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January 6, 2016

Ms. Gloria Torello
Michigan DEQ, AQD
2100 W. M-32
Gaylord, MI 49735

RE: Violation Notice, Stack Testing 2015
Revised section 2-1 of HCL & PM Test Report

Dear Ms. Torello:

This letter is in response to your request in the letter dated December 15, 2015 that references the submittal made by Lafarge on December 2, 2015 in response to the Violation Notice addressed to Mr. Paul Rogers, Lafarge Midwest Inc.; dated November 12, 2015.

In the letter you request under (8.) a revised page 2-1 of the PM and HCL test results within 30-days of this letter; December 15, 2015. Attached to this letter you will find a revised copy of this page to correct the report binder submitted.

If you have any questions regarding this, please contact me at 989-358-3321.

Respectfully,

Lafarge Midwest Inc.

Travis B. Weide
Area Environmental & PA Manager

cc: Paul Rogers, Lafarge

2.0 HCL AND PARTICULATE MATTER RESULTS

Testing for HCl and PM was conducted by AECOM during the time period of July 14-August 13, 2015. The objective was to sample HCl concentrations by utilizing EPA Method 26A and PM concentrations by EPA Method 5.

Tables 2-1 and 2-7 summarizes the test results and operating conditions of the each source tested.

Table 2-1. Summary of Kiln HCl Test Results

Source	O ₂ (%)	HCl Concentration		Cl Concentration		HCl Equivalent Emission (ppmvd, dry) @ 7% O ₂	HCl Equivalent Permit Limit (ppmvd @ 7% O ₂)	HCl Equivalent Emission Rate (lb/hr)	HCl ^a Equivalent Emission Permit Limit (lb/hr)
		ppmvd	Ppmvd @ 7% O ₂	ppmvd	Ppmvd @ 7% O ₂				
K19	7.4	13.72	14.13	0.02	0.02	14.15	65	5.76	36
K20	8.8	1.10	1.27	0.01	0.01	1.29	65	0.56	36
K21	8.9	8.96	10.38	0.02	0.02	10.42	65	4.26	36
WGS	7.9	1.335	1.46	0.02	0.02	1.50	170 ^a	2.28	162 ^a

^a HCl + 2 x (Cl₂) = HCl Equivalents

Table 2-2. Summary of Kiln and WGS Operating Conditions During HCl Testing

Kiln	Date	Fuel Used	Burning Zone Temperature (°C)	Raw Material Feed Rate (metric tons/hr)	Kiln Dust Recycle Rate (metric tons/hr)
K19	7/17/15	coal/coke/plastics/shingles	1431	74.64	5.04
K20	7/18/15	coal/coke/plastics/shingles	1304	66.85	5.98
K21	7/18/15	coal/coke/plastics	1369	65.28	9.11
WGS – K22 ^a	8/13/15	coal/coke/plastics/shingles	1426	120.3	6.87
WGS – K23 ^a	8/13/15	coal/coke/plastics/shingles	1368	120.6	7.05

^aWet Gas Scrubber is based on an average of Kiln 22 and Kiln 23 operating conditions.

Table 2-3. Summary of Fuel Usage and Production Data During HCl Testing

Kiln	Date	Fuel Used	Clinker Produced (metric Tons) ^b	Plastics Feed (mt/h)	Coal/Coke Feed (mt/h)
K19	7/17/15	coal/coke/plastics/shingles	519	1.91E-04	6.44
K20	7/18/15	coal/coke/plastics/shingles	375	2.81E-04	7.54
K21	7/18/15	coal/coke/plastics	403	2.81E-04	7.07
WGS – K22	8/13/15	coal/coke/plastics/shingles	788	-- ^a	9.74
WGS – K23	8/13/15	coal/coke/plastics/shingles	776	-- ^a	11.11

Data system indicated plastic feed activated during testing

^bSupporting data in Appendix D