

2019 Lafarge Bath Emissions Monthly Report

Report last updated on: April 6, 2020

Introduction

The intent of this report is to provide the public with information about the Bath plant's emissions and work underway to reduce them. This report has been generated due to a request which came from the Kingston Faith and Justice Coalition for further details on the Lafarge Bath plant emissions. The data is obtained from a Continuous Emissions Monitoring system (CEMS) at the Lafarge Bath facility. The report will be posted monthly on the Bath website <http://www.bathcementplant.com/>

Continuous Emissions Monitoring System

The CEMS system monitors kiln emissions for Nitrogen oxides (NO_x) (Table 1) and Sulphur dioxide (SO₂) (Table 2). The current CEMS have two identical analyzers and two identical flow meters, one installed on each ID fan exit duct. There are two opacity meters on the same ducts that the CEMS analyzers are on.

The CEMS system is calibrated weekly, has quarterly gas verifications using certified gas cylinders, has an annual Relative Accuracy Test Audit (RATA), has quarterly flow audits, and an annual third party quality assurance audit on the entire reporting system. The opacity meter is calibrated at least weekly.

Opacity (Table 3) is defined as "the degree to which a visible emission (ie., cement kiln dust) obstructs the passage of light." An "opacity exceedance" is an opacity value greater than 20% for any two 6 minute periods within a 30 minute period OR anytime the average opacity exceeds 40% for a single six minute period.

CO₂ emissions - Information regarding low carbon fuels life cycle assessment can be found on the Cement2020.org website:

<http://www.cement2020.org/publication/all/219>

Table 1: Monthly summary of Nitrogen Oxides (NOx) emissions (2019)

Month	NOx Average (ppm)	NOx Typical Range (ppm)	In Compliance Yes/No
January	667.3	600-800	Yes
February	646.6	600-800	Yes
March	674.0	600-800	Yes
April	668.8	600-800	Yes
May	651.0	600-800	Yes
June	692.7	600-800	Yes
July	698.4	600-800	Yes
August	632.4	600-800	Yes
September	697.3	600-800	Yes
October	684.9	600-800	Yes
November	659.9	600-800	Yes
December	652.1	600-800	Yes

Table 2: Monthly summary of Sulphur Dioxide (SO2) emissions (2019)

	SO2 Average (ppm)	SO2 Typical Range (ppm)	In Compliance Yes/No
January	149.9	30-70	Yes
February	230.7	30-70	Yes
March	72.3	30-70	Yes
April	69.4	30-70	Yes
May	185.0	30-70	Yes
June	66.9	30-70	Yes
July	77.0	30-70	Yes
August	65.4	30-70	Yes
September	62.9	30-70	Yes
October	60.9	30-70	Yes
November	91.9	30-70	Yes
December	173.5	30-70	Yes

Table 3: Monthly summary of Opacity emissions (2019)

	Opacity Average (%)	Opacity Typical Range (%)	In Compliance Yes/No
January	6.56	8-12	Yes
February	6.63	8-12	Yes
March	9.01	8-12	Yes
April	7.25	8-12	Yes
May	3.57	8-12	Yes
June	5.82	8-12	Yes
July	6.63	8-12	Yes
August	6.68	8-12	Yes
September	6.92	8-12	Yes
October	10.7	8-12	Yes
November	9.77	8-12	Yes
December	4.88	8-12	Yes

*Opacity MOE limit = 20 % maximum

Work Activities to Reduce Emissions

Work which has been previously done to reduce emissions includes the following:

- Use of Low Carbon fuels

Report prepared by:

Brenda MacPhee

Brenda MacPhee
Environment and Systems Manager