

State Registration Number  
B1477

**RENEWABLE OPERATING PERMIT  
STAFF REPORT**

ROP Number  
MI-ROP-B1477-2020c

**Holcim (US) Incorporated  
DBA Lafarge Alpena Plant**

State Registration Number (SRN): B1477

Located at

1435 Ford Avenue, Alpena, Alpena County, Michigan 49707

Permit Number: MI-ROP-B1477-2020c

Staff Report Date: May 4, 2020

Amended Dates: October 12, 2020  
March 19, 2021  
June 23, 2023

This Staff Report is published in accordance with Sections 5506 and 5511 of Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451). Specifically, Rule 214(1) of the administrative rules promulgated under Act 451, requires that the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD), prepare a report that sets forth the factual basis for the terms and conditions of the Renewable Operating Permit (ROP).

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State Registration  
Number  
B1477

## RENEWABLE OPERATING PERMIT

ROP Number

MI-ROP-B1477-2020

MAY 4, 2020 - STAFF REPORT

### Purpose

Major stationary sources of air pollutants, and some non-major sources, are required to obtain and operate in compliance with an ROP pursuant to Title V of the federal Clean Air Act; and Michigan's Administrative Rules for Air Pollution Control promulgated under Section 5506(1) of Act 451. Sources subject to the ROP program are defined by criteria in Rule 211(1). The ROP is intended to simplify and clarify a stationary source's applicable requirements and compliance with them by consolidating all state and federal air quality requirements into one document.

This Staff Report, as required by Rule 214(1), sets forth the applicable requirements and factual basis for the draft ROP terms and conditions including citations of the underlying applicable requirements, an explanation of any equivalent requirements included in the draft ROP pursuant to Rule 212(5), and any determination made pursuant to Rule 213(6)(a)(ii) regarding requirements that are not applicable to the stationary source.

### General Information

Stationary Source Mailing Address:	Holcim (US) Inc. d/b/a Lafarge Alpena 1435 Ford Avenue Alpena, Michigan 49707
Source Registration Number (SRN):	B1477
North American Industry Classification System (NAICS) Code:	327310
Number of Stationary Source Sections:	1
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	201700038
Responsible Official:	Jeffery Scott, Plant Manager 989-916-9637
AQD Contact:	Kurt Childs, Senior Environmental Quality Analyst 231-878-2045
Date Application Received:	March 9, 2017
Date Application Was Administratively Complete:	March 9, 2017
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	May 4, 2020
Deadline for Public Comment:	June 3, 2020

### Source Description

The Holcim (US) Inc. DBA Lafarge Alpena Plant is a cement manufacturing facility located at 1435 Ford Avenue in Alpena, Michigan, on the shores of Lake Huron. Cement manufacturing has been occurring at this site since 1909. In 1986, the Lafarge Corporation purchased the operations from the National Gypsum Corporation and in 2018 a merger of Lafarge Midwest into Holcim (US) Inc. occurred. The total area of the facility, including the quarry is approximately 300 acres. The actual production and shipping facilities occupy 135 acres.

The plant operates three rotary kilns in Kiln Group 5 (FG KG5) and two rotary kilns in Kiln Group 6 (FG KG6). The kilns in Kiln Group 5 are smaller than the kilns in Kiln Group 6, but are of a similar, overall design. All five kilns operate with waste-heat boilers for energy recovery. The kilns have the potential to operate 24 hours per day, seven days a week. According to the 2018 MAERS submittal, the kilns hours of operation were 7,818 for FG KG5 and 7634 for FG KG6.

Raw materials include limestone, sand, bauxite, shale, gypsum. Alternate raw materials include slag, iron ore, fly ash, and Cement Kiln Dust. Both the raw and alternate raw materials are combined, ground and sent to the kilns. A general mix includes limestone, fly ash, and iron ore tailings and/or sand. The limestone is obtained on site from Lafarge Alpena's quarrying operations; the fly ash utilized is primarily from Canada and Michigan; the iron ore tailings are primarily from the steel industry located in the Chicago, Illinois area. These raw materials are utilized to produce approximately 2.5 million tons of cement annually.

All of the kilns are permitted to use natural gas, coal, a blend of coal and coke, wood, shingles, and non-chlorinated, non-halogenated polyethylene/polypropylene plastics as fuel sources. While natural gas, coal and coke are burned regularly, the alternate fuels are burned intermittently and may not always be in use.

The site includes: the quarry operations, conveying and storage systems for raw materials, the kilns, clinker coolers, clinker conveying and storage systems, the finish mill, storage and shipping facilities, and landfill for cement kiln dust.

All five kilns operate with high efficiency fabric filter baghouses for control of particulate matter emissions. Each kiln is also equipped with Selective Non-Catalytic Reduction (SNCR) systems for the control of NOx. Additionally, a wet flue gas desulfurization scrubber (WGS) provides SO2 control for the two kilns in FG KG6 and Dry Absorbent Addition (DAA) systems for the control of SO2 in FG KG5. Material handling equipment emissions are controlled by dust suppression systems operated at conveyor drop points and dust collectors at conveyor transfer points. Bagothouses and dust collectors are also used on various other process equipment throughout the plant. In the ROP, the smaller fabric filter particulate control devices are referred to as dust collectors.

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System (MAERS) for the year **2018**.

**TOTAL STATIONARY SOURCE EMISSIONS**

Pollutant	Tons per Year
Carbon Monoxide (CO)	611
Lead (Pb)	<1
Nitrogen Oxides (NO <sub>x</sub> )	3825
Particulate Matter (PM)	541
Sulfur Dioxide (SO <sub>2</sub> )	1994
Volatile Organic Compounds (VOCs)	18

The following table lists Hazardous Air Pollutant emissions as calculated for the year by :

Individual Hazardous Air Pollutants (HAPs) **	Tons per Year
Mercury	<1
Hydrochloric Acid (HCl)	<b>106</b>
<b>Total Hazardous Air Pollutants (HAPs)</b>	<b>106</b>

\*\*As listed pursuant to Section 112(b) of the federal Clean Air Act.

See Parts C and D in the ROP for summary tables of all processes at the stationary source that are subject to process-specific emission limits or standards.

## **Regulatory Analysis**

The following is a general description and history of the source. Any determinations of regulatory non-applicability for this source are explained below in the Non-Applicable Requirement part of the Staff Report and identified in Part E of the ROP.

The stationary source is located in Alpena County, which is currently designated by the U.S. Environmental Protection Agency (USEPA) as attainment/unclassified for all criteria pollutants.

The stationary source is subject to Title 40 of the Code of Federal Regulations (CFR) Part 70, because the potential to emit carbon monoxide, nitrogen oxides, particulate matter, sulfur dioxide, and volatile organic compounds exceeds 100 tons per year; and the potential to emit of any single HAP regulated by the federal Clean Air Act, Section 112, is equal to or more than 10 tons per year and/or the potential to emit of all HAPs combined is equal to or more than 25 tons per year.

EU PRIMRYCRUSH and EU SECONDCRUSH at the stationary source are subject to the New Source Performance Standards (NSPS) for non-metallic mineral processing plants promulgated in 40 CFR Part 60, Subparts A and OOO.

EU KILN 22, EU KILN 23, and EU CLINK STR BLD at the stationary source are subject to the NSPS for Portland cement plants promulgated in 40 CFR Part 60, Subparts, A and F for emission units that commenced construction or modification after August 17, 1971.

The emission units contained in FG RAW MAT, FG RAW MILL SYS, FG KG5, FG KG6, FG CLINK COOL, FG CLINKER SYS, FG FINISH MILLS, FG CMNT STR LOAD, and FG CKD HAND SYS at the stationary source are subject to the Maximum Achievable Control Technology (MACT) Standards for Portland Cement manufacturing promulgated in 40 CFR Part 63, Subparts A and LLL.

EUKILN19, EU KILN 20, EU KILN 21, EU KILN 22, and EU KILN23 at the stationary source are subject to the Best Available Retrofit Technology (BART) program contained in 40 CFR Part 51, Appendix Y and pursuant to Michigan Air Pollution Rule 971.

No emission units at the stationary source are currently subject to the Prevention of Significant Deterioration (PSD) regulations of The Michigan Air Pollution Control Rules Part 18, Prevention of Significant Deterioration of Air Quality or 40 CFR 52.21 because the process equipment was constructed/installed prior to June 19, 1978, the promulgation date of the PSD regulations.

Permitting of FG KG5 and FG KG6 (combined), FG CLINK COOL and FG CLINKER SYS involved an applicability test using the Actual to Projected Actual Emissions Test (A2A) and under PSD per Rule 1818(3) to demonstrate that the project will not cause a significant emissions increase, and therefore, PSD was not triggered by this project.

Permitting of FG RAW MAT, FG RAW MILL SYS, FG KG5, FG KG6, FG CLINK COOL, FG CLINK SYS, FG FINISH MILLS, FG CMNT STR LOAD, FG CKD HAND SYS involved an applicability test using the Actual to Projected Actual Emissions Test (A2A) and Netting under PSD per Rule 1818(3) to demonstrate that the project will not cause a significant emissions increase, and therefore, PSD was not triggered by this project.

EU EXIDF, EU EXGEN19, EU EXGEN20, EU EXGEN21, EU EXGEN22, and EU EXGEN23 at the stationary source are subject to the National Emissions Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE) promulgated in 40 CFR Part 63, Subparts A and ZZZZ (RICE MACT).

EU FP ENGINE1, EU FPENGINE2 at the stationary source are compression ignition emergency generator engines that are subject to the National Emissions Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (RICE) promulgated in 40 CFR Part 63, Subparts A and ZZZZ (RICE MACT) and the New Source Performance Standard for Stationary Compression Ignition Internal Combustion Engines promulgated in 40 CFR Part 60, Subparts A, and IIII.

EU CIGEN at the stationary source is a compression ignition emergency generator engine that is subject to the New Source Performance Standard for Stationary Compression Ignition Internal Combustion Engines promulgated in 40 CFR Part 60, Subparts A, and IIII.

The monitoring conditions contained in the ROP are necessary to demonstrate compliance with all applicable requirements and are consistent with the "Procedure for Evaluating Periodic Monitoring Submittals."

The emission limitation(s) or standard(s) for Particulate Matter for each emission unit in FG CLINK COOL at the stationary source with the underlying applicable requirement(s) of 40 CFR PART 63, Subpart LLL are exempt from the federal Compliance Assurance Monitoring (CAM) regulation pursuant to 40 CFR 64.2(b)(1)(i), because Particulate Matter emissions meet the CAM exemption for a MACT proposed after November 15, 1990.

EU SECONDCRUSH, EU ARM FLY ASH, EU RAW MILL 14, EU RAW MILL 15, EU CLINK STR BLD, EU CLINK AD/PROP, FG CMNT STR LOAD, FG CKD HAND SYS, and FG FUEL HAND do not have emission limitations or standards that are subject to the federal Compliance Assurance Monitoring rule pursuant to 40 CFR Part 64, because the units do not have potential pre-control emissions over the major source thresholds. The equipment in these emission units have PM emissions that are controlled by a variety of dust collectors. Each EU represents several pieces of equipment and associated dust collectors each of which has pre-control emissions less than 100 TPY based on calculations submitted to support their annual emissions inventory report or additional calculations provided in response to an AQD request for additional information.

The emission limitation(s) or standard(s) for NOx and SO2, from FG KG5 and FG KG6 at the stationary source are exempt from the federal Compliance Assurance Monitoring (CAM) regulation pursuant to 40 CFR Part 64 because the ROP specifies a continuous compliance determination method for NOx and SO2, and there is no emission control device for CO.

The emission limitation(s) or standard(s) in the below table for Particulate Matter from FG KG5, FG KG6, and PM-10 from EU BALL MILL 20 AND EU BALL MILL 21 of FG FINISHMILLS at the stationary source are subject to the federal Compliance Assurance Monitoring rule under 40 CFR Part 64. Theses emission units have a control device and potential pre-control emissions of Particulate Matter greater than the major source threshold level.

Emission Unit/ Flexible group ID	Pollutant/ Emission Limit	UAR(s)	Control Equipment	Monitoring (Include Monitoring Range)	Emission Unit/ Flexible Group for CAM	PAM?*
FG KG5	Particulate Matter/ 0.25 lb / 1,000 lbs of exhaust gases	R 336.1331(1)(c)	Baghouses	Continuous Opacity Monitor	No	No
FG KG6	Particulate Matter/ 0.25 lb per 1,000 lbs of exhaust gases	R 336.1331(1)(c)	Baghouses	Baghouse differential pressure	No	No

Emission Unit/ Flexible group ID	Pollutant/ Emission Limit	UAR(s)	Control Equipment	Monitoring (Include Monitoring Range)	Emission Unit/ Flexible Group for CAM	PAM?*
FG FINISHMILLS (EU BALL MILL 20 Separator, EU BALL MILL 21 Separator)	PM-10/ 44 tpy	<b>R 336.1205, R 336.2803, R 336.2804</b>	Baghouses	Daily Method 22 visible emission readings	No	No

\*Presumptively Acceptable Monitoring (PAM)

Opacity was chosen as the compliance assurance method for Particulate Matter for FG KG5 since stack testing has historically demonstrated compliance with the Particulate Matter limit at opacities below 20%. The most recent stack test took place in July 2016. Baghouse differential pressure was chosen as the compliance assurance method for Particulate Matter for FG KG6 since operating ranges for differential pressure has been established during stack testing that demonstrated compliance with Particulate Matter emission limits. Daily visible emission readings were chosen as the compliance assurance method for PM10 for FG FINISH MILLS based on an established history of using this monitoring method and stack testing conducted in 2010.

Please refer to Parts B, C and D in the draft ROP for detailed regulatory citations for the stationary source. Part A contains regulatory citations for general conditions.

### **Source-Wide Permit to Install (PTI)**

Rule 214a requires the issuance of a Source-Wide PTI within the ROP for conditions established pursuant to Rule 201. All terms and conditions that were initially established in a PTI are identified with a footnote designation in the integrated ROP/PTI document.

The following table lists all individual PTIs that were incorporated into previous ROPs. PTIs issued after the effective date of ROP No. MI-ROP-B1477-2020 are identified in Appendix 6 of the ROP.

PTI Number			
195-10A	106-08	15-05	165-03
166-93A	356-88E	622-89C	268-97
126-86D	166-93	786-89A	380-94
203-94	886-93	166-93	356-88C
936-92	156-92	837-90	158-90
163-88	42-83	956-79	857-79
789-79	797-79	796-79	376-78
624-77	221-76	131-76	443-75
442-75	353-75	426-74	118-74
8-72	1-68		

### **Streamlined/Subsumed Requirements**

NA

**Non-applicable Requirements**

Part E of the ROP lists requirements that are not applicable to this source as determined by the AQD, if any were proposed in the ROP Application. These determinations are incorporated into the permit shield provision set forth in Part A (General Conditions 26 through 29) of the ROP pursuant to Rule 213(6)(a)(ii).

**Processes in Application Not Identified in Draft ROP**

The following table lists processes that were included in the ROP Application as exempt devices under Rule 212(4). These processes are not subject to any process-specific emission limits or standards in any applicable requirement.

<b>PTI Exempt Emission Unit ID</b>	<b>Description of PTI Exempt Emission Unit</b>	<b>Rule 212(4) Citation</b>	<b>PTI Exemption Rule Citation</b>
EU HVAC	Space heating – ALPAU0001, ALPAU0003 ALPAU0004, ALPAU0005 ALPAU0007, ALPAU0008 ALPAU0018, ALPAU0019 ALPAU0026, ALPAU0027 ALPAU0030, ALPAU0031 ALPAU0032, ALPAU0034 ALPAU0035, ALPAU0036 ALPAU0037, ALPAU0038 ALPAU0039, ALPAU0040 ALPAU0041, ALPAU0042 ALPAU0043, ALPAU0044 ALPAU0045, ALPAU0046 ALPAU0047, ALPAU0048 ALPAU0049, ALPAU0050 ALPAU0051, ALPAU0052 ALPAU0053, ALPAU0054 ALPAU0055, ALPAU0056 ALPAU0057, ALPAU0058 ALPAU0059, ALPAU0061 ALPAU0062, ALPAU0063 ALPAU0064, ALPAU0065 ALPAU0066, ALPAU0067	R 336.1212(4)(b)	R 336.1282(b)(i)
EU HotWaterHeater	Hot water Heaters units 1 through 12	R 336.1212(4)(b)	R 336.1282(b)(i)
EU Propane tanks	Propane storage tanks 1 through 17	R 336.1212(4)(c)	R 336.1284(b)
EU GASOLINE	1100 gallon gasoline refueling tank	R 336.1212(4)(d)	R 336.1284(g)(i)
EU Maint Shop Eqp	All maintenance equipment in maintenance shop building	R 336.1212(4)(d)	R 336.1285(l)(vi)

**Draft ROP Terms/Conditions Not Agreed to by Applicant**

This draft ROP does not contain any terms and/or conditions that the AQD and the applicant did not agree upon pursuant to Rule 214(2).



### **Compliance Status**

The AQD finds that the stationary source is expected to be in compliance with all applicable requirements as of the effective date of this ROP.

### **Action taken by EGLE, AQD**

The AQD proposes to approve this ROP. A final decision on the ROP will not be made until the public and affected states have had an opportunity to comment on the AQD's proposed action and draft permit. In addition, the USEPA is allowed up to 45 days to review the draft ROP and related material. The AQD is not required to accept recommendations that are not based on applicable requirements. The delegated decision maker for the AQD is Shane Nixon, Cadillac / Gaylord District Supervisor. The final determination for ROP approval/disapproval will be based on the contents of the ROP Application, a judgment that the stationary source will be able to comply with applicable emission limits and other terms and conditions, and resolution of any objections by the USEPA.

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**RENEWABLE OPERATING PERMIT**

ROP Number  
MI-ROP-B1477-2020

**JUNE 16, 2020 - STAFF REPORT ADDENDUM**

**Purpose**

A Staff Report dated May 4, 2020, was developed to set forth the applicable requirements and factual basis for the draft Renewable Operating Permit (ROP) terms and conditions as required by Rule 214(1) of the administrative rules promulgated under Act 451. The purpose of this Staff Report Addendum is to summarize any significant comments received on the draft ROP during the 30-day public comment period as described in Rule 214(3). In addition, this addendum describes any changes to the draft ROP resulting from these pertinent comments.

**General Information**

Responsible Official:	Jeffery Scott, Plant Manager 989-916-9637
AQD Contact:	Kurt Childs, Senior Environmental Quality Analyst 231-878-2045

**Summary of Pertinent Comments**

No comments were received from the general public. Comments were received from both Holcim (US) Inc. d/b/a Lafarge Alpena Plant and the US EPA Region 5 office. Comments from the Company and from EPA and the ensuing changes are identified in the "Changes to the Draft ROP" section.

**Changes to the 5/05/2020 Draft ROP**

Comments from Holcim (US) Inc. d/b/a Lafarge Alpena Plant resulted the following changes:

1. FGMACTKILNS IV.7: The special condition language was changed to include PC MACT allowance of SO2 surrogate monitoring for HCL.
2. Appendix 3.1: Request to revise clinker monitoring plan.

Review of this request and the requirements under the National Emission Standards for Hazardous Air Pollutants for Portland Cement Plants indicated the change could not be made at this time. The company was notified this change requires a detailed written request to change the method for calculating clinker production and may be approved in the future based on such a submittal.

3. Appendix 3.1: "FG MACT KILNS" was added to the list of Flex Groups.
4. Appendix 3.5: Company comments regarding visible emission monitoring lead to the discovery that there was a conflict between Special Condition VI.1 in FG FINISH MILLS and the referenced Appendix 5. The special condition referenced 40 CFR 63.1350(f)(2) but Appendix 3.5 contained the language from 40 CFR 63.1350(f)(1). As it turns out, both regulations are applicable to FG FINISH MILLS (and FG RAW MILL SYS) depending on the specific piece of equipment being monitored.

As a result underlying applicable requirements in SC VI.1 of FG FINISH MILLS and FG RAW MILL SYS were changed to reference both regulations. Additionally Appendix 3.6 was added to contain the requirements of 40 CFR 63.1350(f)(2).

The United States Environmental Protection Agency provided comments during the public comment period that resulted in the following changes:

1. The Fugitive Dust Plan must be updated to include fugitive dust control measures for EU PORTCRUSH.

EU PORTCRUSH was added to the ROP as the result of the issuance of Permit to Install 155-19 which occurred after the initial submittal of the ROP Renewal application and existing plans. Holcim (US) Inc. d/b/a Lafarge Alpena Plant is aware of this requirement and is undertaking changes to the Fugitive Dust Plan.

2. EU PORTCRUSH SC III.3: A change to the underlying applicable requirement was suggested and reviewed.

The underlying applicable requirement was changed from 40 CFR 60.672(a) to 40 CFR 60.672(b) to reflect that the emissions limit and control are for a fugitive source not an exhaust stack.

3. FG QUARRY SC III.1: A change to the underlying applicable requirement was suggested and reviewed.

The underlying applicable requirement was changed from 40 CFR 60.672(a) to 40 CFR 60.672(a) & (b) to reflect that the emissions limit and control are for both a fugitive source and an exhaust stack.

4. FG FINISH MILLS: The Staff Report should indicate which pollutant specific emission units are subject to CAM.

5. The Staff Report identified the 44 tpy PM-10 emission limit applicable to the EU BALL MILL 20 & 21 Separators as CAM subject. FG FINISH MILLS also contains a 10 pound per hour PM-10 emission limit and a 0.15 lb./10000 lbs of exhaust gases PM limit for the separators that should have been identified as CAM subject as well.

FG FINISH MILLS: Revise the permit as necessary to ensure that the permit identifies the monitoring requirements for EU BALL MILL 20 and EU BALL MILL 21 that are used to determine compliance with each CAM-subject PM and PM-10 emission limit, in accordance with 40 CFR 64.2(b), 40 CFR 70.6(a)(1), 40 CFR 70.6(a)(3)(i)(A), and 40 CFR 70.6(c)(1).

I added the language "to demonstrate continuous compliance with the emission limits in Special Conditions I.3,6,&7" to Special Condition VI.6 in order to address this concern.

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**RENEWABLE OPERATING PERMIT**  
**OCTOBER 12, 2020 - STAFF REPORT FOR RULE**  
**216(2) MINOR MODIFICATION**

ROP Number  
MI-ROP-B1477-2020a

**Purpose**

On August 5, 2020, the Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD), approved and issued Renewable Operating Permit (ROP) No. MI-ROP-B1477-2020 to Holcim (US) Incorporated, DBA Lafarge Alpena Plant pursuant to Rule 214 of the administrative rules promulgated under Act 451. Once issued, a company is required to submit an application for changes to the ROP as described in Rule 216. The purpose of this Staff Report is to describe the changes that were made to the ROP pursuant to Rule 216(2).

**General Information**

Responsible Official:	Jeffery Scott, Plant Manager 989-916-9637
AQD Contact:	Caryn E. Owens, Environmental Engineer 231-878-6688
Application Number:	202000144
Date Application for Minor Modification was Submitted:	September 1, 2020

**Regulatory Analysis**

The AQD has determined that the change requested by the stationary source meets the qualifications for a Minor Modification pursuant to Rule 216(2).

**Description of Changes to the ROP**

Minor Modification Application Number 202000144 was to update the Clinker Monitoring Plan included in Appendix 3.1 of the ROP. The updated Monitoring Plan for FG KG5, FG KG6, and FG CLINK COOL added in definitions and how the Total Kiln Clinker Produced (TKC) and Weight Test Factor (WTF) are calculated.

**Compliance Status**

The AQD finds that the stationary source is expected to be in compliance with all applicable requirements associated with the emission unit(s) involved with the change as of the date of approval of the Minor Modification to the ROP.

**Action Taken by EGLE**

The AQD proposes to approve a Minor Modification to ROP No. MI-ROP-B1477-2020, as requested by the stationary source. A final decision on the Minor Modification to the ROP will not be made until any affected states and the USEPA has been allowed 45 days to review the proposed changes to the ROP. The delegated decision maker for the AQD is the District Supervisor. The final determination for approval of the Minor Modification will be based on the contents of the permit application, a judgment that the stationary source will be able to comply with applicable emission limits and other requirements, and resolution of any objections by any affected states or the USEPA.

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**RENEWABLE OPERATING PERMIT**

ROP Number

MI-ROP-B1477-2020b

**MARCH 19, 2021 - STAFF REPORT FOR  
RULE 216(2) MINOR MODIFICATION**

**Purpose**

On November 30, 2020, the Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD), approved and issued Renewable Operating Permit (ROP) No. MI-ROP-B1477-2020a to Holcim (US) Incorporated DBA Lafarge Alpena Plant pursuant to Rule 214 of the administrative rules promulgated under Act 451. Once issued, a company is required to submit an application for changes to the ROP as described in Rule 216. The purpose of this Staff Report is to describe the changes that were made to the ROP pursuant to Rule 216(2).

**General Information**

Responsible Official:	Jeffery Scott, Plant Manager 989-916-9637
AQD Contact:	Caryn E. Owens, Environmental Engineer 231-878-6688
Application Number:	202100023
Date Application for Minor Modification was Submitted:	February 3, 2021

**Regulatory Analysis**

The AQD has determined that the change requested by the stationary source meets the qualifications for a Minor Modification pursuant to Rule 216(2).

**Description of Changes to the ROP**

The Minor Modification was to incorporate PTI No. 171-15A, which removed references to FGMERCURY, removed COMS Conditions, and subsume the particulate emission limits for FG KG5 and FG KG6 with the FG MACT KILNS particulate emission limit. Additionally, updated Appendix 3 to remove Mercury and COMS requirements.

The following emission units did not have any changes to them but removed FGMERCURY reference in the Emission Unit Summary Table: EU RAW MILL 14, EU RAW MILL 14, EU CLINK COOL 19, EU CLINK COOL 20, EU CLINK COOL 21, EU CLINK COOL 22, EU CLINK COOL 23, EU FUEL PULV 19, EU FUEL PULV 20, EU FUEL PULV 21, EU FUEL PULV 22, and EU FUEL PULV 23.

The emission limitations for particulate matter (PM) at the stationary source with the underlying applicable requirement of 40 CFR PART 63, Subpart LLL, from EU KILN 19, EU KILN 20, EU KILN 21, EU KILN 22, EU KILN 23 are exempt from the federal Compliance Assurance Monitoring (CAM) regulation pursuant to 40 CFR 64.2(b)(1)(i) because PM limits meet the CAM exemption for MACT proposed after November 15, 1990.

The following table lists explanations of any streamlined/subsumed requirements included in the ROP pursuant to Rules 213(2) and 213(6). All subsumed requirements are enforceable under the streamlined requirement that subsumes them.

Emission Unit/Flexible Group ID	Condition Number	Streamlined Limit/ Requirement	Subsumed Limit/ Requirement	Stringency Analysis
FG MACT KILNS	SC I.1	0.07 lb of PM per ton clinker based on a 30-day rolling average as determined at the end of each kiln operating day <b>(40 CFR 63.1343(b)(1))</b>	0.25 lb per 1000 lbs exhaust PM for FG KG5 and FG KG6 <b>(R 336.1331(1)(c))</b>	The PM limit determined through 40 CFR 63.1343(b)(1) and listed in condition I.1. is more stringent than the PM limit in NSR and PSD BACT review. The results of its PM CPMS monitoring could be used to demonstrate compliance with the hourly limit (0.25lb/1000 lbs) as well as its 30-day rolling limit of 0.07lb/ton clinker. Calculating the PM emissions from the largest baghouse Kiln 23 using an hourly limit of 0.25 lb/1,000 lb PM at a 285,000 acfm baghouse, temp of 400°F, and maximum clinker production of 767,000 tons per year = 2.21 lb PM per ton of clinker, which is less stringent than 0.07 lb of PM per ton clinker.
FG MACT KILNS	SC V.1	Verify PM emission rates from FG MACT KILNS by testing at the owner's expense, in accordance with the Department requirements. Testing shall be performed using an approved USEPA Method listed in Method 5 or Method 5l. <b>(40 CFR 63.1349(b)(1), R 336.2001, R 336.2003, R 336.2004)</b>	Verify the PM emission rates from EU KILN 19, EU KILN 20, and EU KILN 21 by testing at owner's expense and in accordance with the AQD requirements. <b>(R 336.1331(3), R 336.2001, R 336.2003, R336.2004)</b>	The specific method to be used for testing in accordance with 40 CFR 63.1349(b)(1) is more stringent than just indicating testing shall be conducted at owners expense.

Emission Unit/Flexible Group ID	Condition Number	Streamlined Limit/ Requirement	Subsumed Limit/ Requirement	Stringency Analysis
FG MACT KILNS	SC V.3	Repeat the PM performance test at least annually to reassess and adjust the site-specific operating limit in accordance with the results of the performance test. The permittee shall also repeat the test if the analytical range of the instrument is changed or if the instrument itself, or any principle analytical component of the instrument that would alter the relationship of output signal to in-stack PM concentration, is changed <b>(40 CFR 63.1350(b))</b>	Every 5-years the permittee shall verify the PM emission rates from EU KILN 19, EU KILN 20, and EU KILN 21 by testing at owner's expense and in accordance with the AQD requirements. <b>(R 336.1331)</b>	The frequency of testing in accordance with 40 CFR 63.1350(b), to conduct PM testing annually is more stringent than the requirement to test every five years

**Compliance Status**

The AQD finds that the stationary source is expected to be in compliance with all applicable requirements associated with the emission unit(s) involved with the change as of the date of approval of the Minor Modification to the ROP.

**Action Taken by EGLE**

The AQD proposes to approve a Minor Modification to ROP No. MI-ROP-B1477-2020a, as requested by the stationary source. A final decision on the Minor Modification to the ROP will not be made until any affected states and the USEPA has been allowed 45 days to review the proposed changes to the ROP. The delegated decision maker for the AQD is the District Supervisor. The final determination for approval of the Minor Modification will be based on the contents of the permit application, a judgment that the stationary source will be able to comply with applicable emission limits and other requirements, and resolution of any objections by any affected states or the USEPA.

State Registration Number  
B1477

**RENEWABLE OPERATING PERMIT**  
**JUNE 23, 2023 - STAFF REPORT FOR RULE 216(2)**  
**MINOR MODIFICATION**

ROP Number  
MI-ROP-B1477-2020c

**Purpose**

On May 4, 2021, the Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD), approved and issued Renewable Operating Permit (ROP) No. MI-ROP-B1477-2020b to Holcim (US) Incorporated, DBA Lafarge Alpena Plant pursuant to Rule 214 of the administrative rules promulgated under Act 451. Once issued, a company is required to submit an application for changes to the ROP as described in Rule 216. The purpose of this Staff Report is to describe the changes that were made to the ROP pursuant to Rule 216(2).

**General Information**

Responsible Official:	Jeffery Scott, Plant Manager 989-916-9637
AQD Contact:	Caryn Owens, Senior Environmental Engineer 231-878-6688
Application Number:	202300094
Date Application for Minor Modification was Submitted:	June 2, 2023

**Regulatory Analysis**

The AQD has determined that the change requested by the stationary source meets the qualifications for a Minor Modification pursuant to Rule 216(2).

**Description of Changes to the ROP**

Minor Modification No. 202300094 was to incorporate PTI No. 83-21, for the addition of alternative fuels, to utilize treated wood, tire-derived fuel (TDF), and other compliant non-hazardous secondary materials (NHSM) per Rule 40 CFR Part 241, to be used as fuel in the kilns. The production of clinker in cement kilns has several characteristics that make it an ideal candidate for the effective use of alternative fuels.

For Kilns 22 and 23, whole tires will be fed to the kilns by a mid-kiln injection system. There will not be any outdoor storage of the fuels.

Once the tires are fed to the existing kilns there will be a reduction in the primary pyro-processing fuels added to the burner pipe of each kiln. The result is expected to reduce the consumption of petroleum coke /coal. An emissions reduction (specifically NOx, and mercury) is anticipated due to the staged combustion that reduces maximum burning zone temperature, thus reduces NOx generation. Tires used in the production of clinker are completely consumed and incorporated into the product.

Kilns in FG KG5 and FG KG6 are currently subject to the NSPS Subpart F and the PC MACT along with the emission limitations and requirements established in those regulations. The use of additional alternative fuels as a fuel source for the kilns will not affect the compliance status with these Subparts. The addition of these alternative fuels will not constitute construction, modification, or reconstruction of the kilns and will not trigger the NSPS requirements for these kilns. The PTI was not required to go through the public participation process.



### **Compliance Status**

The AQD finds that the stationary source is expected to be in compliance with all applicable requirements associated with the emission unit(s) involved with the change as of the date of approval of the Minor Modification to the ROP.

### **Action Taken by EGLE**

The AQD proposes to approve a Minor Modification to ROP No. MI-ROP-B1477-2020b, as requested by the stationary source. A final decision on the Minor Modification to the ROP will not be made until any affected states and the United States Environmental Protection Agency (USEPA) has been allowed 45 days to review the proposed changes to the ROP. The delegated decision maker for the AQD is the District Supervisor. The final determination for approval of the Minor Modification will be based on the contents of the permit application, a judgment that the stationary source will be able to comply with applicable emission limits and other requirements, and resolution of any objections by any affected states or the USEPA.