

From: Joyce M Eden [comment@sonic.net]

Sent: Friday, October 02, 2009 12:02 AM

To: Thu Bui; Lisa Harper; jordan.deborah@epamail.epa.gov; aldred.charles@epamail.epa.gov

Cc: ALEX J. SAGADY; Deborah Behles; Helen Kang; James Pew; Monica Wilson; stewart.

kathleen@epamail.epa.gov

Subject: LSWCC Title V Proposed Permit Renewal, attmt #3 Fwd: Docket ID No. EPA-HQ-OAR-2002-0051

West Valley Citizens Air Watch

Cupertino, CA 95014

408 973 1085

comment@sonic.net

October 1, 2009

Bay Area Air Quality Management District (BAAQMD)

Pamela Torliatt, Chair, Board of Directors, BAAQMD (via lharper@baaqmd.gov)

Thu Bui, BAAQMD

Deborah Jordan, Director, Air Division, US EPA Region IX

Charles Aldred (AIR-5), US EPA Region IX

Re: West Valley Citizen Air Watch (WVCAW) Comments on the Proposed Title V Permit Renewal, Facility #A0017, Lehigh Southwest Cement Company (LSWCC)

The following is attachment #3 for our comments:

Begin forwarded message:

From: Joyce M Eden <comment@sonic.net>

Date: September 4, 2009 4:27:28 PM PDT

To: a-and-r-docket@epa.gov

Subject: Docket ID No. EPA-HQ-OAR-2002-0051

West Valley Citizens Air Watch
Cupertino, CA 95014 <comment@sonic.net>

Sept 4, 2009

Submitted by e-mail and www.regulations.gov

EPA Docket Center (6102T)

Docket ID No. EPA-HQ-OAR-2002-0051

1200 Pennsylvania Ave., NW.

Washington, DC 20460

Re: West Valley Citizens Air Watch Additional Comments (v.2) on National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry Docket

To the Environmental Protection Agency (EPA):

West Valley Citizens Air Watch (WVCAW) is herein submitting comments -- in addition to the comments submitted on our behalf to the EPA by The Environmental Law and Justice Clinic at Golden Gate University School of Law on Sept 1, 2009 -- regarding EPA's proposed National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry, 74 Fed. Reg. 21136-01 .

We support the EPA in proposing to significantly reduce mercury, total hydrocarbons (THC) and particulate matter (PM) as well as hydrochloric acid (HCl). We support the proposal of performance specifications to require high quality CEMS for mercury, THC, PM and HCl. While we generally support the EPA's Proposed Rule, there are areas that need additions and strengthening.

1. EPA Needs to Require All Cement Kilns to have one Central Stack.

There are 3 cement kilns in the United States, including Puerto Rico, which have been given a pass to operate without a central stack to gather kiln emissions. The Lehigh Southwest Cement Company, Cupertino, Santa Clara County, CA, a cement plant in Riverside, CA, and a cement plant in Puerto Rico. (Telephone conversation between Dr. Neil Carman and Keith Barnett, EPA, June, 2009)

Absent a central stack to aggregate all the kiln emissions, the emissions from the kiln cannot be adequately monitored, the Continuous Emissions Monitor (CEM) required in the Proposed Rule would not be viable for monitoring emissions and confirming emissions reduction criteria have been met (such as the cap of 43 pounds of mercury per million tons of clinker produced). In addition, there will be necessary scrubbers and/or other pollution control devices that require a central stack for placement to reduce emissions as proposed in the Proposed Rule. Absent a central stack, these rules will be rendered unenforceable for regulating these 3 cement kilns.

The Lehigh Southwest Cement Company, Cupertino, Santa Clara County, CA, kiln has 32 separate small exhaust vents on top of the bag house -- one per each bag -- which vent directly to the open air. <http://maps.google.com/> (click on satellite views) With 30 vents operating at one time, 30 CEMS would be required and 30 scrubbers or any other mitigation equipment required to meet the proposed standards and regulations, in addition to pollution controls such as ACI. At the aforementioned facility, there is adequate room to build a central stack to collect all the emissions from the bag house.

It is evident from the text of the Proposed Rule that a central stack which gathers all the waste gases and particulate matter emissions from each cement kiln is assumed.

Statement from Dr. Neil Carman, September 4, 2009, via e-mail:

"I am a former regional field investigator inspecting industrial plants including Portland cement kilns for the State of Texas air pollution control agency from 1980 to 1992. During my time as an investigator, I climbed many cement kiln stacks in order to either conduct stack sampling or

to observe contractors conducting stack testing and taking samples of the kiln exhaust. The Portland cement kilns I inspected each had a single central exhaust stack that collected the gaseous process waste stream and some of the particulate process emissions from the kiln into one place. The stacks for the Portland cement kilns were required to be approximately 150' high or more in order to comply with the various stack testing requirements in the EPA's applicable reference methods and to obtain an accurate reading of the process emissions. Process waste gas flow patterns are more efficiently handled in a single exhaust stack of minimum required height designed to minimize the variability of air flows through bends and turns in the waste gas exhaust duct system. Even by minimizing this variability, it's still necessary to take velocity traverse measurements across the stack diameter every few inches from wall to wall and collect gaseous/particulate stack samples at representative traverse locations across the entire stack diameter including a set of perpendicular traverses. In addition, three identical stack sampling runs at the same process production rates in a facility such as a cement plant are required for compliance purposes in order to obtain adequate readings for higher accuracy to take to account all the variability factors that transpire on each stack sampling run. Valid stack samples need to be verified by whether they were within the required isokinetic sampling requirements that validate if the sampling rates at each traverse location were within the limits allowed between 90% - 110% isokinetic. Even then, no two stack sampling runs are identical despite efforts to minimize and address the multiple sources of variability. Stack samples were collected utilizing 15-20 foot long stainless steel probes and often with a pyrex glass liner inside.

When I zoomed down at the Lehigh Southwest Cement Company plant on the Google Earth satellite map, I was surprised to observe that there is no central exhaust stack which collects the kiln's waste gases and particulate matter emissions. Instead one can see that there is a baghouse with 32 separate waste gas exhaust vents. In my opinion, this makes it quite difficult to nearly impossible to adequately monitor 100% of the kiln's gaseous and particulate matter emissions and take representative samples from 32 separate vents. According to the technical information conveyed to me indirectly from a Mr. Brian Bateman at the BAAQMD in San Francisco, I learned that the BAAQMD extrapolates the total emissions from the kiln with the only CEMS it currently has for NOx, SO2 and other CEMS on a single vent to all the 30 vents that are in operation at one time. The air district in an email claimed that all the vents are supposed to be identical in size, design, process flow and operation. However, I find this claim challenging, in my opinion, because the large number of baghouse vents would likely have subtle operational differences over time due to several sources of variability such as differential wear and tear in the bags themselves differentially increasing the flow rate in one or more vents compared to others with less wear and tear in the bags (no two bags are absolutely identical as they undergo wear and tear over time), and therefore the potential sources of variability within the 30 different baghouse vents makes any such claim not credible nor supportable.

There could be various configurations inside the baghouse (a primitive method at best for reducing air emissions) in which the air moves from the two separate pipe/ducts which bring the emissions into the bag house. Whatever the particular configuration it is not possible that the air moves at the same rate and at the same distance from the intake pipes to each of the 32 separate vents.

In addition, at any time, there will be differences in the amount of dust in each bag and thus the amount and particulars of the emissions from any of the 32 vents, or 30 vents which are used at one time while the other two have their bags shaken or changed.

In order to comply with the provisions of the Proposed Rule (which I support) for a CEMS to monitor the emissions from a central stack which collects all the emissions together from the

bag house and in order to place scrubbers to reduce emissions, a single central stack is necessary. Playing around with 30 individual vents as if there would be any adequate way to monitor the emissions and reduce them in the case of scrubbers and other such technology would not only be inadequate and inaccurate, but the supportable calibration of the CEMS could not be efficiently conducted as required. The vents do not appear to be large enough to place all the CEMS's sample lines and presents a series of technical challenges that a single kiln exhaust stack is better designed to deal with than a system of 32 process vents. Atmospheric dispersion from 30 process vents at low heights also reduces the way the particulate matter and waste gases are dispersed in the area, and one potential outcome is higher ground level impacts of the dust emissions and the waste gases in the plant area.

The three kilns which do not have a central stack need to be required to have one to implement the rule. It is amazing to me that these three kilns have gotten a pass on this and been allowed to operate in this unsupportable manner for all these years."

2. No Subcategorization for Cement Plants that Burn High Mercury Limestone. We support the EPA's proposed standardized limit of 43 pounds of mercury per year per 1 million tons of clinker produced for all kilns. Do not allow the kilns which use limestone with high mercury content to continue to spew these toxins. If anything, we ask for more stringent standards as the high toxicity of mercury in tiny amounts is well documented. Do not allow pressure from the cement industry for a subcategorization to weaken the EPA's proposed standard, or this standard and rule would be rendered moot and meaningless for many of the dirtiest plants and would continue to expose nearby populations to high mercury levels as well as continuing to contribute to the increasing global mercury burden. ". . . EPA must account for raw material HAP contributions in establishing MACT floors, and the fact that raw materials may be proprietary or otherwise not obtainable category-wide does not relieve EPA of that obligation. See, e.g. 479F. 3d at 882-83." (Proposed Rule, p 21148)

According to an e-mail received by a member of WCAW on September 1, 2009, from the Bay Area Air Quality Management District (BAAQMD) Director of Engineering, Sept, 2009, the Lehigh Southwest Cement Company, Cupertino, CA, kiln burns 100% petroleum coke and has since May, 2007. The mercury content of the petroleum coke being used, according to the Chief Engineer: "Based on the most recent testing, the mercury content of the coke was determined to be 2E-5 lb/ton (0.00002 lb/ton)." At this kiln's permitted capacity of burning 20 tons of fuel per hour, 24 hours per day, 7 days a week for approx. 49 weeks per year (2 - 3 weeks down for yearly maintenance), the amount of mercury from its petroleum coke fuel would come to 3.3 pounds per year. *

At the same time, the EPA's Toxic Release Inventory (TRI) for Lehigh Southwest Cement Company, Cupertino, CA, reported estimates of mercury releases into the air over an 8 year period which average out to 415.4 pounds per year. This is a strong indication that the limestone this kiln uses is extremely high in mercury content. We ask the EPA to ensure that the Final Rule maintains the cap of 43 pounds per year per 1 million tons of clinker produced for all kilns whatever the mercury content of the limestone may be; otherwise, as we have demonstrated herein, this rule would be meaningless for this kiln, one of the highest cement kiln mercury emitters in the US, and others like it. **

When burning petroleum coke, the figures indicate that the vast majority of these large amounts of mercury air emissions from the 32 baghouse vents at Lehigh Southwest Cement Company, Cupertino, CA, are from the mercury content of the limestone.

Subcategorization based on limestone composition unfairly depreciates the value of cleaner limestone sources and undermines the intent of the proposed rule.

The content of the mercury in the limestone should not be proprietary -- the content and amount should be readily available to the public for their information and consideration.

3. Do Not Allow any New High Mercury Content Limestone Quarries to be Mined. In addition, the rule needs to clearly specify that no new high mercury content limestone quarries be allowed to be mined at kiln locations in which an old limestone quarry has been mined out. The communities in these area have already suffered an extraordinary burden from the existing or mine out quarry and should not be further injured by a kiln being allowed to open a new high mercury content limestone quarry. While reducing the amount of mercury released by kilns to a cap of 43 pounds per million tons of clinker will greatly reduce the mercury emissions from kilns around the country, that amount is still too large. Not allowing future quarries contain this type of limeston will further reduce mercury emissions.

4. High Exposure to Mercury in the San Francisco Bay Area:
The San Francisco Bay Area Air District (BAAD) is estimated by the Air Resources Board (ARB) to have the highest by far estimated mercury emissions out of all the Air Districts in California. Over two times the amount of the next highest air district, the South Coast Air District. www.arb.ca.gov/app/emsinv/facinfo/facinfo.php

The California Air Resources Board (ARB) has determined that Hg emissions in the SF Bay Area come from various sources. The five oil refineries in the northern area of San Francisco Bay together produce an estimated 58%, while the Lehigh Southwest Cement Plant, Cupertino, CA, in the Southwestern area of the San Francisco Bay, by itself produces around 35% of the total estimated Hg emissions. www.arb.ca.gov/app/emsinv/facinfo/facinfo.php

5. Demographics. The Lehigh Southwest Cement Company plant and kiln is located in Santa Clara County, CA, on the boarder of Cupertino, CA, a highly and densely populated county. According to the Bay Area Air Quality Management District figures, the Lehigh Southwest Cement Company plant is the largest stationary source of hazardous air pollution in Santa Clara County. (See EPA TRI and BAAQMD Toxic Air Contaminants, Appendix B, p 107) Santa Clara County is adjacent to three other San Francisco Bay Area counties also with dense and large populations: San Mateo County, Santa Cruz County, and Alameda County just across the Bay.

According to the American Lung Association, "State of the Air: 2009" demographic statistics, Santa Clara County's Total Population is 1,748,976. Population Under 18 is 419,320. Population 65 & Over is 186,665. Pediatric Asthma numbers: 38,120. Adult Asthma numbers: 100,048. Chronic Bronchitis numbers: 44,224. Emphysema numbers: 20,662. CV (Cardiovascular Disease) numbers: 457,498. Diabetes numbers: 97,105. (<http://www.stateoftheair.org/2009/states/california/> click on "Groups at Risk" tab) ***

6. Schools Close to Cement Kiln: Regulatory boundaries need to be expanded. In the Cupertino, Santa Clara County, CA, area there are numerous schools, retirement homes, and convalescent facilities extremely close to the Lehigh Southwest Cement Company plant: City of Cupertino Preschool at Monta Vista Park, Monarch Christian Preschool, Lincoln Elementary School, Stevens Creek Elementary School, Kennedy Jr. High School, Monte Vista High School, Pleasant View Convalescent Hospital, Sunny View Retirement Community and The Forum at Rancho San Antonio Retirement Community. Yet

regulatory boundaries are set at a mere 1,000' therefore eliminating any of the nearby sensitive populations from appropriate and meaningful regulatory considerations.

7. Monitoring and Enforcement. All CEMS and other monitoring information should be readily available to the public, and when produced in real time, available in real time on the web site. Mechanisms to enforce the rules need to have enforcement provisions that not only document agency compliance, but also make the agency reports readily available to the public. Where possible, posted on the EPA or Air District's web sites in a timely manner.

For example, as far as we can tell, the so-called continuous emission monitors for SO_x and NO_x which are placed on one of the 32 bag house vents at the Lehigh Southwest Cement Company do not have a paper print out or any way for the public to confirm or monitor the results. Apparently the BAAQMD inspector looks at the monitor and that is it. At this time, it is our understanding that there is not even a written report of the actual figures. We have made numerous requests for clarification.

Because of the location of the Lehigh Southwest Cement Company plant, when the public sees the regular appearance of the plume emitting from the cement plant, especially in the late afternoon-early evening driving home from work in the direction of the plant, we cannot do a Ringleman reading as the sun is behind the plant and there is no public access to get behind the kiln to read it from the opposite direction. When we do report the plume or unusual colors or odors or noise, by the time the BAAQMD inspector gets there, goes through the gate, etc, the situation has changed. Since the inspector only works until 3 pm, the entire evening, nighttime and early morning cannot have a follow up on complaints, even though there is an off hours answering service. Despite this, sometimes we do call in a complaint and often do not receive the promised call back or follow up. And it is the plant that tells the inspector what is going on or not. Most of us have given up reporting to the agency many years ago.

We do, however, support continuance of opacity standards in addition to the EPA's proposed more accurate PM measurement means, as stated in our Sept. 1, 2009, comments.

8. An Additional Rule to Consider -- Require Natural Gas as Main Fuel where Available.

The Lehigh Southwest Cement plant, Cupertino, CA, has the capacity and all the equipment in place to be able to immediately switch their main fuel from the current petroleum coke (previously coal) to natural gas. (Affirmative response to this question by Jack Broadbent, CEO, Bay Area Air Quality Management District, at a meeting with WVCWA in 2007) That would greatly reduce many toxic and particulate emissions, although not in any significant or meaningful way the mercury emissions for kilns burning high mercury content limestone as the main source of mercury (see Section #1 above high mercury emissions due to limestone content) . Our guess is that there are other, perhaps many other, cement plants in the US who could do the same. This needs to be considered, but still requiring the mercury cap, the CEMS and the other requirements to reduce toxic air emissions as in the Proposed Rule. As the Proposed Rule notes, depending on the kiln, only a portion of the mercury comes from the fuel, while various percentages depending on the kiln, come from the limestone. We ask the EPA to consider requiring natural gas where available as a viable option to other fossil fuels or other hazardous fuels.

9. Alternative Methods of Producing Cement. We mention here the possibilities of producing cement without a process of using huge amounts of fossil fuels or other highly polluting substances for burning to heat limestone to high temperatures in order to create

clinker. Clinker is a material, embodying -- due to its production processes and materials -- huge amounts of embedded energy and toxic emissions.

There is a potential mountain of preprocessed, preheated volcanic pozzolanic ash in the US -- Mt. St. Helens. The Romans used the volcanic pozzolanic ash from Mt. Vesuvius, preprocessed by that volcano. Roman aqueducts, roads and buildings thousands of years old still exist. No need to mine huge amounts of limestone, no need to burn huge amounts of polluting fuel to heat limestone, and then to grind it. Of course, the ash at Mt. St. Helens would need to be tested as to its applicability, but the ability to do that readily exists.

An article entitled, "The Riddle of Ancient Roman Concrete" by David Moore, P.E., discusses the ancient Roman use of volcanic pozzolans from Mt. Vesuvius. That same article also discusses the Bureau of Reclamation's successful use of a process similar to that used in ancient Rome in building the large Upper Stillwater Dam. ". . ., the fly ash contained the same amorphous silica compounds as the ash from explosive volcanoes." The Pantheon (built approx. 126 AD) is still standing in, "near perfect condition," withstanding time and weather. Whose concrete is better? <http://www.romanconcrete.com/docs/spillway/spillway.htm>

While we do not claim this would replace all cement, especially high end uses, it has the potential to greatly reduce the use of kilns and even perhaps replace them for high end uses also as there are other experimental processes currently being explored. Kilns could become a relic of the past in a short time, just as typewriters have. So this potential should be considered to be incorporated into the rule also -- phase out or closure of kilns. Otherwise, kilns may interfere with the creation of the cleaner technologies be they old (Roman) or new. ****

10. Alternative Materials. There are numerous applications of concrete made from kiln produced clinker that could today use other materials. Many applications are not large weight bearing structures with stringent specifications, such as required by bridges, for example.

There are many applications in which concrete is used when other more environmentally sustainable materials could instead be used just as well. In Germany and other European countries today there are 3 story buildings still being used which were built 2 and 3 centuries ago using cob (clay dirt, sand, water, straw plus mixing which can be and is done by hand. One of us personally participated in cob building.) Today, there are many structures in the US being built with cob.

In the hills on the San Francisco Peninsula, there are million dollar homes (due to size and location, not to the materials) which were built using straw bale construction instead of concrete.

While cob and straw bale may seem to be strange, low tech, materials for those who have no experience with them, in a more sanely sustainable world, they may well replace much kiln produced cement and concrete and in fact may prove to be cutting edge technologies -- despite of or because of being low tech. ****

We thank the EPA administration and its employees for this Proposed Rule to significantly reduce mercury, THC, PM and Hydrochloric Acid. We urge you to set the required implementation deadline for 2011 or sooner. We have all waited much too long for these badly needed reductions. We urge you to stay the course and broaden the reductions to include additional toxic air pollutants for the sake of the directly affected communities, for the global community who all share in the yearly increase of mercury and other toxic burdens and for future generations.

Once emitted, mercury remains in the air, on the land, in the water and is ingested and breathed in by humans, animals and fish. Once emitted into the air, it does not go away.

"The wisest, the most enlightened, the most remotely long-seeing exploitation of resources is not enough, for the simple reason that the whole concept of exploitation is so false and so limited that in the end it will defeat itself and the earth will have been plundered no matter how scientifically and farsightedly the plundering has been done." Joseph Wood Krutch, 1954

Thank you,

Joyce M Eden, Timothy K. Brand and Donna Cottner for West Valley Citizens Air Watch
Cupertino, CA 95014

Monica Wilson
GAIA: Global Alliance for Incinerator Alternatives
Berkeley, CA 94704

* Figures from EPA's Toxic Release Inventory (TRI) for mercury emissions reported for the Lehigh Southwest Cement Company, Cupertino, CA, in pounds per year for the most recent 8 year period from 2000 to 2007: 208 + 497.2 + 451.1 + 418.8 + 496.6 + 521.7 + 494 + 236.2 = 3,323.4 total lbs per year /8 years = 415.4 pounds average mercury emissions per year.

** Our understanding from the BAAQMD is that the kiln switched from using 3/4 coal plus 1/4 petroleum coke as fuel (20 total tons/hr) to 100% petroleum coke as fuel (20 tons/hr) in May, 2007 to the present. (e-mail from Director of Engineering) We have no figures at this time for the mercury content of the coal previously used. In addition, it is possible or probable that in the year 2007, the kiln was not operating at full capacity.

San Mateo County:

Total Population 706,984. Population Under 18 is 157,575. 65 & Over 93,090. Pediatric Asthma 14,325. Adult Asthma 41,460. Chronic Bronchitis 19,101. Emphysema 9,669. CV Disease 204,771. Diabetes 44,325.

Santa Cruz County:

Total Population 251,747. Population Under 18 is 54,512. 65 & Over 26,162. Pediatric Asthma 4,956. Adult Asthma 14,887. Chronic Bronchitis 6,653. Emphysema 3,141. CV Disease 69,084. Diabetes 14,738.

Alameda County:

Total Population 1,464,202. Population Under 18 is 344,146. 65 & Over 157,218. Pediatric Asthma 31,286. Adult Asthma 84,374. Chronic Bronchitis 37,542. Emphysema 17,715. CV Disease 389,973. Diabetes 83,038.

<http://www.stateoftheair.org/2009/states/california/>

**** "The Administrator is to give priority to technologies or strategies which reduce the amount of pollution generated through process changes or the substitution of materials less hazardous. Pollution prevention is to be the preferred strategy wherever possible." (S. Rep. No. 101-228, 101st Con., 1st Sess., at 141

v.2