine, involve mines that merit increased agency attention and enforcement due to their poor compliance history or particular compliance concerns, including high numbers of violations or closure orders; indications of operator tactics, such as advance notification of inspections that prevent inspectors from observing violations; frequent hazard complaints or hotline calls; plan compliance issues; inadequate workplace examinations; a high number of accidents, injuries or illnesses; fatalities; and adverse conditions such as increased methane liberation, faulty roof conditions and inadequate ventilation.

During November’s impact inspections, coal mines were issued 114 citations, 11 orders and one safeguard. For metal/nonmetal mines, 113 citations and 11 orders were issued. Since April, MSHA has conducted impact inspections at 182 coal and metal/nonmetal mines.

During an inspection conducted during the week of Nov. 15 at Lehigh Permanente Cement Co. Mine in Santa Clara County, Calif., MSHA issued 30 citations and six orders to the company. Five 104(d) orders were issued, including a violation for a supervisor’s failure to de-energize electrically powered equipment prior to removing a guard. Another 104(d) order was issued for unsafe access where inadequately secured steel plates could have fallen on miners or delivery drivers accessing a storage area; this hazard had been reported to mine management two weeks earlier. A 104(b) order was issued for failure-to-abate in a timely manner a fall protection violation, in which miners working at the top of a mill were exposed to an approximately 36-foot drop to the concrete below. Sixty percent of the citations and orders were significant and substantial violations. So far this year, MSHA inspectors have issued 185 citations and 21 orders at this mine.

“MSHA’s impact inspection program is helping to reduce the number of mines that consider egregious violation records a cost of doing business,” said Joseph A. Main, assistant secretary of labor for mine safety and health. “We will continue using this important enforcement tool to protect the nation’s miners.”

Editor’s note: A spreadsheet containing the entire results of November’s impact inspections accompanies this news release.

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U.S. Department of Labor releases are accessible on the Internet at <http://www.dol.gov>. The information in this news release will be made available in alternate format (large print, Braille, audio tape or disc) from the COAST office upon request. Please specify which news release when placing your request at 202-693-7828 or TTY (202) 693-7755. The Labor Department is committed to providing America’s employers and employees with easy access to understandable information on how to comply with its laws and regulations. For more information, please visit <http://www.dol.gov/compliance>.

Citizen's Report on Cement Plant Regulation in the
San Francisco Bay Area
Gary Latshaw, Ph.D. May 20, 2012

This is an analysis of the 10-year health implications of the air pollution from the Lehigh Cement Plant using alternative emission scenarios. The analysis is based on documents from Bay Area Air Quality Management District (BAAQMD) and the Environmental Protection Agency (EPA). The primary results are summarized in the graph below.

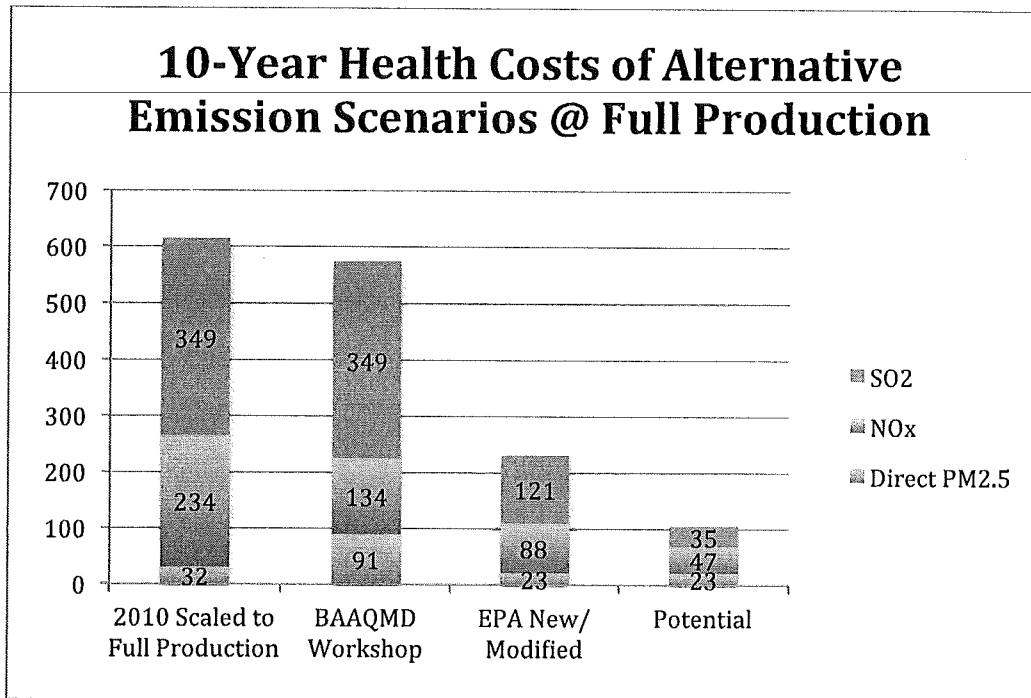


Figure 1 – 10-Year Health Costs (or Benefit of Removing Pollutants) All calculations presume full production of 1,600,000 tons of clinker.

As seen in the graph:

- The proposed regulations in the BAAQMD Workshop (WS) result in only minimal improvement (reduction) in health costs (41 million dollars) relative to actual 2010 emission ratios.
- The regulations by the EPA for “New and Modified” Plants would result in much greater improvement (reduction) to health costs (384 million dollars).
- Moreover, there are technologies that have not been fully investigated that could potentially provide even greater health savings (511 million dollars)
- The assignment of health costs to the emissions is based on the methodology in BAAQMD’s Clean Air Plan 2010 (CAP). The use of the term “health costs” in this analysis is synonymous to the CAP’s terminology “\$\$Benefit of Reducing”.
- It is worth noting that Lehigh would emit substantial amounts of mercury. According the WS information: 55lb/ton-clinker with WS regulation, which, although less than the 2010 actual of 305 lb/ton, is not as protective as the EPA regulation for “New and Modified” Plants of 21 lb/ton-clinker. These health impacts do not include the effects of mercury, chromium VI, and other toxins.

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Gary Latshaw, Ph.D. May 20, 2012

While the state-of-the-art in assigning health implications vs. emission levels is only approximate, I believe it is accurate to state that the costs over 10 years are many hundreds of millions of dollars while the equipment to reduce them substantially have costs of tens of millions of dollars. The WS regulations have these specific deficiencies:

- The WS draft regulation does not address SO₂ at all.
- The WS draft regulation for particulates actually stipulates an emission ratio that is greater (less protective) than what was observed in 2010!
- The WS draft regulation for particulates should adopt the EPA's for "New and Modified" Plants.
- The analysis in developing the WS regulations did not seriously consider emission reduction ratios achieved by other plants such the Holcim Siggenthal PH kiln in Switzerland, and other plants in the United States (see Appendix E and Removal Techniques section). The WS draft suggests emission reduction from the plant using a Selective Non-Catalytic Reduction (SNCR). However, there are other technologies that could be employed in addition such as Selective Catalytic Reduction (SCR), use of alternative fuels, Coke filters, and others.

Certainly the more protective emission regulations will require capital and maintenance costs are the part of Lehigh, but the additional health benefits over 10-years are about half a billion dollars! The recommended regulation for Cement Plants that was specified in the BAAQMD Workshop (WS) does not provide sufficient health protection for Bay Area Residents. These health impacts are most likely understated since they don't include the effects of mercury, chromium VI, and other toxins. It is worth noting that Lehigh would emit substantial amounts of mercury. According the WS information: 55lb/ton-clinker with WS regulation, which, although less than the 2010 actual of 305 lb/ton, is not as protective as the EPA regulation for "New and Modified" Plants of 21 lb/ton-clinker.

The Federal Register in describing the regulations specifies proven technologies that have reduced emissions even more than those regulations. US Public Health Code 42 USC 7416 allows local government agencies to impose stricter regulations than the EPA regulation. In particular, since the Bay Area is already a non-attainment region regarding air quality, and the Lehigh Plant is unique in California for being adjacent to a large metropolitan area, I feel it is appropriate to regulate to the most technologically achievable emissions. Those technologies are apparently capable of removing almost all the emissions. As I explain in the section "Removal Techniques," I surmised after evaluating these materials that the regulations could be placed at on 10% of the SO₂ 2010 emission ratios and at 20% of the NO_x 2010 emission ratios. The Florida Division of Air Regulation (FLTE) did an analysis that provides evidence (see Appendix E) of actual regulations at many plants near my suggested SO₂ level in 2007.

Residents of the entire Bay Area would receive the health benefits from more protective regulations. While the residents near the plant have been the most vociferous in their requests for more protective measures, the health benefits will come to the entire community. The 500 million dollar savings due to reduced emissions would most likely far exceed the capital equipment and maintenance costs that Lehigh would incur.

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The health benefits from the more protective regulations are, because of the limited information available, understated from what would likely be achieved. The CAP only treated ten pollutants (excluding CO₂), and the emissions from the plant were only available for nine of those pollutants. This results in not treating the health costs from mercury, chromium VI, ammonia, and other pollutants with known health effects. The proposed regulations depart from BAAQMD's recommended regulations in the treatment of SO₂, NO_x, and particulates (PM).

CO₂ was not included in this analysis since although the effects of CO₂ on climate change and health effects are real and significant, the CO₂ emissions will occur either locally or somewhere else to produce the needed cement.

Diesel Truck Emissions

Also, neither this analysis nor the BAAQMD's analysis considers the impacts of the diesel truck traffic on the residents who live near the segments of Steven's Creek Blvd and Foothill Expressway where most of the truck traffic travels. In recent years, it has become evident to scientists that diesel exhaust has significant health effects to those who live near major diesel traffic routes.

Analysis

The subsequent tables (1-4) provide detailed the health impacts by each pollutant from Lehigh for different scenarios. Colors are used in the tables to indicate the source of information. Appendix A is a reference where all the sources are identified. An emission ratio is the amount of a pollutant emitted (in pounds) per ton of clinker produced. Clinker is the primary product of cement production. These tables assume the licensed production of 1,600,000 tons of clinker. The tables present the results for the primary pollutants: SO₂, NO_x, and PM 2.5, which were described in Figure 1 along with minor contributions from other pollutants. The other pollutants are reactive organics (ROG), benzene, diesel PM_{2.5}, 1,3-butadiene, acetaldehyde, formaldehyde, and ammonia. Appendix C shows the health impact factors (red) that have been used from the CAP.

In developing the health impact costs, emission ratios of ROG, Benzene, Diesel PM 2.5, 1,3-Butadien, Formaldehyde, and Ammonia were calculated using the emission values in the "Revised AB 2588 Health Risk Assessment 2005, Average 2008/2009, and 2013 Production Scenarios" (Lehigh/ AMEC Report) prepared by AMEC Geomatrix". This report was produced by the consulting firm of AMEC Geomatrix under contract to Lehigh. In particular, Table ES-2 (see Appendix D), was used to develop the emission ratios based on a low production of 847,000 tons of clinker in 2010. The emission ratios are displayed with a brown background. The values are much smaller than the top three pollutants.

The tables represent annual health costs, but decisions on "health costs" vs. "reduction equipment and maintenance costs" should consider a 10-year period since most of the

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costs for reduction are capital equipment costs, which would be amortized over 10-years or even longer. Note that over 99% of the health impact is due to NO_x, SO₂, and PM emissions. Table 5 summarizes the emission ratios used throughout.

**Table 1 – BAAQMD Recommendations in Workshop Report
(November 2011) based on EPA “Existing” Plants**

Pollutant	\$Costs/yr-ton	avg lb/ton clinker	tons/year	Cost /yr	Notes on Emission Ratios
SO ₂ ¹	\$37,900	1.150	920.00	\$34,868,000	WS page 6 -2010 actuals
NO _x	\$7,300	2.300	1,840.00	\$13,432,000	WS page 15
Direct PM _{2.5} ²	\$456,400	0.014	19.84	\$9,054,976	WS page 7
ROG	\$4,800	2.550E-02	20.40	\$97,920	assume 2010 WS actuals
Benzene	7,200	6.919E-03	5.53	\$39,851	assume 2010 HRA actuals
Diesel PM _{2.5}	\$459,300	constant: 24.7 lb/yr	0.01235	\$5,672	assume 2010 HRA actuals
1,3-Butadiene	\$25,400	6.588E-05	0.05	\$1,339	assume 2010 HRA actuals
Acetaldehyde	\$500	8.300E-04	0.66	\$332	assume 2010 HRA actuals
Formaldehyde	\$1,100	4.522E-05	0.04	\$40	assume 2010 HRA actuals
Ammonia	\$59,500		0.00	\$0	
CO ₂ equivalent	\$28			N/A	
				\$57,500,130	

¹SO₂ is not proposed to be regulated in this case. Actual emission ratios based on the WS report were used.

²The Direct PM 2.5 ratio is the product of the PM/clinker-ton times 62%. 62% is from the ARB and cannot necessarily assigned to this plant.

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Table 2 assumes the plant operates with the EPA regulations for "New or Modified" Plants and is operating at full licensed capacity. The table shows 57.5 million dollars in annual health costs.

Table 2 EPA "New or Modified" Plants

Pollutant	\$Costs/yr-ton	avg lb/ton clinker	tons/year	Cost /yr	Notes on Emission Ratios
SO ₂ ¹	\$37,900	0.40	320.00	\$12,128,000	WS page 7
NO _x	\$7,300	1.500	1,200.00	\$8,760,000	WS page 7
Direct PM _{2.5} ²	\$456,400	0.01	4.96	\$2,263,744	WS page 7
ROG	\$4,800	2.550E-02	20.40	\$97,920	assume 2010 WS actuals
Benzene	7,200	6.919E-03	5.53	\$39,851	assume 2010 HRA actuals
Diesel PM _{2.5}	\$459,300	constant: 24.7 lb/yr	0.01235	\$5,672	assume 2010 HRA actuals
1,3-Butadiene	\$25,400	6.588E-05	0.05	\$1,339	assume 2010 HRA actuals
Acetaldehyde	\$500	8.300E-04	0.66	\$332	assume 2010 HRA actuals
Formaldehyde	\$1,100	4.522E-05	0.04	\$40	assume 2010 HRA actuals
Ammonia	\$53,500		0.00	\$0	
CO ₂ equivalent	\$28			N/A	
				\$23,296,898	

¹SO₂ is now assumed to be regulated.

²The Direct PM_{2.5} ratio is the product of the PM/clinker-ton times 62%. 62% is from the ARB and cannot necessarily assigned to this plant.

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Table 3 assumes that the plant is operating at licensed production levels of 1,600,000 tons of clinker. The emission ratios for SO₂ are 10% of 2010 actuals and NO_x are 20% of 2010 actuals based on what has been achieved elsewhere. The PM ratio is directly from the EPA's regulation for "New or Modified" Plants

Table 3: Technologically Achievable

Pollutant	\$Costs/yr- ton	avg lb/ton clinker	tons/year	Cost /yr	Notes on Emission Ratios
SO ₂	\$37,900	0.115	92.00	\$3,486,800	WS: page 6
NO _x	\$7,300	0.80	640.00	\$4,672,000	WS: page 6
Direct PM _{2.5}	\$456,400	0.01	4.96	\$2,263,744	WS: page 6*
ROG	\$4,800	2.550E-02	20.40	\$97,920	WS: page 6
Benzene	7,200	6.919E-03	5.53	\$39,851	WS: page 6
Diesel PM _{2.5}	\$459,300	constant: 24.7 lb/yr	0.01235	\$5,672	HRA Table E-2
1,3-Butadien	\$25,400	6.588E-05	0.05	\$1,339	HRA Table E-2
Acetaldehyde	\$500	8.300E-04	0.66	\$332	HRA Table E-2
Formaldehyde	\$1,100	4.522E-05	0.04	\$40	HRA Table E-2
Ammonia	\$53,500		0.00	\$0	
CO ₂ equivalent	\$28			N/A	
				\$10,567,698	

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Table 4 is provided for comparison to these alternative regulations as it represents the actual emission ratios (from WS: page 6) and then presumes full licensed production of 1,600,000 tons of clinker.

Table 4 -2010 actual ratios @ 1,600,00 tons Production

Pollutant	\$Benefit/yr-ton	avg lb/ton clinker	tons/year	Cost/yr	Notes on Emission Ratios
SO2	\$37,900	1.150E+00	920.00	\$34,868,000	WS: page 6
NOx	\$7,300	4.000E+00	3,200.00	\$23,360,000	WS: page 6
Direct PM2.5	\$456,400	8.680E-03	6.94	\$3,169,242	WS: page 6*
ROG	\$4,800	2.550E-02	20.40	\$97,920	WS: page 6
Benzene	7,200	6.919E-03	5.53	\$39,851	WS: page 6
Diesel PM2.5	\$459,300	constant: 24.7 lb/yr	0.01235	\$5,672	HRA Table E-2
1,3-Butadien	\$25,400	6.588E-05	0.05	\$1,339	HRA Table E-2
Acetaldehyde	\$500	8.300E-04	0.66	\$332	HRA Table E-2
Formaldehyde	\$1,100	4.522E-05	0.04	\$40	HRA Table E-2
Ammonia	\$53,500		0.00	\$0	
CO2 equivalent	\$28			N/A	
				\$61,542,395	

Table 5 shows the emission ratios used in creating the health costs. These emission ratios were multiplied by the licensed production of clinker (1,600,000 tons/yr). With the exception of "Potentially Achievable", the ratios in this table are from the WS. The "Potentially Achievable" are my estimate based on reading the literature.

Table 5 Alternative Regulations (Pounds of Pollutant/ton of clinker)

Pollutant	2010 Actuals	Draft Workshop	EPA New/Modified	Potentially Achievable
SO2	1.15	None*	0.40	0.115
NOx	4.00	2.300	1.50	0.80
PM 2.5	0.014	0.04	0.01	0.01

Since no regulation of SO₂ was proposed, this analysis assumed that the 1.15 actual for 2010. The health impacts from these three pollutants represent 99% of the total impact.

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Removal Techniques

The rationale for recommending more protective measures for SO₂, NO_x, and particulates (PM) than the WS recommended is presented subsequently. The following analysis argues that more protective techniques are available to reduce the emissions to even less than the EPA's "New/Modified".

SO₂

This analysis reveals that there is the potential to regulate Lehigh at a SO₂ production ratio of 0.115 lb/ton or perhaps even more protective. At this production ratio, health benefits associated with SO₂ reduction of 314 million dollars would accrue over 10 years (relative to 2010). The 2010 actual ratio was 1.15 lb/ton. The WS has no regulation for SO₂ stipulated. The EPA level for "New or Modified" Plants is 0.4 lb/ton.

As stated the WS does not specify any regulation on SO₂. The WS (page 17) states that: "Based on preliminary dispersion modeling according to EPA specified methodology, Lehigh may trigger an exceedance of the new ambient standard; however, these modeling results do not correlate well with local monitoring data." The WS goes on to argue that the complex terrain makes these modeling results suspect. However, what is not discussed is that the majority of the monitoring is at a site that is close to trees and insulated from the Plant by hills. These trees will remove pollutants from the atmosphere and the hills will divert most of the pollutants away from the monitoring station.

SO₂ is an extremely potent pollutant with a very high health benefit of removal – hundreds of millions of dollars over 10 years. In addition to the chemical having harmful health effects, it is also a precursor to the development of fine particulate (PM_{2.5}) in the atmosphere, According to the FAR (page 54984): "Reducing SO₂ emissions also reduces PM_{2.5} formation, human exposure, and the incidence of PM_{2.5}-related health effects, among them premature mortality and cardiovascular and respiratory morbidity."

The NESHAP federal regulations require for "New and Modified" Cement Plants a limit of SO₂ emissions at 0.4 lb/ton of clinker. According to the table on page 6 of WS, Lehigh emitted 1.15 lb/ton of clinker of SO₂ in 2010. The report indicates in several places that measures to reduce the production of other pollutants should also lower SO₂ levels. I feel it is only reasonable to specify a regulation. It is noteworthy that Lehigh emitted 181 tons of SO₂ in 2008 (page 3 of WS). If production levels in 2008, which were not specified, were similar to 2010, then in 2008 the ratio of SO₂/ton of clinker would be 0.2 lb/ton of clinker – an emission ratio less than the proposed regulation.

The referenced statements below provide evidence that 90% of the SO₂ emissions (relative to 2010) can be removed. A removal efficiency of 90% relative to 2010 actuals would provide an emissions ratio of 0.115 lb/ton of clinker. However, the 2010 production of SO₂ is 1.15 lb/ton, which has been reduced from completely unregulated

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probably due to the injection of lime in the kiln. Starting at an already reduced level may not allow the post-processing methods to extract 90% of the remaining.

- Appendix A of the CAP (page A-26) states that retrofitting an SO₂ scrubber into the flue gas train would remove 90% of the SO₂.
- The WS identifies in some detail the way a SO₂ can be controlled by scrubbing, but then never suggests any regulation of SO₂. On page 14 of the WS:
 - “Wet scrubbing is another means of controlling SO₂ emissions which involves spraying a mixture of calcium carbonate and water countercurrent to the exhaust gas in a tower as an add-on control device. The calcium carbonate reacts to form calcium sulfate dihydrate, which is then separated and can replace gypsum as a modulating agent in the finished cement depending on the properties required. The liquid is recovered and reused in the wet scrubbing tower. Wet scrubbing also removes HCl, residual dust and to a lesser extent metal and ammonia emissions. This is the most commonly used method of desulfurization in coal fired power plants and its use is also well established in cement manufacturing, although more often at facilities where sulfur levels are high in the fuel or raw materials. Limitations on the use of this means of control would be increased energy consumption, increased CO₂ emissions, increased water consumption and risk of water contamination, and increased operational costs.”
- The FAR has several examples of very high efficiencies in removing SO₂. Quoting the FAR in several places:
 - “We also note that SO₂ scrubbers in the utility industry have consistently achieved 90 percent SO₂ since since the 1970s. We see no technical reason that the same removal levels are not achievable in the cement industry.” (page 55019)
 - “State commenters (60) and (72) state that the Ash Grove Chanute PH/C kiln in Kansas achieves less than 0.30 lb SO₂/ton despite high sulfur in the raw materials without even using a wet scrubber. State commenter (60) states that this performance is attained using important innovations (The F.L. Smidth DeSO_x system and Envirocare Micromist Lime system) not yet assessed by EPA. Attachments provided as part of the comment describe these technologies. State commenter (60) states that without controls, the proposed Chanute kiln would emit SO₂ at the high rate of 12 lb/ton from raw material sources alone (*i.e.*, exclusive of fuel SO₂). According to state commenter (60), using the described technology, actual emissions from the Ash Grove Chanute kiln are less than 0.25 lb SO₂/ ton.” (page 55016)[Note: The reduction at Ash Grove from an unregulated

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production of 12 lb/ton to 0.25 lb/ton represents a 98% removal efficiency.]

- “According to State commenter (60), the Holcim Siggenthal PH kiln in Switzerland achieves approximately 0.05 lb SO₂/ton using the POLVITEC coke filter installed in the 1990’s. The POLVITEC system is used with various concurrent operational practices to control NH₃ (from an SNCR system), SO₂, PM and metals. Among several functions, the coke filter captures the non-fuel SO₂ generated in the PH. The coke is subsequently crushed and then burned with fuel in the main kiln burner. The SO₂ from the PH then behaves like fuel SO₂ and is incorporated into the clinker. Further details are available in an attachment submitted with the comment. The State commenter also states that SO₂ emissions would be significantly less than 0.10 lb/ton of clinker. According to the State commenter, the Siggenthal plant emits much less SO₂ than the average of Holcim cement plants in Switzerland and clearly less than 0.10 lb SO₂/ton.” (page 55016)
- “State commenter (60) states that good SO₂ control will make it possible to employ more aggressive NO_x control and that the control of NO_x and SO₂ will also minimize the formation of ozone and fine PM in the environment. State commenters (68, 70, 71) stated that State and local experts, who have had long experience with this industry, believe that the proposed NSPS limit for SO₂ does not reflect what most plants are capable of achieving.” (page 55016) [Note: NSPS refers to an emission ratio of 0.4 lb/ton.]

NO_x

This analysis reveals that it is reasonable to regulate Lehigh at a NO_x production ratio of 0.8 lb/ton (This represents an 80% reduction over 2010). At this production ratio, health benefits of 187.0 million dollars would accrue over 10 years (relative to 2010). The 2010 actuals were 4.0 lb/ton. The WS has suggested 2.3 lb/ton. The EPA level for “New or Modified” Plants is 1.5 lb/ton.

Nox is a major contributor to the formation of ozone, which is an established pollutant causing both ill health and eye irritation. Although the health benefit in reducing Nox is less than that for SO₂, there are substantial health benefits in regulating it to the maximum feasible level. Reducing the SO₂ emissions will aid in the removal of Nox.

Nox has two distinct sources in the production of clinker:

- Since nitrogen N₂ is a major component of air (80%), the high temperatures reached in the kiln cause N₂ to oxidize and form various nitrous oxides (Nox).

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- Nitrogen compounds are frequently found in input materials and therefore contribute to the formation of Nox during the combustion process.

The referenced documents below provide ample evidence that 80% of these emissions (relative to 2010) can be removed. A removal efficiency of 80% relative to 2010 actuals would provide an emissions ratio of 0.8 lb/ton of clinker. Quotes are from the FAR.

- Selection of the fuel can greatly effect the production of Nox.
 - More volatile fuels burn more efficiently at a lower temperature and produce lower Nox during combustion.
 - Nitrogen in the combustion material will contribute to increased emissions. "Typically, fuel nitrogen in coals used by PH/PC kilns varies between 1.0 and 2.0 percent. This difference can impact the uncontrolled NOX by as much as 1.5 lb/ ton of clinker." (page 55014)
 - Given the above advantages of a low-volatile, low-nitrogen fuel, consideration should be made of returning to the use of natural gas, whose price has come down recently.
- "The results from the existing Radici Cementeria di Monselice PH kiln where emission reductions to values as low as 0.20 lb NOX/ton were demonstrated by installation of a SCR system. The supplier guaranteed reduction of 90 percent and realized reductions as high as 97 percent." (page 55010)
- "The commenter states that with the improved processes that lower uncontrolled NOX emissions and with the addition of SCR, NOX limits of 0.25–0.5 lb NOX/ton clinker are achievable." (page 55010 and 55011)
- "State commenter 60 states that based on the foregoing, reductions on the order of 75 percent are achieved by well-designed SNCR systems and 90 percent by SCR." (page 55010) [Note: This analysis is recommending only a 80% reduction.]

The high levels of emission removal were achieved by using two complementary technologies: Selective Catalytic Removal (SCR) and Selective Non-Catalytic Removal (SNCR). The WS discusses the two technologies, but requests only the SNCR be implemented. Even more reduction is probably available thorough the use of POLVITEC coke filter installed in the 1990's in Switzerland.

Particulates

This analysis adopts a PM emission ratio of 0.01 lb/ton. At this production rate, a 10-year savings in health costs of 90.6 million dollars would accrue. This ratio was adopted from the EPA's recommendation for "New and Modified" Plants. That ratio was based on the use of existing fabric and membrane technologies (page 54995 of the FAR). The 2010 production ratio was 0.014 lb/ton or only 40% greater than this recommendation. The WS

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specified a production ratio of 0.04 lb/ton – this is a ratio, which is more relaxed than the 2010 actuals.

The health impact of particulates is primarily due to the fine particulate component – particulates smaller than 2.5 um. There are no known measurements of the PM 2.5 fraction from Lehigh. In doing the calculations, it was assumed that the ratio of PM 2.5/PM was 62% - a figure from the California Air Resource Board that may not reflect the conditions at Lehigh.

Monitoring

The monitoring of the emissions from the plant must be upgraded as follows:

- All emissions should be released from a single stack.
- Continuous Monitoring of the gases must be adopted to quickly detect faulty equipment. Also, ammonia emissions must be monitored. The removal mechanisms for NOx can result in an inadvertent release of ammonia, which is not a problem at this time, so monitoring is essential in the future.
- Continuous Monitoring of particulate emissions must be adopted to quickly detect faulty equipment – in particular rips in the filter bags

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Appendix A – Color Coding and Abbreviation of References

<p>(CAP) Clean Air Plan Volume I, BAAQMD, Adopted Sept 15, 2010 by ABAG, MTC, BCDC http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/Plans/2010%20Clean%20Air%20Plan/CAP%20Volume%20I%20%20Appendices.ashx http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/Plans/2010%20Clean%20Air%20Plan/CAP%20Volume%20II_Sections%20A-F.ashx</p>
<p>AMEC Report: "Revised AB 2588 Health Risk Assessment 2005, Average 2008/2009, and 2013 Production Scenarios" (Lehigh/ AMEC Report) prepared by AMEC Geomatrix Note: This report was provided on a DVD by BAAQMD</p>
<p>(WS) Workshop Report by Robert Cave, "BAAQMD Reg 9, Rule 13:...", November 2011" Bay Area Clean Air Plan Stationary Source Control Measure SSM-9 – Workshop Report November 2011" http://www.baaqmd.gov/~media/Files/Planning%20and%20Research/Rules%20and%20Regs/Workshops/2011/0913_WR_111511.ashx?la=en</p>
<p>Emission Calculation based on AMEC Report, and WS Clinker Production, Table ES-2,</p>
<p>(FAR) Federal Register Vol 75, No. 174, Thursday, September 9, 2010, Rules and Regulations http://www.gpo.gov/fdsys/pkg/FR-2010-09-09/pdf/2010-21102.pdf</p>
<p>(FLTE) The Department of Environmental Protection, Division of Air Resources Management, Bureau of Air Regulation produced a report "Technical Evaluation Preliminary Determinations Draft BACT Determinations, CEMEX CEMENT COMPANY, BROOKSVILLE HERNANDO COUNTY" dated July 17, 2007. http://www.dep.state.fl.us/air/emission/construction/cemex/TEPD384A.pdf</p>

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Pollutant Reduction Equipment
Appendix B

Input Materials

Aside from the equipment itself, the emissions will be dependent on the input materials used in the processing. The source of heating fuel and carbon material for the processing can be coke, coal, or natural gas. In general, natural gas will have fewer impurities such as sulfur or mercury. Various purities of coke and coal are available.

Injection of Absorbent Materials

Activated Charcoal or lime can be injected into the process to remove toxics such as mercury and control SO₂. The type, amount and rate of injection will all effect the efficiency removal.

Selective Non-Catalytic Reduction (SNCR)

This technique involves the injection of an nitrogen rich chemical such as ammonia or urea into the exhaust streams. It is employed to remove NO_x and is recommended in the WS.

Selective Catalytic Reduction (SCR)

This technique is similar to SNCR, but a catalyst is present. It operates at a lower temperature (570-700 F). SCR is a less tested technique and does require removal of dust. As pointed out in the WS, some plants do have both SNCR and SCR. Both of these techniques use the introduction of a nitrogen rich chemical and thus care must be taken that only minimal amounts of ammonia are emitted. This concern is called "ammonia slip."

Coke Filter

The entire exhaust stream can be filtered coke. The coke acts as an absorbent and removes pollutants. The highly efficient Swiss Plant Holcim Siggenthal PH has a POLVITEC coke filter.

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 Appendix C – Health Impact Factors
 From BAAQMD's CAP

Relative Value of Emission Reductions Based on MPEM

The MPEM can be used to compare the benefit of reducing the various air pollutants, as shown in Table 1-2. For this exercise, the MPEM was used to calculate the value of reducing one ton of each pollutant or precursor that is included in the methodology. The relative weight for each pollutant was then determined, using ROG as the unit of comparison. Since studies show that PM is the predominant cause of air pollution-related mortality, as discussed below, and mortality has by far the highest value (\$6.9 million) among the health endpoints used in the MPEM, it is not surprising that the MPEM-derived weighting factor for PM reductions is much higher than for the other pollutants analyzed. These weighting factors are instructive for purposes of comparing the value of reducing the various pollutants. They can also be used to calculate the weighted tons of emissions reduced by various control measures for purposes of comparing their overall air quality and climate protection benefit.

Table 1-2. Dollar value of reducing one ton per year of each pollutant using MPEM.

Pollutant	\$\$ Benefit: Reducing One Ton Per Year	Weighting Factor *
ROG	\$4,800	1.0
NOx	\$7,300	1.5
Diesel PM2.5	\$459,300	96.1
Direct PM2.5 (no diesel)	\$456,400	95.5
SO2	\$37,900	7.9
Ammonia	\$53,500	11.2
Acetaldehyde	\$5,300 (\$500 plus \$4,800 as ROG)	1.1
Benzene	\$ 12,000 (\$7,200 plus \$4,800 as ROG)	2.5
1,3-Butadiene	\$30,200 (\$25,400 plus \$4,800 as ROG)	6.3
Formaldehyde	\$ 6,000 (\$1,100 plus \$4,800 as ROG)	1.2
CO2 equivalent	\$28	0.03