Questions Not Addressed
At 11/16/16 Lehigh Public Information Meeting

Because time did not permit for all questions submitted by the audience to be asked and answered verbally at the November 16th meeting, it was necessary to request a written response to those the panel didn't cover. The following questions were submitted to the various agency panelists after the meeting. Their written responses are found below.

Bay Area Air Quality Management District:

1. Can the agencies find new ways of regulating pollutants, maybe with full surveillance equipment where the information goes directly to the Air District, Water Board or BAAQMD?

   The Air District has a dedicated rule development section responsible for developing rules and regulations that improve local air quality and protect the health of Bay Area residents. Lehigh is subject to a number of these rules and regulations. Additionally, there are draft rules in the pipeline that have the potential to further reduce emissions from the plant (i.e., draft particulate matter rules, draft Regulation 11, Rule 18: reduction of risk from air toxic emissions at existing facilities). However, the Air District does not contemplate rules requiring full surveillance equipment where emissions data goes directly to the Air District. The Air District has found that requiring emissions data to be recorded and submitted to the Air District monthly is sufficient to assure compliance. The additional resources required to review data in real time would be considerable and would yield only an incremental improvement at best in compliance.

2. There are new rules and regulations coming from the BAAQMD. There is a draft on regulation 11, rule 18 and regulation 12, rule 16. Could you explain these regulations and rules? How will they control pollution and dust and when do you expect they will go into effect?

   Both of these regulations are under development and the Air District anticipates presenting the rules to the Board of Directors for possible adoption in 2017. Regulation 11, Rule 18 would address emissions from all existing sources of toxic air contaminants in the Bay Area, and

Regulation 12, Rule 16 would be limited to emissions from petroleum refineries and associated facilities.

Draft Regulation 11, Rule 18 would ensure that emissions of toxic air contaminants (TACs) from existing facilities do not pose an unacceptable health risk to people living and working nearby. The rule would use the most up-to-date assumptions about the risk of compounds and would require the facility to take action to reduce its risk to a very low risk level. The rule would require all facilities to reduce risk from all emissions of TACs from their facility to below a 10 in a million risk level. If the facility could not devise a means to reduce the risk below 10 in a million, the facility would be required to install best available retrofit control technology for toxic pollutants (TBARCT) on every significant source of TACs at the facility. Implementation of the rule will be phased in over many years beginning with the most significant sources of TACs on a facility by facility basis.

Draft Regulation 12, Rule 16 would limit the emissions of climate pollutants and three criteria pollutants: particulate matter (PM), oxides of nitrogen (NOx), and sulfur dioxide (SO2) from petroleum refineries and three associated facilities. The draft rule would establish facility-wide emissions limits for the covered pollutants at each of the affected facilities to ensure that each facility does not increase emissions due to changes in operation, crude or product slates, or increases in production. Regulation 12, Rule 16 is under development with workshops scheduled for March of 2017, and a public hearing anticipated in May of 2017. If adopted, the rule would go into effect the following year.

3. Why can't the agencies find best available technologies and require the polluters to buy and use these technologies/equipment?

   The Air District requires that new or modified sources of air pollutants undergo permit review for Best Available Control Technology (BACT) and/or Best Available Control Technology for toxics (TBACT) when certain thresholds are exceeded. Most new or modified sources that underwent this permit review at Lehigh required BACT and/or

TBACT.

4. I would like to know how the Air District conducts health risk assessments. What are the methods you use and how can the public be sure that these methods really work?
   A health risk assessment is an analysis or report that describes the type and quantity of pollutants a person may be exposed to and estimates the potential cancer or non-cancer health risk from the predicted exposures using mathematical models that are intended to be protective of the public's health.
   The Air District follows the Risk Assessment Guidelines established by the State of California's Office of Environmental Health Hazard Assessment (OEHHA). These guidelines are updated regularly to reflect: (1) the latest science and methodologies used to establish the health hazards associated with various chemical compounds; and (2) the use of the current U.S. Environmental Protection Agency's recommended air dispersion model. OEHHA guidelines are designed to protect the most vulnerable members of human populations with a special emphasis on children.

   Since 1990, cancer risk due to toxic air contaminant (TAC) exposure has decreased by more than 83% in the Bay Area.

5. Could Lehigh have a cap put on their emissions?
   Lehigh emissions are already limited through their operating permit. The permit limits the amount of cement that they can produce and the amount of fuel that they can consume. Given the emission limits in their permit, and Air District regulations combined with these permit limits, the facility's emissions are in effect "capped". For at least the last 10 years, Lehigh has produced well below the annual limit in their permit. The annual variation in production levels may give the impression that operations are not limited, but this variation merely reflects that Lehigh is operating well below its Air District-imposed limits. If Lehigh requested a permit amendment to increase levels of operation, it would need to show that the new emissions were controlled by the Best Available Control Technology, demonstrate that the emissions would not

cause adverse health impacts, and offset any significant emission increases.

6. Lehigh is using petroleum coke to fuel its plant. What does this do to the greenhouse gases released that contribute to global warming and climate change?
   Portland Cement Manufacturing facilities such as Lehigh emit greenhouse gases in a couple of different ways. Not only do the fuels burned to heat cement kilns emit greenhouse gases, but the calcining (roasting) of limestone (a cement raw material) itself releases greenhouse gases. At Lehigh, coal was used as the principal fuel for many years until the switchover to petroleum coke, but overall the amount of greenhouse gases emitted has stayed about the same per ton of product produced. There are other fuels that may contribute less greenhouse gases, such as natural gas, and in fact, Lehigh uses natural gas during plant startups; however, it may not be practical or possible to operate the plant on natural gas full time. Lehigh is exploring other alternative fuels to lessen its carbon footprint in the future.

7. The ammonia levels at Lehigh have increased and now the BAAQMD is allowing Lehigh to emit at a higher level. Can the Air District explain what has taken place regarding this matter?
   Air District regulations limit the ammonia concentration level at the emission point of the kiln. This limit was changed in October 2016 because the previous limit was poorly worded in the regulation rendering it unenforceable. Ammonia levels at Lehigh are highly variable and this variability is driven by nitrates in the feedstock (raw materials) independent of the ammonia injected into the kiln to reduce emissions of nitrogen oxides. The fundamental problem with the regulation as previously written was that the emissions standard was averaged over a much shorter period (24 hours) than the baseline period (effectively 6 months). The Air District changed the limit to increase the averaging period to better capture this variability. In proposing this change, Air District staff explained in a staff report why the change to ensure enforceability will not result in an increase in actual ammonia emissions.

8. How can we be sure the cumulative effects of these pollutants are taken into account?
   The Air District keeps pollutant inventories for Lehigh and all regulated facilities in the Bay Area and has an extensive ambient air monitoring network throughout the Bay Area to monitor pollutant levels. The Air District also conducts facility-wide health risk assessments to ensure health risks stay below our thresholds.

9. Why has the Air District not used an on-the-fence monitoring system?
   The most accurate way to monitor emissions is at the source of emissions or the emissions stack. Emissions from the cement kiln and other large sources of emissions at Lehigh are monitored continuously and these emissions are reported to the Air District. The continuous emissions monitoring systems measure emissions of nitrogen oxides, sulfur dioxide, ammonia, mercury, organic hazardous air pollutants, and hydrochloric acid. Emissions of other compounds such as particulate matter are determined by source testing and other operational parameters. Fugitive emissions of particulate matter are difficult to quantify at the source, however there is currently no accepted methodology or equipment that can accurately monitor particulate concentrations utilizing open path technology (the preferred technology capable of measuring concentrations along large portions of the fence-line).

EPA:

10. How can we be reassured that the cement plant is in compliance with EPA and local laws?
    Enforcement and compliance activities (including those by State and local agencies as well as EPA) are available at https://echo.epa.gov/ .

11. The EPA is taking direct action to amend the national emissions standards for hazardous air pollutants for the cement manufacturing industry. Can you tell us what this will mean to the people who are most affected by this rule? How does this affect the Lehigh plant?
    Information on EPA's rulemaking for the Cement NESHAP since 1999 is available at:

https://www.epa.gov/stationary-sources-air-pollution/portland-cement-manufacturing-industry-national-emission-standards#additional-resources. The most recent final rule includes new limits on kiln stack Mercury, Hydrochloric acid, and total hydrocarbons. These limits and associated testing and monitoring requirements were previously included in the BAAQMD Reg 9 Rule 13, which has been effective since Sept 2013. For more information, go to: http://www.baaqmd.gov/~/media/files/planning-and-research/rules-and-regs/reg-09/rg0913_101916-pdf.pdf?la=en

12. Lehigh monitors themselves by submitting reports under EPA TAC-toxic air contaminants via the web. How can we be sure these reports are honest and accurate?
All Clean Air Act required reports (I'm not familiar with this specific TAC doc) are signed by a "Responsible Official" at the Plant who certifies that they are true and correct. Additionally, there are detailed procedures for performing air testing and monitoring. These tests are performed by and monitors are manufactured by 3rd parties (not Lehigh). EPA and the Air District will periodically review testing and monitoring records received from facilities.

13. Can you explain the tri-toxic release inventory reporting system? How does this information help control pollution in our county? How does TRI relate to other EPA programs?
The TRI Program's mission is to provide the public with information about TRI chemicals, including releases, other waste management (e.g., recycling), and pollution prevention from TRI-reporting facilities. In 1986, TRI was part of a new approach to environmental protection. By making information about industrial management of toxic chemicals available to the public, TRI creates a strong incentive for companies to improve environmental performance. Information disclosure programs such as TRI are different than most federal environmental programs that are designed to achieve better environmental performance by setting standards and specifying how facilities must operate. TRI is also different because the information is updated annually and is reported to EPA directly from facilities. For more information, please visit: https://www.epa.gov/toxics-release-inventory-tri-program/learn-about-toxics-release-inventory#

CA Fish and Wildlife:

14. I requested that the California Department of Fish and Game investigate the pollutants in Permanente Creek that is coming from the Lehigh Southwest Cement and Quarry. They are now in the process of doing that. How is this investigation coming along and how much longer before we hear back?

The investigation is actually focused on Stevens Creek. We are involved with Lehigh in eventually permitting creek restoration improvements which are part of a settlement process.

SF Regional Water Quality Control Board:

15. Please explain the settlement agreement with Lehigh between August 2014 and December 2015 for CDO violations, permit violations, and violations of an NPDES permit and cease and desist order?

In March 2014, the Regional Board considered and adopted a new NPDES permit for the Lehigh facility, along with a Cease and Desist Order (CDO). These served to enroll Lehigh under an individual permit, written for its precise activities, rather than a general statewide permit. The permit also incorporated previous efforts by the Regional Board, and others, including Sierra Club, to improve the quality of discharges at the Lehigh Facility. The CDO was consistent with the settlement agreement between the Sierra Club and Lehigh, and memorialized effluent limits contemplated both during interim selenium treatment, and after the final treatment system becomes operational. The selenium treatment system is expected to be fully functional by October 2017.

In November 2015, a Consent Decree, entered among The EPA, the San Francisco Bay Regional Water Quality Control Board and Lehigh, resolved effluent violations at the Lehigh facility under its previous permit.

Currently, the Water Board and Lehigh have entered into a tentative settlement agreement for effluent violations and stormwater violations under the permit and CDO effective in early 2014.

This settlement must still be considered by the Regional Board, and we are currently accepting public comment. The agreement resolves violations through December 31, 2015.

16. Fines for water violations are not high enough. Can the Board increase penalties?

Many of the water violations are treated as "mandatory minimum penalties," which means that every time Lehigh has an exceedance, it is fined $3,000. Maximum fines of $10,000 are set by statute (the Water Code). The Enforcement Policy provides that when discretionary penalties are sought, a number of factors are considered, including the potential impact of the discharge to beneficial uses, the toxicity of the discharged material, and factors related to the discharger, in this case, Lehigh. In the settlement agreement currently out for public comment, stormwater violations were analyzed using the Enforcement Policy methodology and a fine of several hundred thousand dollars was considered and is being imposed. For the monthly violations where Lehigh violates a particular trigger, Regional Board staff considers the actual water quality threat. For example, we are more likely to pursue a higher discretionary penalty than a MMP when there is a discharge of selenium to a water of the state, especially in the dry season. The Board can increase a penalty in a settlement agreement or a proposed enforcement action, but not above the level set by statute.

Santa Clara Valley Water District:

17. Why are Stevens Creek Quarry and Lehigh allowed to pollute the Stevens Creek Reservoir with high levels of mercury and other pollutants?

The Santa Clara Valley Water District (SCVWD) is not a regulatory agency and therefore does not regulate discharges of pollutants, however, the SCVWD works with regulatory agencies to protect water quality in creeks and reservoirs under the District's jurisdiction. Both Lehigh Cement and Stevens Creek Quarry are permitted and within the jurisdiction of the County of Santa Clara (County) and the San Francisco Bay Regional Water Quality Control Board (RWQCB).

As a point of clarification, Stevens Creek Quarry is on a tributary that flows to Stevens Creek Reservoir. Lehigh Cement's operations discharge to Permanente Creek, which is not tributary to Stevens Creek Reservoir. Lehigh may own property that is tributary to the Stevens Creek watershed but this is not in the area disturbed by mining activities. Stevens Creek and Permanente Creek do co-mingle downstream of Fremont Avenue with no water quality influence or impact to Stevens Creek Reservoir.

The District also can and does at various times of the year augment the flow of Stevens Creek with "imported water" at the Stevens Creek turnout located on the east bank of Stevens Creek at Stevens Creek Boulevard. This operation does not influence or impact water quality at Stevens Creek Reservoir either.

The District maintains contact with the County on issues and concerns associated with both operations. The District's primary water quality concerns are related to selenium and fine grained sediment from Lehigh Cement operation. The District is concerned with the fine grained sediment discharges from Stevens Creek Quarry and supports the County in enforcement of existing permit requirements. The District is aware that Stevens Creek Quarry has a Storm Water Pollution Prevention Plan (SWPPP) that identifies Best Management Practices (BMP) at the facility including detention ponds for the control and containment of sediment. The requirements for monitoring would be prescribed by the County and carried out by the Stevens Creek Quarry staff or consultant. The Lehigh Cement operations also have a SWPPP that prescribes BMPs to address the selenium and sediment.

There is no documented history of mercury production at either Stevens Creek Quarry or Lehigh Hanson Cement. Steven Creek Quarry mines rock for gravels and Lehigh mines limestone for the production of cement. There are no professional papers that indicate that mercury of any significance exists in the rock of either operation. The location of what once was mercury rich rock in Santa Clara County is limited to areas near the Guadalupe Mine, the Almaden

Quicksilver Mine and a few locations in the Santa Teresa Hills. This information is supported by numerous scientific papers.

Water quality testing confirms that Stevens Creek Reservoir is impacted by mercury, this most likely from global airborne sources. The Santa Clara Valley Water District operates a hypolimnetic oxygenation system to reduce the potential of the mercury in Stevens Creek Reservoir to transform to the biologically available form, methyl mercury.

District staff is available to analyze any peer reviewed scientific papers that support or deny the existence of a source of high concentrations of mercury or cinnabar from the area in question.

County Planning:

18. Can you comment on whether the same level of oversight is applied to Stevens Creek Quarry?

All Surface Mines (Quarries) under the jurisdiction of the County, including both Stevens Creek Quarry and Lehigh Permanente Quarry, are inspected by the County per the requirements of the Surface Mines and Reclamation Act (SMARA). Per SMARA requirements, each quarry is inspected annually by County staff to ensure that the surface mining activity at each site complies with SMARA and the Reclamation Plan approved for the Quarry.

In addition to the inspection requirements under SMARA, each quarry is subject to additional conditions or inspection requirements applied as part of the specific Use Permit or Reclamation Plan issued for the surface mine.

The Stevens Creek Quarry undergoes monthly monitoring and reporting per the existing Use Permit and related Conditions applicable to the Quarry. Under the terms of these conditions - the quarry is inspected monthly by a consultant hired by the County. In addition, an annual status report regarding the Quarry and condition compliance (including results of the monthly

inspections) is presented to the Planning Commission, similar to the requirements applicable to Lehigh. Further information regarding Stevens Creek Quarry and monitoring can be found here: https://www.sccgov.org/sites/dpd/Programs/SMARA/Pages/StevensCreek.aspx

19. Where are the waste products from Lehigh going? There are many ponds with contaminated water, what happens to it?

    As described in the 2012 Reclamation Plan approved for the Quarry, the waste products from the surface mining – also known as overburden – are stored at the Quarry in one of three approved locations - at the East Materials Storage Area (EMSA), West Materials Storage Area (WMSA), or within the main Quarry Pit. This overburden material must be stored in accordance with the 2012 Reclamation Plan approved for the Quarry, which specifies the final height and dimensions of the final storage areas.

    With respect to the ponds, there are several different ponds that collect and contain stormwater runoff from different areas of the Quarry operations and the Cement Plant. The runoff in each pond may be managed or treated differently. For example – Pond 4 is used to hold water from the Quarry Pit, and it is treated by an adjacent treatment facility to reduce selenium concentrations before discharge into Permanente Creek. Pond 30 collects stormwater from the EMSA area, from where it is subsequently discharged into Permanente Creek. Information regarding water testing from these two Ponds can be found here (under the subheadings "Stormwater Test Data" and "Selenium Treatment Documents"): https://www.sccgov.org/sites/dpd/Programs/SMARA/PermanenteQuarry/Pages/PermanenteMain.aspx

20. How can Lehigh be in compliance with its Reclamation Plan if the selenium levels are high and exceed standards as discussed in Planning Commission meetings?

    As described in the 2012 Final Environmental Impact Report prepared for the Reclamation Plan selenium levels in stormwater runoff from the East Materials Storage Area were expected to exceed water quality standards during final reclamation. This environmental impact was

identified as "significant and unavoidable" within the Final EIR - see discussion starting on page 4.10-42 of the EIR under this link: https://www.sccgov.org/sites/dpd/DocsForms/Documents/Lehigh_DEIR_201112_Ch4_10_HydroWQ.pdf

As identified in the Final EIR and Conditions of approval for the Reclamation Plan – the Planning Commission was to continue reviewing the feasibility of installing a selenium treatment facility or an alternative measure to treat selenium concentrations in stormwater at the East Material Storage Area, starting 30 months after approval of the Reclamation Plan (Condition #82 of the Reclamation Plan Conditions of Approval). To date, the Planning Commission has evaluated the feasibility of several selenium treatment alternatives, including the construction of a selenium treatment plant at the EMSA area and the storage and transport of EMSA stormwater to Pond 4 or the Quarry Pit and has determined that these treatment options are not feasible.

In contrast to the EIR findings regarding significant water quality impacts during reclamation, the EIR concluded that final reclamation of the Quarry would result in a reduction in selenium levels to comply with water quality standards, consistent with SMARA. See discussion starting on page 4.10-29 of the Draft EIR: https://www.sccgov.org/sites/dpd/DocsForms/Documents/Lehigh_DEIR_201112_Ch4_10_HydroWQ.pdf

County Environmental Health:

21. Why not make the noise ordinances more stringent in the County?

    In general, the County's noise ordinance is more stringent than many of the local cities. The night time noise level at a one or two family residence is 45 dBA or 40 dBA when the correction for character of sound factor is applied. Changing the ordinance to be even more stringent is not just a DEH decision and would have impacts in unincorporated areas throughout the county.

Many other businesses and residences alike would be impacted.

22. Why not measure the noise at the plant?

    Measuring the noise at the plant was done during the Sound Compliance Study performed by the Plant in 2015. In order to determine compliance, the noise ordinance requires that the noise level be measured on the receiving property (i.e. the location where the sound is actually heard) and the noise limits vary depending on the type of receiving land use (i.e. one or two family residential vs. commercial vs. multifamily residential).

23. Why don't you continuously monitor the noise?

    Noise monitoring for compliance purposes requires a highly trained professional to interpret the plant noises from the surrounding extraneous noises (such as sirens, lawnmowers, moving cars, etc). That makes it difficult to place noise monitors in the neighborhoods. The surrounding noises can be difficult to isolate and remove from the noise patterns. As we monitor noise from the Lehigh facility for compliance purposes – we have to be sure the noise we are measuring is coming from the plant and not another source.

Miscellaneous

24. How much money would it cost to buy the plant and turn it into a park?

    An appraisal would need to be done to answer this question.

25. Does Lehigh host community meetings in an effort to understand community concerns?

    According to a representative from Lehigh, they have not had organized community meetings recently. They have, however, participated in public meetings including two held by the Midpeninsula Regional Open Space District over the past twelve months. Employees of Lehigh also have made themselves available to work with the public on a one-on-basis around noise concerns.