



DEPARTMENT ORDER

**Dragon Products Company, LLC
Knox County
Thomaston, Maine
A-326-77-11-A**

**Departmental
Findings of Fact and Order
New Source Review
NSR #11**

FINDINGS OF FACT

After review of the air emission license application, staff investigation reports, and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 Maine Revised Statutes (M.R.S.) § 344 and § 590, the Maine Department of Environmental Protection (the Department) finds the following facts:

I. REGISTRATION

A. Introduction

FACILITY	Dragon Products Company, LLC
LICENSE TYPE	06-096 C.M.R. ch. 115, Minor Modification
NAICS CODES	32731
NATURE OF BUSINESS	Cement Manufacturing
FACILITY LOCATION	U.S. Route 1, Thomaston, Maine

B. NSR License Description

Dragon Products Company, LLC (Dragon) has requested a New Source Review (NSR) license to modify the existing Finish Mill System to separate the Pre-Grind Mill from the Finish Mill #1 circuit to operate as an independent grinding circuit. Modifying the system to convert the Pre-Grind Mill to a stand-alone milling system will add production flexibility, grinding capacity, and redundancy to Dragon's Finish Mill System.

The proposed increase in finish grinding capacity will not increase operation of the Kiln System. The modification of the Pre-Grind Mill is designed to increase the production of ground slag, a material not produced using the Kiln System. In addition, Dragon's current Kiln System production capacity is limited by the current kiln configuration and other equipment associated with the feed and discharge of the kiln, not the Finish Mill System. Accordingly, no increase in kiln production will result from this Finish Mill project.

C. Emission Equipment

The following equipment is addressed in this NSR license:

Process Equipment

<u>Equipment</u>	<u>Production Rate</u>	<u>Pollution Control Equipment</u>
Finish Mill #1	85 ton/hr	Dust Collectors
Finish Mill #3*	40.6 ton/hr	Dust Collectors

*Formerly designated Pre-Grind Mill

D. Application Classification

All rules, regulations, or statutes referenced in this air emission license refer to the amended version in effect as of the issued date of this license.

The application for modification of the Finish Mill System does not violate any applicable federal or state requirements and does not reduce monitoring, reporting, testing, or recordkeeping requirements.

The modification of a major source is considered a major or minor modification based on whether or not expected emissions increases exceed the “Significant Emission Increase” levels as given in *Definitions Regulation*, 06-096 Code of Maine Rules (C.M.R.) ch. 100.

The emission increases are determined by subtracting the baseline actual emissions of the 24 months preceding the modification (or representative 24 months) from the projected actual emissions. Dragon has proposed using calendar years 2015 and 2016 as the 24-month baseline period from which to determine baseline actual emissions for units affected by this project. The baseline actual emissions were calculated using appropriate dust loading rates and control efficiencies of each dust collector and the actual annual operating hours of each year. The projected actual emissions were calculated assuming the equipment operates at maximum capacity, over an annual period of 8,760 hours, taking into account permit production limitations as applicable. The results of this comparison are as follows:

<u>Pollutant</u>	<u>Baseline Actual Emissions 2015 – 2016 (ton/year)</u>	<u>Projected Actual Emissions (ton/year)</u>	<u>Net Emissions Increase (ton/year)</u>	<u>Significant Emissions Increase Levels (ton/year)</u>
PM	12.31	24.70	12.39	25
PM ₁₀	10.34	20.75	10.41	15
PM _{2.5}	5.54	11.12	5.58	10
SO ₂	0	0	0	40

Pollutant	Baseline Actual Emissions 2015 – 2016 (ton/year)	Projected Actual Emissions (ton/year)	Net Emissions Increase (ton/year)	Significant Emissions Increase Levels (ton/year)
NO _x	0	0	0	40
CO	0	0	0	100
VOC	0	0	0	40
CO _{2e}	0	0	0	75,000

Note: The above values are for the Finish Mill System only. None of the other equipment at the facility is affected by this NSR license.

Therefore, this NSR license is determined to be a minor modification under *Minor and Major Source Air Emission License Regulations*, 06-096 C.M.R. ch. 115 since the changes being made are not addressed or prohibited in the Part 70 air emission license. An application to incorporate the requirements of this NSR license into the Part 70 air emission license shall be submitted no later than 12 months from commencement of the requested operation.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license, the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 C.M.R. ch. 100. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in 06-096 C.M.R. ch. 100. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

B. Finish Mill System

1. Project Description

Dragon currently operates a Finish Mill System consisting of two Finish Mills (Finish Mill #1 and Finish Mill #2) and a Pre-Grind Mill. Finish Mill #2 is not currently operational, and there are no plans to renovate it to bring it back into operational condition. The Pre-Grind Mill is operated in series with Finish Mill #1, and together they have an average throughput of 105 ton/hr for Type I/II portland cement. In the current configuration, the Finish Mill #1 circuit is able to operate at a lower capacity

without the Pre-Grind Mill, but the Pre-Grind Mill is not able to operate independently of Finish Mill #1.

The Finish Mill System is used in the production of several products. The average mill turnover time when switching products is approximately 30 minutes which correlates to lost production of Type I/II cement and the production of approximately 52.5 tons of material that does not meet required specifications.

Dragon proposes to separate the Pre-Grind Mill (renamed to Finish Mill #3) from the Finish Mill #1 circuit so that the two can operate independently. This will allow Finish Mill #1 to continuously produce primary products (Type I/II portland cement) while Finish Mill #3 produces secondary products. This will reduce the amount of off-specification material produced during product changeovers. It will also add a level of redundancy by allowing production to continue if Finish Mill #1 is ever inoperable.

Finish Mill #3 will primarily be processing slag. A new screw conveyor and bucket elevator will be installed outside the storage silos that will be used to transfer material from the slag drying building to an existing chute that feeds Silo Interstice #9. Silo Interstice #9 feeds the equipment that was previously used to transfer material to Finish Mill #2. This equipment will remain unchanged up to the belt transfer point inside the finish mill building.

A new belt conveyor will be installed within the mill building to transfer material from the Finish Mill #2 feed point to the Finish Mill #3 feed belt. This will need to be installed at an elevated position to allow routing across the building. A new bucket elevator will be installed to move material from the Finish Mill #2 feed belt to the new belt conveyor.

The material handling arrangement at the outlet of the mill will be revised to allow for feeding the material via airslide to an existing bucket elevator that is not currently in use. The bucket elevator will bring the material to the elevation of a new separator. The separator will be fed via a new airslide with reject material entering the mill head chute by way of a chute through an impact flow meter. The separator will utilize an existing dust collector located in line with Finish Mill #2 which will be modified to accommodate the operation of the upgraded mill system.

2. BACT Determination

BACT for control of particulate matter from the Finish Mill System shall be the use of dust collectors (fabric filters), and a visible emissions limit of 10% on a 6-minute block average basis.

3. National Emission Standards for Hazardous Air Pollutants (NESHAP)

The Finish Mill System, conveying system transfer points, bagging systems, and bulk loading and unloading systems are subject to 40 C.F.R. Part 63, Subpart LLL, *National Emission Standards for Hazardous Air Pollutants from the Portland Cement Manufacturing Industry*, and are subject to the following requirements:

- a. Visible emissions from each affected Finish Mill, conveying system transfer point, bagging system, and bulk loading and unloading system shall not exceed 10% opacity on a 6-minute block average basis. [40 C.F.R. § 63.1345]
- b. Dragon shall conduct an initial performance test for opacity in accordance with 40 C.F.R. § 63.1349(b)(2) and 40 C.F.R. Part 60, Appendix A, Method 9 within 180 days after startup. The duration of the performance test must be three hours (30, 6-minute averages), except that the duration of the performance test may be reduced to one hour if both of the following conditions are met:
 - (1) There are no individual readings greater than 10% opacity;
 - (2) There are no more than three readings of 10% opacity for the first 1-hour period.

[40 C.F.R. §§ 63.7(a)(2), 63.1348(a)(2), and 63.1349(b)(2)]

- c. Dragon shall demonstrate continuous compliance with the opacity standard in accordance with 40 C.F.R. § 63.1350(f), summarized below:
 - (1) Conduct a monthly 10-minute visible emission test of each affected source in accordance with 40 C.F.R. Part 60, Appendix A, Method 22.
 - (i) If no visible emissions are observed in six consecutive monthly tests for any affected source, the frequency of performance testing may be reduced from monthly to semi-annually for that source. If visible emissions are observed during a semi-annual test, monthly testing must be resumed.
 - (ii) If no visible emissions are observed during the semi-annual test for any affected source, the frequency of performance testing may be reduced from semi-annually to annually for that source. If visible emissions are observed during an annual test, monthly testing must be resumed.
 - (iii) If visible emissions are observed during any Method 22 performance test, 30 minutes of opacity observations, recorded at 15 second intervals, must be conducted in accordance with 40 C.F.R. Part 60, Appendix A, Method 9 within one hour of observing visible emissions.
 - (iv) Method 22 visible emissions monitoring is not required for any totally enclosed conveying system transfer point.

- (2) Conduct daily 6-minute visible emissions observations in accordance with 40 C.F.R. Part 60, Appendix A, Method 22 of the dust collectors associated with the mill sweep and air separator of the affected finish mills.
 - (i) If visible emissions are observed, a follow up Method 22 performance test of each stack from which visible emissions were observed must be conducted within 24 hours.
 - (ii) If visible emissions are observed during the follow up Method 22 performance test, a 30 minute opacity test must be conducted in accordance with 40 C.F.R. Part 60, Appendix A, Method 9.
- (3) If visible emissions are observed during any Method 22 visible emissions test, corrective actions must be initiated within one hour.
- (4) The above requirements to conduct Method 22 visible emissions testing do not apply to any finish mill equipped with a Continuous Opacity Monitoring System (COMS) or Bag Leak Determination System (BLDS).
 - (i) If a COMS is installed in lieu of conducting daily visible emissions testing of a finish mill, the COMS must be installed at the outlet of the PM control device, and installed, maintained, calibrated, and operated as required by the general provisions in 40 C.F.R. Part 63, Subpart A, and in accordance with 40 C.F.R. Part 60, Appendix B.
 - (ii) If a BLDS is installed in lieu of conducting daily visible emissions testing of a finish mill, it must meet the requirements of 40 C.F.R. § 63.1350(m).

[40 C.F.R. §§ 63.1348(b)(3) and 63.1350(f)]

- d. Dragon shall comply with the recordkeeping requirements as specified in 40 C.F.R. § 63.1355 and license A-326-70-E-R/A (issued March 3, 2016).

C. Incorporation Into the Part 70 Air Emission License

The requirements in this 06-096 C.M.R. ch. 115 New Source Review license shall apply to the facility upon issuance. Per *Part 70 Air Emission License Regulations*, 06-096 C.M.R. ch. 140 § 1(C)(8), for a modification at the facility that has undergone NSR requirements or been processed through 06-096 C.M.R. ch. 115, the source must apply for an amendment to their Part 70 license within one year of commencing the proposed operations, as provided in 40 C.F.R. Part 70.5.

D. Annual Emissions

Particulate emissions from process equipment is not quantified for fee purposes. This New Source Review License will not result in a change in annual emission limits for any pollutants.

III. AMBIENT AIR QUALITY ANALYSIS

Dragon previously submitted an ambient air quality analysis demonstrating that emissions from the facility, in conjunction with all other sources, do not violate ambient air quality standards (See license A-326-71-U-A/R, issued March 3, 2016). An additional ambient air quality analysis is not required for this NSR license.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants New Source Review License A-326-77-11-A pursuant to the preconstruction licensing requirements of 06-096 C.M.R. ch. 115 and subject to the standard and special conditions below.

Severability. The invalidity or unenforceability of any provision of this License or part thereof shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

SPECIFIC CONDITIONS

(1) Finish Mill System

- A. Dragon shall control particulate matter emissions from the Finish Mill System through the use of dust collectors (fabric filters). [06-096 C.M.R. ch. 115, BACT]
- B. The Finish Mill System, conveying system transfer points, bagging systems, and bulk loading and unloading systems shall meet the applicable requirements of 40 C.F.R. Part 63, Subpart LLL, including the following: [incorporated under 06-096 C.M.R. ch. 115, BACT]
 1. Visible emissions from each affected Finish Mill, conveying system transfer point, bagging system, and bulk loading and unloading system shall not exceed 10% opacity on a 6-minute block average basis. [40 C.F.R. § 63.1345]
 2. Dragon shall conduct an initial performance test for opacity in accordance with 40 C.F.R. § 63.1349(b)(2) and 40 C.F.R. Part 60, Appendix A, Method 9 within 180 days after startup. The duration of the performance test must be three hours

(30, 6-minute averages), except that the duration of the performance test may be reduced to one hour if both of the following conditions are met:

- a. There are no individual readings greater than 10% opacity;
- b. There are no more than three readings of 10% opacity for the first 1-hour period.

[40 C.F.R. §§ 63.1348(a)(2) and 63.1349(b)(2)]

3. Dragon shall demonstrate continuous compliance with the opacity standard in accordance with 40 C.F.R. § 63.1350(f) [40 C.F.R. § 63.1348(b)(3)]

- a. Conduct a monthly 10-minute visible emission test of each affected source in accordance with 40 C.F.R. Part 60, Appendix A, Method 22. [40 C.F.R. § 63.1350(f)(1)(i)]

- (1) If no visible emissions are observed in six consecutive monthly tests for any affected source, the frequency of performance testing may be reduced from monthly to semi-annually for that source. If visible emissions are observed during a semi-annual test, monthly testing must be resumed. [40 C.F.R. § 63.1350(f)(1)(ii)]

- (2) If no visible emissions are observed during the semi-annual test for any affected source, the frequency of performance testing may be reduced from semi-annually to annually for that source. If visible emissions are observed during an annual test, monthly testing must be resumed. [40 C.F.R. § 63.1350(f)(1)(iii)]

- (3) If visible emissions are observed during any Method 22 performance test, 30 minutes of opacity observations, recorded at 15 second intervals, must be conducted in accordance with 40 C.F.R. Part 60, Appendix A, Method 9 within one hour of observing visible emissions. [40 C.F.R. § 63.1350(f)(1)(iv)]

- (4) Method 22 visible emissions monitoring is not required for any totally enclosed conveying system transfer point. [40 C.F.R. § 63.1350(f)(1)(v)]

- b. Conduct daily 6-minute visible emissions observations in accordance with 40 C.F.R. Part 60, Appendix A, Method 22 of the dust collectors associated with the mill sweep and air separator of the affected finish mills. [40 C.F.R. § 63.1350(f)(2)(i)]

- (1) If visible emissions are observed, a follow up Method 22 performance test of each stack from which visible emissions were observed must be conducted within 24 hours. [40 C.F.R. § 63.1350(f)(2)(ii)]

- (2) If visible emissions are observed during the follow up Method 22 performance test, a 30 minute opacity test must be conducted in accordance with 40 C.F.R. Part 60, Appendix A, Method 9. [40 C.F.R. § 63.1350(f)(2)(iii)]

- c. If visible emissions are observed during any Method 22 visible emissions test, corrective actions must be initiated within one hour. [40 C.F.R. § 63.1350(f)(3)]
 - d. The above requirements to conduct Method 22 visible emissions testing do not apply to any finish mill equipped with a Continuous Opacity Monitoring System (COMS) or Bag Leak Determination System (BLDS). [40 C.F.R. § 63.1350(f)(4)]
 - (1) If a COMS is installed in lieu of conducting daily visible emissions testing of a finish mill, the COMS must be installed at the outlet of the PM control device, and installed, maintained, calibrated, and operated as required by the general provisions in 40 C.F.R. Part 63, Subpart A, and in accordance with 40 C.F.R. Part 60, Appendix B. [40 C.F.R. § 63.1350(f)(4)(i)]
 - (2) If a BLDS is installed in lieu of conducting daily visible emissions testing of a finish mill, it must meet the requirements of 40 C.F.R. § 63.1350(m). [40 C.F.R. § 63.1350(f)(4)(ii)]
4. Dragon shall comply with the recordkeeping requirements as specified in 40 C.F.R. § 63.1355 and license A-326-70-E-R/A (issued March 3, 2016). [40 C.F.R. § 63.1355]
- (2) Dragon shall submit an application to incorporate this NSR license into the facility's Part 70 air emission license no later than 12 months from commencement of the requested operation. [06-096 C.M.R. ch. 140 § 1(C)(8)]

DONE AND DATED IN AUGUSTA, MAINE THIS 23 DAY OF March, 2018.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: *Paul Mercer*
PAUL MERCER, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: February 9, 2018
Date of application acceptance: February 9, 2018

Date filed with the Board of Environmental Protection:

This Order prepared by Benjamin Goundie, Bureau of Air Quality.

