STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

Dragon Products Company, Inc. **Knox County** **Thomaston, Maine** **A-326-77-16-A**	**Departmental** **Findings of Fact and Order** **New Source Review** **NSR #14**

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, Inc.
LICENSE TYPE	06-096 C.M.R. ch. 115, Minor Modification
NAICS CODES	327310
NATURE OF BUSINESS	Cement Manufacturing
FACILITY LOCATION	U.S. Route 1, Thomaston, Maine

B. NSR License Description

Dragon Products Company, Inc. (Dragon) has requested a New Source Review (NSR) license for the installation of a cement transloading (CTL) operation.

C. Emission Equipment

The following new equipment is addressed in this NSR license:

Process Equipment

Equipment	Production Rate	Pollution Control Equipment
CT Hoppers	50 tons/hr	Dust collector

The following existing equipment is affected, but not modified, by this project:

Process Equipment

Equipment Categories (used for licensing and inventory reporting purposes)	**Description** (may include, but is not limited to, equipment listed)	**Pollution Control Equipment**
Finish Grind Group	Finish Mill #1	Dust collectors (fabric filters)
	Finish Mill #2	
	Finish Mill #3	
	Thompson Silo #11	
	Thompson Silo #12	
	Hoch Silo	
	Silo #30	
Pack and Ship Group	Packer #2	Dust collectors (fabric filters)
	Packer #3	
	Packer #4	
	Hoch Silo Loading	
	Silo #30 Loading	

D. Project Description

Dragon has proposed the installation of a cement transloading system capable of unloading bulk/containerized cement and transporting that material through the existing infrastructure into existing storage silos for distribution. The system will be designed to receive cement contained within one-ton bags known as "super-sacks" into hoppers where the bags will be broken open and the material transported to bulk storage for later distribution through existing product loading equipment.

The new CTL equipment will consist of three cement receiving hoppers and a screw conveyor to transport the material. The hoppers will be equipped with a dust collection system designed to limit fugitive emissions during the bag unloading process. The super-sacks will be loaded via forklift into the hoppers. Cement will exit the hoppers and be conveyed via screw conveyor to a lump breaker designed to eliminate any clumped material, followed by discharge into a secondary enclosed hopper. The cement will exit the secondary hopper through a rotary valve system and enter a transport pipeline via a rotary feeder. It will then be pneumatically transported to existing storage silos equipped with existing dust collectors. Cement stored in the silos will then be loaded into trucks or railcars, or bagged for distribution.

E. 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 the cement transloading operation 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. For a major stationary source, the expected emissions increase from each new, modified, or affected unit may be calculated as equal to the difference between the post-modification projected actual emissions and the baseline actual emissions for each NSR regulated pollutant.

1. Baseline Actual Emissions

Baseline actual emissions (BAE) are equal to the average annual emissions from any consecutive 24-month period within the ten years prior to submittal of a complete license application. Dragon has proposed using 1/2020 – 12/2021 as the 24-month baseline period from which to determine baseline actual emissions for all pollutants for emission units affected as part of this project.

BAE for existing modified and affected equipment are based on actual annual emissions reported to the Department through *Emissions Statements*, 06-096 C.M.R. ch. 137 with the following exceptions:

a. Emissions of PM are not collected in the annual emissions report. PM emissions from all equipment were determined in a similar matter as the filterable portions of the PM_{10} emissions.

b. Emissions of PM_{10} and $PM_{2.5}$ in the annual emissions report are for the filterable portion only. Emissions of PM_{10} and $PM_{2.5}$ were adjusted to include emissions of condensable particulate matter (CPM).

BAE for new equipment are considered to be zero for all pollutants.

The results of this baseline analysis are presented in the table below.

Baseline Actual Emissions (1/2020 – 12/2021 Average)

Equipment	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
Finish Mill #1	10.35	8.70	4.66
Finish Mill #2	0.00	0.00	0.00
Finish Mill #3	0.14	0.12	0.06
Thompson Silos	0.82	0.68	0.37
Packer #2	0.05	0.04	0.02
Packer #3	0.05	0.04	0.02
Packer #4	0.05	0.05	0.02
Hoch Silo	1.07	0.90	0.48
Silo #30	0.01	0.01	0.00
CT Hoppers	0.00	0.00	0.00
Total	**12.54**	**10.54**	**5.63**

2. Projected Actual Emissions

Projected actual emissions (PAE) are the maximum actual annual emissions anticipated to occur in any one of the five years (12-month periods) following the date existing units resume regular operation after the project or any one 12-month period in the ten years following if the project involves increasing the unit's design capacity or its potential to emit of a regulated pollutant.

New emission units must use potential to emit emissions for projected actual emissions.

Affected equipment includes any new or physically modified equipment as well as upstream or downstream activities.

Affected equipment includes upstream activities such as bulk storage and loadout equipment. Projected actual emissions from this equipment were conservatively calculated assuming operating at maximum capacity.

Projected actual emissions from the affected equipment are shown below.

Projected Actual Emissions

Equipment	PM (tpy)	PM_{10} (tpy)	$PM_{2.5}$ (tpy)
Finish Mill #1	15.13	12.71	6.81
Finish Mill #2	0.00	0.00	0.00
Finish Mill #3	0.66	0.56	0.30
Thompson Silos	0.41	0.35	0.19
Packer #2	0.16	0.13	0.07
Packer #3	0.16	0.13	0.07
Packer #4	0.17	0.14	0.08
Hoch Silo	0.73	0.61	0.33
Silo #30	0.02	0.02	0.01
CT Hoppers	0.67	0.56	0.30
Total	**18.11**	**15.21**	**8.16**

3. Emissions Increases

Emissions increases are calculated by subtracting BAE and excludable emissions from the PAE. The emission increase is then compared to the significant emissions increase levels.

Pollutant	Baseline Actual Emissions 1/20 – 12/21 (ton/year)	Projected Actual Emissions (ton/year)	Emissions Increase (ton/year)	Significant Emissions Increase Levels (ton/year)
PM	12.54	18.11	5.57	25
PM_{10}	10.54	15.21	4.67	15
$PM_{2.5}$	5.63	8.16	2.53	10
SO_2	0.0	0.0	0.0	40
NO_x	0.0	0.0	0.0	40
CO	0.0	0.0	0.0	100
VOC	0.0	0.0	0.0	40

4. Classification

Since emissions increases do not exceed significant emissions increase levels, 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.

This NSR license is not licensing a new major stationary source of an NSR pollutant that is not greenhouse gases (GHG) nor is it authorizing a major modification for an NSR pollutant to an existing major stationary source. Therefore, greenhouse gases are not considered subject to regulation in this license pursuant to 40 C.F.R. §§ 51.166(b)(48)(iii - iv).

Dragon has submitted an application to incorporate the requirements of this NSR license into the facility's Part 70 air emission license.

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. Cement Transloading Operation

1. Equipment Description

The CTL operation is designed to process up to 50 tons/hr of Portland cement. The system will consist of three hoppers to receive and break open the super-sacks of bagged cement, as well as various equipment used to transport product from the hoppers to existing storage and distribution infrastructure. The hoppers will be equipped with an 8,350 ACFM dust collection system which will use fabric filters designed to achieve 99.99% removal efficiency, to eliminate fugitive emissions.

2. BACT Determination

   BACT for control of particulate matter from the CTL operation 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): 40 C.F.R. Part 63, Subpart LLL

   The CTL system, including the hoppers, conveying system transfer points, 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 storage bin, conveying system transfer point, bagging system, bulk loading or unloading system shall not exceed 10% opacity on a 6-minute block average basis. [40 C.F.R. §§ 63.1345 and 63.1348(a)(2)]

   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) If visible emissions are observed during any Method 22 visible emissions test, Dragon must initiate corrective action within one hour.

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

d. Dragon shall continue to comply with the reporting and recording requirements as specified in air emission license A-362-70-E-R/A (issued March 3, 2016) according to 40 C.F.R. §§ 63.1354 and 63.1355.

C. Incorporation Into the Part 70 Air Emission License

Pursuant to *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. An application to incorporate the requirements of this NSR license into the Part 70 air emission license has been submitted to the Department.

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 impact analysis outlined in air emission license A-326-71-U-A (dated November 19, 2002) demonstrating that emissions from the facility, in conjunction with all other sources, do not violate ambient air quality standards (AAQS). An additional ambient air quality impact 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, and
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants New Source Review License A-326-77-16-A pursuant to the preconstruction licensing requirements of 06-096 C.M.R. ch. 115 and subject to the specific 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) Cement Transloading Operation

A. Dragon shall control particulate matter emissions from the Cement Transloading operations through the use of dust collectors (fabric filters). [06-096 C.M.R. ch. 115, BACT]

B. The CTL system, including the hoppers, conveying system transfer points, and bulk loading and unloading systems shall meet the applicable requirements of 40 C.F.R. Part 63, Subpart LLL, including, but not limited to, the following:

1. Visible emissions from each affected storage bin, conveying system transfer point, bagging system, and bulk loading or unloading system shall not exceed 10% opacity on a 6-minute block average basis. [40 C.F.R. §§ 63.1345 and 63.1348(a)(2)]

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. § 63.7(a)(2), 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. If visible emissions are observed during any Method 22 visible emissions test, Dragon must initiate corrective action within one hour.
[40 C.F.R. § 63.1350(f)(3)]

4. Dragon shall continue to comply with the reporting and recording requirements as specified in air emission license A-362-70-E-R/A (issued March 3, 2016) according to 40 C.F.R. §§ 63.1354 and 63.1355.

DONE AND DATED IN AUGUSTA, MAINE THIS 29th DAY OF APRIL, 2024.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____ for _____
MELANIE LOYZIM, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: December 8, 2023
Date of application acceptance: December 18, 2023

Date filed with the Board of Environmental Protection:

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

FILED

APR 29, 2024

State of Maine
Board of Environmental Protection