



CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

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VIA CERTIFIED MAIL AND ELECTRONIC MAIL

Ms. Shannon Heafey
Air Quality Permits Program
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RE: Part 70 Operating Permit for Lehigh Cement Company LLC (No. 24-013-00012)

Dear Ms. Heafey,

Thank you for the opportunity to submit comments on the draft Title V permit for the Lehigh Cement Company LLC cement manufacturing plant (No. 24-013-00012) (Permit or Title V Permit). The Environmental Integrity Project and the Chesapeake Bay Foundation appreciate the considerable effort that the Maryland Department of Environment has made to organize and explain the requirements for this facility, and to make emission limitations and monitoring methods reasonably transparent for the public.

Lehigh's Union Bridge plant is one of the largest cement kilns in the United States, and is able to produce approximately 2,000,000 tons of clinker each year. Lehigh uses sewage sludge, along with coal combustion waste, as raw materials in its clinker production. The cement kiln "cooks" this waste material at temperatures as high as 2,600 degrees Fahrenheit, which releases hazardous pollution into the air. Lehigh emits large amounts of hazardous air pollutants including mercury, chlorobenzene, and naphthalene, as well as other air pollutants like particulate matter and nitrogen oxide. For example, according to the Maryland emission inventory, Lehigh emitted 248 pounds of mercury, 12,497 pounds of benzene, 3,849 tons of nitrogen oxides (NO_x), and 182 tons of particulate matter (PM), and 1,450,940 tons of carbon dioxide, and thousands of pounds of other pollutants in 2009 alone. Emissions from the Lehigh plant are particularly significant given Lehigh's proximity to high population areas and the Chesapeake Bay. Pollution from the Lehigh plant can harm public health and the environment, as well as contribute to the degradation of the Chesapeake Bay.

We strongly support MDE's efforts to reduce mercury emissions at the Lehigh plant by March of 2012 and are pleased to see that the draft Title V permit incorporate the requirements of the August 8, 2009 Agreement for Early Reduction in Mercury Emissions. In addition, we are pleased to see that MDE has closed a loophole in the Maryland State Implementation (SIP) that allowed Lehigh to emit thousands of additional tons of NO_x each year. Due to a loophole in the Maryland State Implementation Plan (SIP), Lehigh is exempt from compliance with a NO_x limit based on clinker production because it has installed a low NO_x burner on its kiln. Md. Code Regs. 26.11.29.03(A). After April 1, 2011, Lehigh will be prohibited from emitting more than 2.8 pounds of NO_x per ton of clinker produced. Id. 26.11.29.03(B),-(D). This will result in a significant reduction of NO_x emissions. MDE's efforts to clean up mercury and NO_x emissions from the Lehigh cement plant are a victory for nearby communities and the Chesapeake Bay.

The proposed Permit, however, does not comply with the Clean Air Act because it does not include all applicable emission limits and standards and monitoring requirements sufficient to assure compliance with visible, PM, lead, flouride, and mercury emissions from multiple sources. Our specific comments are set forth below.

I. The Permit does not contain all applicable emission limits and standards.

On September 9, 2010, EPA published the final National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry and Standards of Performance for Portland Cement Plants. 75 Fed. Reg. 54,970. This rule will significantly reduce dangerous pollution from cement kilns like the one operated by Lehigh and sets forth new emissions limits for mercury, PM, hydrocarbons, NO_x, and sulfur dioxide (SO₂). See id. In addition, the rule requires continuous monitoring of these pollutants and sets standards that Lehigh will have to comply with during periods of startup and shutdown. Id. The new rule became effective on November 8, 2010 and is an applicable requirement that must be included in the Permit. See id. at 55,063. Lehigh is required to comply with PM, mercury, total hydrocarbons, and hydrochloric acid emission limits no later than September 9, 2013, which is within the five year term of this Permit. Id.

The Clean Air Act states that Title V permits must include all applicable emission limits and standards. 42 U.S.C. § 7661c(a). The Permit, however, does not include the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) and New Source Performance Standards (NSPS) for the cement manufacturing industry. The Fact Sheet notes that Lehigh must comply with the new rules, but the specific requirements are not identified in the Permit. Fact Sheet, 19-20. MDE must include the requirements set forth in the new NESHAP and NSPS for the cement manufacturing industry, which are applicable requirements, in the Permit.

II. The Permit does not contain monitoring sufficient to assure compliance with permit terms and conditions.

The Clean Air Act requires that "each permit issued under [Title V] shall set forth ... monitoring, compliance certification, and reporting requirements sufficient to assure compliance with the permit terms and conditions" 42 U.S.C. §7661c(c). On August 19, 2008, the D.C.

Circuit Court of Appeals struck down an EPA rule that would have prohibited MDE and other state and local authorities from adding monitoring provisions to Title V permits if needed to “assure compliance.” See Sierra Club v. EPA, 536 F.3d 673 (D.C. Cir. 2008). The opinion emphasized the statutory duty to include adequate monitoring in Title V permits:

“By its terms, this mandate means that a monitoring requirement insufficient ‘to assure compliance’ with emission limits has no place in a permit unless and until it is supplemented by more rigorous standards.” Id. at 677.

The D.C. Circuit opinion makes clear that Title V Permits must include monitoring requirements that assure compliance with emission limits. The Court specifically noted that annual testing is unlikely to assure compliance with a short term emission limit, and found that state permitting authorities have a statutory duty to include monitoring requirements that ensure compliance with emission limits in Title V operating permits. See id. at 675. In other words, the frequency of monitoring must bear some relationship to the averaging time used to determine compliance.

The U.S. Environmental Protection Agency (EPA) states that “[t]he determination of whether the monitoring is adequate in a particular circumstance generally will be a context-specific determination.” Order Responding to Permit Objection, In the Matter of Premcor Refining, Pet. Num. VI-2007-02 7 (U.S. E.P.A. May 28, 2009). EPA notes that states may consider the following factors: “(1) the variability of emissions from the unit in question; (2) the likelihood of a violation of the requirements; (3) whether add-on controls are being used for the unit to meet the emission limit; (4) the type of monitoring, process, maintenance, or control equipment data already available for the emission unit; and (5) the type and frequency of the monitoring requirements for similar emission units at other facilities.” Id. at 7–8. These factors are to be used as a starting point, and states may consider other site-specific factors if appropriate. Id.

In short, MDE must ensure that each Title V permit includes monitoring requirements that assure compliance with all permit terms and conditions; and the determination of whether monitoring is sufficient will generally be made on a case-by-case basis taking into account site-specific factors if necessary. Id. at 6–8. MDE must provide a reasoned explanation for its determinations regarding the sufficiency of monitoring requirements. Id.

A. The monitoring requirements for particulate matter emissions from the kiln and raw and coal mills are inadequate.

The kiln and raw and coal mills are subject to multiple particulate matter (PM) emission limits. PM emissions from these sources may not exceed (1) 0.03 gr/scfd; (2) 0.3 pound per ton of feed; and (3) 0.0158 gr/scfd. Permit, at 53. These limits must be met at all times. Yet the Permit only requires Lehigh to conduct an annual stack test. Permit, at 55. An annual stack test is clearly insufficient to assure compliance with PM limits that must be met continuously.

While we recognize that a compliance assurance monitoring (CAM) plan may provide adequate monitoring in some cases, the CAM plan here does not assure compliance with the PM emission limits. The CAM plan sets forth three indicators: (1) opacity (excursions greater than

6% averaged over a 3-hour rolling basis); (2) continuous monitoring of baghouse operating system conditions; and (3) weekly testing of baghouse compartments. Permit, at 84-85. The Permit and Fact Sheet does not clarify the relationship between the 6% opacity threshold and baghouse operating conditions and the PM emission limits. There is no information in either of these documents that demonstrates that the CAM indicators assure compliance with the three PM emission limits. If the continuous opacity monitoring (COMS) data are to provide a reliable surrogate for PM emissions, then Lehigh must establish indicator ranges for the full range of operational conditions for each PM emission limit for the kiln and raw and coal mills, and MDE must include this information in the Permit. Thus, the Permit does not include monitoring requirements sufficient to assure compliance with the PM emission limits for the kiln and raw and coal mills.

B. The monitoring requirements for lead emissions from the kiln and raw and coal mills are inadequate.

The kiln and raw and coal mills are prohibited from emitting more than 0.6 tons of lead for any 12 month period, rolling monthly. Permit, at 54. The Permit states that Lehigh must “follow the particulate matter emission monitoring requirements” for lead. *Id.* at 58. As discussed above, Lehigh must conduct an annual stack test for PM and comply with a CAM plan that uses a 6% opacity trigger, baghouse operating conditions, and weekly baghouse compartment testing as a surrogate for compliance with PM emissions limits. These monitoring requirements do not assure compliance with the lead emission limit. First, an annual stack test is insufficient to assure compliance with an emission limit that must be met on a rolling monthly basis. Second, the Permit and Fact sheet do not demonstrate the relationship with the lead emission limit and the CAM plan indicators. MDE must revise the Permit and include monitoring requirements sufficient to assure compliance with the lead emission limit for the kiln and raw and coal mills.

C. The monitoring requirements for fluoride emissions from the kiln and raw and coal mills are inadequate.

The kiln and raw and coal mills are prohibited from emitting more than 3 tons of fluoride for any 12 month period, rolling monthly. Permit, at 54. The monitoring requirements for the fluoride emission limit state that Lehigh must “follow the SO₂ emission monitoring requirements.” *Id.* at 58. The Permit states that Lehigh must operate a continuous emissions monitoring system (CEMs) to monitor SO₂ emissions. *Id.* at 57-58. There is no information in the Permit and Fact Sheet that establishes a relationship between SO₂ emissions and the fluoride emission limit. If SO₂ emissions are to provide a reliable surrogate for fluoride emissions, then Lehigh must establish indicator ranges for the full range of operating conditions for the fluoride emissions limit, and this information must be included in the Permit. MDE must revise the Permit and include monitoring requirements sufficient to assure compliance with the fluoride emission limit for the kiln and raw and coal mills.

D. The monitoring requirements for PM emissions from the clinker cooler are inadequate.

The clinker cooler is subject to multiple particulate matter (PM) emission limits. PM emissions from this source may not exceed (1) 0.03 gr/scfd; (2) 0.10 pound per ton of feed; and (3) 0.0129 gr/scfd. Permit, at 62-63. These limits must be met at all times. Yet the Permit only requires Lehigh to conduct an annual stack test. Permit, at 63. An annual stack test is clearly insufficient to assure compliance with PM limits that must be met continuously.

While we recognize that a compliance assurance monitoring (CAM) plan may provide adequate monitoring in some cases, the CAM plan here does not assure compliance with the PM emission limits. The CAM plan sets forth three indicators: (1) opacity (excursions greater than 3% averaged over a 3-hour rolling basis); (2) continuous monitoring of baghouse operating system conditions; and (3) weekly testing of baghouse compartments. Permit, at 86-87. The Permit and Fact Sheet does not state the relationship between the 3% opacity threshold and baghouse operating conditions and the PM emission limits. . There is no information in either of these documents that demonstrates that the CAM indicators assure compliance with the three PM emission limits. If the continuous opacity monitoring (COMS) data are to provide a reliable surrogate for PM emissions, then Lehigh must establish indicator ranges for the full range of operational conditions for each PM emission limit for the clinker cooler, and MDE must include this information in the Permit. Thus, the Permit does not include monitoring requirements sufficient to assure compliance with the PM emission limits for the clinker cooler.

E. The monitoring requirements for PM emissions from quarry point sources are inadequate.

The quarry point sources are subject to several PM emission limits. PM emissions from this source may not exceed 0.05 gr/scfd; several sources must be equipped with a dust collector designed to reduce PM emissions to 0.01 gr/scfd; and other sources must be equipped with a dust collector designed to reduce PM emissions to 0.015 gr/scfd. Permit, at 39. These limits must be met at all times. With respect to monitoring requirements for these emission sources, the Permit states that Lehigh must vent emissions through a dust collector designed to meet applicable limits and comply with a preventative maintenance plan for each baghouse. *Id.* at 40. This is clearly insufficient to assure compliance with the PM emission limits.

The specific testing and monitoring requirements for these emissions limits must be included in the Permit. Wheelabrator Order, at 10 (noting that “*Sierra Club v. EPA* made it clear that section 504(c) of the CAA requires all title v permits to *contain* monitoring requirements to assure compliance with permit terms and conditions”) (emphasis added). EPA recently objected to the Wheelabrator Title V permit because MDE failed to include the specific monitoring requirements in the Title V permit for PSD emission limits and only included a statement that MDE would approve the monitoring methodology for estimating emissions. *Id.* EPA stated that Title V does not allow states to issue a permit without testing and monitoring requirements on the promise that monitoring methods will be specified at some future date. *Id.* (“EPA agrees [with Petitioners] that MDE does not have the discretion to issue a permit without specifying the

monitoring methodology needed to assure compliance with applicable requirements in the title V permit.”).

Similarly, a reference to compliance with a preventative maintenance plan that is not included in the Permit and may be revised by Lehigh at any time without MDE’s approval or public review is inadequate to assure compliance with the PM emission limits. MDE must revise the Permit to include monitoring requirements that assure compliance with the PM emission limits for the quarry point sources.

F. The monitoring requirements for PM emissions from material handling point sources are inadequate.

The material handling point sources are subject to several PM emission limits. PM emissions from these sources may not exceed 0.03 gr/scfd and each emissions unit must be equipped with a dust collector designed to reduce PM emissions to 0.01 gr/scfd. Permit, at 44. These limits must be met at all times. With respect to monitoring requirements for these emission sources, the Permit states that Lehigh must vent emissions through a dust collector designed to meet applicable limits, comply with a preventative maintenance plan for each baghouse, and monitor the amount of fly ash in the silo. *Id.* at 45. This is clearly insufficient to assure compliance with the PM emission limits.

As discussed previously, the specific testing and monitoring requirements for these emission limits must be included in the Permit. A reference to compliance with a preventative maintenance plan that is not included in the Permit and may be revised by Lehigh at any time without MDE’s approval or public review is inadequate to assure compliance with the PM emission limits. In addition, it is not clear how monitoring the amount of fly ash in the silo assures compliance with the PM emission limits for numerous sources. MDE must revise the Permit to include monitoring requirements that assure compliance with the PM emission limits for the material handling point sources.

G. The monitoring requirements for visible emissions from the quarry point sources, material handling fugitive and point sources, clinker handling point sources, miscellaneous sources venting inside building, and dried biosolids related operations are inadequate.

The quarry point sources, material handling fugitive and point sources, clinker handling point sources, miscellaneous sources venting inside of the building, and the dried biosolids related operations are subject to visible emissions limits that must be met at all times. Permit, at 38, 43-44, 46, 49-50, 73, 76. For all of these sources, MDE states that Lehigh must conduct monthly one minute visible emissions test of the exhaust stack in accordance with Method 22. *Id.* 39, 44-45, 47, 50-51, 67-68, 74-75, 76-77. MDE proposes to relax monitoring requirements even further, and allow visible observations once every six months if no opacity violations are detected after six months. *Id.* If no visible emissions are observed during the semi-annual test, Lehigh may decrease monitoring even further to once per year. *Id.* A Method 22 test once per month, much less semi-annually or annually is clearly insufficient to determine compliance with an opacity standard that must be met at all times.

In addition, the requirement to vent emissions through a baghouse and comply with a preventative maintenance plan that is not included in the Permit and may be revised by Lehigh at any time without MDE's approval or public review is also insufficient to assure compliance with the visible emissions limit for these sources. See id. 39-40, 44-45, 50-51, 67-68, 74-75, 76-77. MDE must revise the Permit to include monitoring requirements sufficient to assure compliance with the visible emissions limits for these sources.

H. The monitoring requirements for the facility-wide emission limits are inadequate.

The Lehigh facility is subject to mass limits for nitrogen oxides (NO_x), PM, SO₂, volatile organic compounds (VOC), carbon monoxide (CO), lead, and flouride. Permit, at 78-79. The monitoring requirements state that "the Permittee shall calculate premises-wide emissions for each month and each 12-month period, rolling monthly, to demonstrate compliance with the emissions limits." Id. 80. The monitoring requirements for these limits are vague and it is unclear what method Lehigh must use to "calculate" monthly and rolling monthly emissions. Although the Fact Sheet provides some additional information, the Permit does not include monitoring requirements sufficient to assure compliance with the facility wide limits. The Fact Sheet states:

LCC has demonstrated compliance with premises-wide emission limits for flouride and lead. It will demonstrated [sic] compliance with the premises-wide emission limits for VOC, SO₂, CO, and NO_x through its CEM systems. For PM₁₀ emissions, as long as it has demonstrated compliance with each individual emission unit, it will comply with the premises-wide PM₁₀ limit.

Fact Sheet, at 64.

As discussed previously, the specific monitoring methodology must be included in the Permit. See Wheelabrator Order, at 10 ("EPA agrees [with Petitioners] that MDE does not have the discretion to issue a permit without specifying the monitoring methodology needed to assure compliance with applicable requirements in the title V permit."). In the Permit, MDE must state that Lehigh is required to demonstrate compliance with the facility wide emission limits for VOC, SO₂, CO, and NO_x through use of CEMs. In addition, the Permit must include the methodology for converting CEM concentration data into data that will demonstrate compliance with the mass emission limits.

With respect to the lead and flouride emission limit, the Fact Sheet seems to assert that Lehigh has somehow already demonstrated compliance with these emission limits and no further monitoring is required. Fact Sheet, at 64. However, these limits must be met on a 12 month rolling basis. Permit, at 79. The Fact Sheet also appears to assert that no additional monitoring is required for PM₁₀ as compliance with all PM emission limits is sufficient. Fact Sheet, at 64. Yet MDE does not offer support for this assertion. See id. In addition, the Lehigh facility has many different sources of PM and, as discussed above, the Permit does not include sufficient

monitoring requirements for these sources. Therefore, the Permit must include monitoring requirements to assure compliance with the lead, flouride, and PM₁₀ limits on a rolling monthly basis.

I. The monitoring requirements for the mercury emission limit are inadequate.

Under the terms of the “Agreement for Early Reduction in Mercury Emissions,” Lehigh must demonstrate compliance with the mercury limit in the proposed NESHAP (i.e. 43 pounds per million tons of clink produced) no later than September 30, 2012. Permit, at 99. The Permit, however, fails to include any monitoring requirements to assure compliance with this limit. See Permit, at 100. In order to ensure the mercury emissions reductions are fully realized from the Agreement, MDE should require continuous monitoring of mercury emissions.

Mercury CEMs are an available and affordable technology for the cement manufacturing industry. In fact, in its recently finalized rule for the Portland Cement Manufacturing Industry, EPA requires continuous monitoring to assure compliance with the mercury emission limit using mercury CEMs or a sorbent trap-based integrated monitoring system. 75 Fed. Reg. 54,970, 55,061. Lehigh will have to comply with these new requirements. We urge MDE to require Lehigh to install and operate mercury CEMs in order to accurately characterize mercury emissions from this facility and assure compliance with the new standard.

III. The emissions of certain pollutants in the Maryland emission inventory are not consistent with the emissions Lehigh reports to EPA’s Toxic Release Inventory.

In addition to mercury, Lehigh emits large numbers of other harmful pollutants like lead, toluene, benzene, and xylene. Our review shows that there are discrepancies in the amount of pollution Lehigh reports to MDE and EPA’s Toxic Release Inventory (TRI):

Parameter	2006		2007		2008		2009	
	TRI	EI	TRI	EI	TRI	EI	TRI	EI
Lead and Lead Compounds	52	103488	53	63	52	15942	48	95088
Toluene	0	43539	0	44670	0	43539	0	40005
Xylene	0	2156	0	2212	0	12936	0	11886
Benzene	0	13601	0	13955	0	13601	0	12497

Source: Emission Summary Report for Lehigh Cement Company & EPA’s Toxic Release Inventory Explorer, available at <http://www.epa.gov/triexplorer/>

While we recognize that the reporting requirements for the TRI are not Clean Air Act requirements and that Lehigh must manufacture, process, or use a certain amount of these pollutants before reporting requirements are triggered, we feel it is important to alert MDE to these significant discrepancies.

Thank you for considering our comments.

Sincerely,

A handwritten signature in cursive script that reads "Jennifer Peterson".

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