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

DEPARTMENT ORDER

Lucerne Farms **Aroostook County** **Fort Fairfield, Maine** **A-445-71-J-R**	**Departmental** **Findings of Fact and Order** **Air Emission License** **Renewal**

FINDINGS OF FACT

After review of the air emission license renewal 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 (Department) finds the following facts:

I. REGISTRATION

A. Introduction

Lucerne Farms has applied to renew their Air Emission License permitting the operation of emission sources associated with their crop-drying facility.

The equipment addressed in this license is located at 40 Easton Line Road, Fort Fairfield, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Dryers

Equipment		Maximum Capacity (MMBtu/hr)	Maximum Firing Rate	Fuel Type	Post Combustion Control	Stack
Dryer	Burner #1	20	2615 lb/hr	Wood	Cyclones	Dryer stack*
	Burner #2	13	92.9 gal/hr	Distillate Fuel	Cyclones	

* During normal operations, Burners #1 and #2 vent through a common stack, but Burner #1 (wood burner) has a bypass stack that is used only during startup.

C. Definitions

Distillate Fuel. For the purposes of this license, *distillate fuel* means the following:

- Fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials (ASTM) in ASTM D396;
- Diesel fuel oil numbers 1 or 2, as defined in ASTM D975;
- Kerosene, as defined in ASTM D3699;
- Biodiesel, as defined in ASTM D6751; or
- Biodiesel blends, as defined in ASTM D7467.

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 Lucerne Farms does not include the licensing of increased emissions or the installation of new or modified equipment. Therefore, the license is considered to be a renewal of currently licensed emission units only and has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 Code of Maine Rules (C.M.R.) ch. 115.

Because Lucerne Farms' maximum annual emissions are below the major source thresholds for all criteria pollutants, Lucerne Farms is considered to be a true minor source.

Lucerne Farms is licensed below the major source thresholds for hazardous air pollutants (HAP) and is considered an area source of HAP.

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 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.

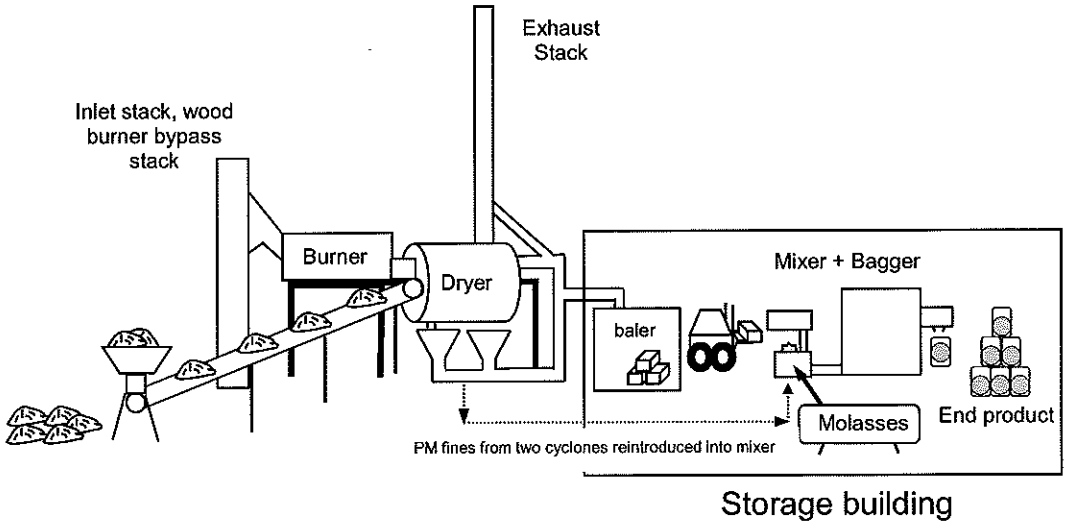
BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

B. Process Description

Lucerne Farms produces specialty horse feeds. Various types of hay and straw are chopped into small pieces and then air-dried to a moisture content of approximately 50% (wet hay). The air-dried hay and straw are fed into the direct-contact rotary crop dryer for further drying. The rotary dryer has a capacity of processing 4.7 tons per hour of wet hay and is equipped with two burners: Burner #1 which fires wood and Burner #2 which fires . The dryer capacity prevents the burners from firing at the same time. As the dryer drum rotates, particulate matter and dust separate from the material inside. The particulate matter then flows into a pretreatment settling tank before being collected by two cyclones. The dried hay, now with a moisture content of approximately 10%, exits the dryer and is mechanically conveyed to the baler system. Particles removed by the two cyclones are reintroduced to the dried product at the baler. Baled hay is then stored for mixing.

Several varieties of horse feed are created by mixing the different types of dried hay with particular quantities with molasses. Fork trucks deliver the appropriate ratios of crop types to a rotating mixer where the molasses is added. The molasses helps the mixture stick together and prevents dust. From the mixer, the final product is bagged and stored for sale.



C. Dryer - Burner #1

Lucerne Farms operates Burner #1 to provide heat to the rotary dryer. Burner #1 is rated at 20 MMBtu/hour and fires wood at a rate of 2,615 pounds/hour. Burner #1 was installed in 1997 and exhausts through the dryer, settling chamber and through two cyclones in series before leaving the main exhaust stack.

Wood fuels fired in Burner #1 include: resinated wood chips, which are by-product engineered wood manufacturing facilities and trimmings/wood wastes from various plywood and particle-board manufacturing facilities.

1. BPT Findings

The BPT emission limits for Burner #1 were based on the following:

PM/PM_{10}	0.3 lb/MMBtu, based on 06-096 C.M.R. ch. 103
SO_2	0.025 lb/MMBtu, AP-42 Table 1.6-2, dated 09/03
NO_X	0.49 lb/MMBtu, AP-42 Table 1.6-2, dated 09/03
CO	0.4 lb/MMBtu, based on manufacturer's data
VOC	0.017 lb/MMBtu, AP-42, Table 1.6-3, dated 09/03
Opacity	06-096 C.M.R. ch. 115, BPT

The BPT emission limits for Burner #1 are the following:

Equipment	Pollutant	lb/MMBtu
Burner #1	PM	0.30

The BPT emission limits for Burner #1, the dryer and the combination of the two are the following:

Equipment	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Burner #1	6.0	6.0	0.5	9.8	8.0	0.3
Dryer	2.6	2.6	-	-	-	-
Total (Firing Wood)	8.6	8.6	0.5	9.8	8.0	0.3

Fuel use for Burner #1 shall not exceed 2500 tons/year of wood at 15% moisture (heating value of 7,650 Btu/lb) or equivalent, on a twelve-month rolling total basis.

Supporting calculations for PM emissions associated with the Dryer can be found in Section E.

Visible emissions from the Dryer when Burner #1 is operating or from the bypass stack shall not exceed 20% opacity on a six-minute block average basis, except for no

more than two six-minute block averages in a three-hour period during which time visible emissions shall not exceed 50% opacity.

2. Periodic Monitoring

Periodic monitoring for Burner #1 shall include recordkeeping to document wood fuel use both on a monthly and twelve-month rolling total basis.

D. Dryer - Burner #2

Lucerne Farms operates Burner #2 to provide heat to the rotary dryer. Burner #2 is rated at 13 MMBtu/hr and fires distillate fuel at a rate of 92.9 gallons/hour. Burner #2 was installed in 1989 and exhausts through the dryer, settling chamber and through two cyclones in series before leaving the dryer stack.

1. BPT Findings

The BPT emission limits for Burner #2 were based upon the following:

PM/PM_{10}	0.12 lb/MMBtu, based on 06-096 C.M.R. ch. 103
SO_2	0.5 lb/MMBtu, firing 0.5% S distillate fuel
NO_X	0.4 lb/MMBtu, 1990 BACT determination (A-445-74-A-N)
CO	5.0 lb/1000 gallons, AP-42, Table 1.3-1, dated 5/10
VOC	0.2 lb/1000 gallons, AP-42, Table 1.3-3, dated 5/10
Opacity	06-096 C.M.R. ch. 115, BPT

The BPT emission limits for Burner #2, the dryer and the combination of the two are the following:

Equipment	Pollutant	lb/MMBtu
Burner #2	PM	0.12

The BPT emission limits for Burner #2 are the following:

Equipment	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Burner #2	1.6	1.6	6.5	5.2	0.5	0.1
Dryer	2.6	2.6	-	-	-	-
Total (Firing Distillate)	4.2	4.2	6.5	5.2	0.5	0.1

Fuel use for Burner #2 shall not exceed 25,000 gallons/year of distillate fuel, on a twelve-month rolling total basis.

Supporting calculations for PM emissions associated with the Dryer can be found in Section E.

Visible emissions from the Dryer when Burner #2 is operating or from the bypass stack shall not exceed 20% opacity on a six-minute block average basis.

Fuel Sulfur Content Requirements

Burner #2 is licensed to fire distillate fuel which, by definition, has a sulfur content of 0.5% or less by weight. Per 38 M.R.S. § 603-A(2)(A)(3), as of July 1, 2018, no person shall import, distribute, or offer for sale any distillate fuel with a sulfur content greater than 0.0015% by weight (15 ppm). Therefore, beginning July 1, 2018, the distillate fuel purchased or otherwise obtained for use in Burner #2 shall not exceed 0.0015% by weight (15 ppm).

2. Periodic Monitoring

Periodic monitoring for Burner #2 shall include recordkeeping to document fuel use both on a monthly and twelve-month rolling total basis. Documentation shall include the type of fuel used and sulfur content of the fuel.

E. Crop Dryer

The drying of crops at Lucerne Farms produces particulate matter (PM) emissions. Emissions from the dryer are conservatively assumed to consist solely of PM_{10}.

The basis for determining emissions from the dryer is as follows:

- Wet hay entering the dryer is assumed to have a moisture content of 50%.
- The 50% moisture hay is then dried to 10% before exiting the dryer.
- The rotary dryer has an input capacity of 4.7 tons (9,400 pounds) per hour.

$$\frac{9400\,lbs\ wet\ hay}{hour} \times 0.50\,(moisture) \times 0.90\,(dry\ weight) = \frac{4230\,lbs\ water\ removed}{hour}$$

$$\frac{9400\,lbs\ wet\ hay}{hour} - \frac{4230\,lb\ water\ removed}{hour} = \frac{5170\,lb\ dry\ hay\ @\ 10\%\ moisture}{hour}$$

Once the hay exits the dryer, the hay is sent through a settling tank. Based on previous operational experience, the settling tank is assumed to remove approximately 95% of the hay, resulting in a PM load to the cyclones of:

$$\frac{5170\,lb\,dry\,hay}{hour} \times (1-0.95) = \frac{258.5\,lb\,dry\,hay}{hour}$$

Lucerne Farms uses two cyclones in series following the settling tank. USEPA documentation estimates the average efficiency of conventional single cyclones for PM removal to be 90%. Two cyclones in series would then have a 99% removal efficiency.

$$\frac{258.5\,lb\,dry\,hay}{hour} \times (1-0.99) = \frac{2.6\,lb\,dry\,hay}{hour}$$

This calculated emission rate is more stringent than the limit from 06-096 C.M.R. ch. 105 (*General Process Source Particulate Emission Standard*), using 4.7 tons/hour as the process weight rate.

F. Fugitive Emissions

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed 20% opacity, except for no more than five minutes in any one-hour period. Compliance shall be determined by an aggregate of the individual fifteen-second opacity observations which exceed 20% in any one hour.

G. General Process Emissions

Prior to drying, the crops are chopped into small pieces. Process emissions from the hay chopping operation may be vented outdoors. Visible emissions from the hay chopping operations source shall not exceed 20% opacity on a six-minute block average basis.

H. Annual Emissions

1. Total Annual Emissions

Lucerne Farms shall be restricted to the following annual emissions, on a twelve-month rolling total basis:

Total Licensed Annual Emissions for the Facility
Tons/year
(used to calculate the annual license fee)

Equipment	PM	PM_{10}	SO_2	NO_x	CO	VOC
Burner #1	5.7	5.7	0.5	9.4	7.7	0.3
Burner #2	0.2	0.2	0.9	0.7	0.1	0.1
Crop Dryer	2.8	2.8	-	-	-	-
Total TPY	**8.7**	**8.7**	**1.4**	**10.1**	**7.8**	**0.4**

The tons per year limits were calculated based on Burner #1 firing a maximum of 2500 tons/year of wood (15% moisture), Burner #2 firing a maximum of 25,000 gallons/year of distillate fuel and the crop dryer operating at maximum capacity for every hour that Burner #1 or Burner #2 is operational (hours based on wood/distillate fuel limits).

2. Greenhouse Gases

Greenhouse gases are considered regulated pollutants as of January 2, 2011, through 'Tailoring' revisions made to EPA's *Approval and Promulgation of Implementation Plans,* 40 CFR Part 52, Subpart A, §52.21, *Prevention of Significant Deterioration of Air Quality* rule. Greenhouse gases, as defined in 06-096 C.M.R. 100 (as amended), are the aggregate group of the following gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. For licensing purposes, greenhouse gases (GHG) are calculated and reported as carbon dioxide equivalents (CO_2e).

The quantity of CO_2e emissions from this facility is less than 100,000 tons per year, based on the following:

- fuel limits;
- the types of fuel being fired;
- worst case emission factors from the following sources: U.S. EPA's AP-42, the Intergovernmental Panel on Climate Change (IPCC), and 40 CFR Part 98, *Mandatory Greenhouse Gas Reporting*; and
- global warming potentials contained in 40 CFR Part 98.

No additional licensing actions to address GHG emissions are required at this time.

III. AMBIENT AIR QUALITY ANALYSIS

The level of ambient air quality impact modeling required for a minor source is determined by the Department on a case-by case basis. In accordance with 06-096 C.M.R. ch. 115, an ambient air quality impact analysis is not required for a minor source if the total licensed annual emissions of any pollutant released do not exceed the following levels and there are no extenuating circumstances:

Pollutant	Tons/Year
PM	25
PM_{10}	25
SO_2	50
NO_x	100
CO	250

The total licensed annual emissions for Lucerne Farms are below the emission levels contained in the table above and there are no extenuating circumstances; therefore, an ambient air quality impact analysis is not required as part of this 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 Air Emission License A-445-71-J-R subject to the following conditions.

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.

STANDARD CONDITIONS

(1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 M.R.S. § 347-C).

(2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [06-096 C.M.R. ch. 115]

(3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 C.M.R. ch. 115]

(4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction,

reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 C.M.R. ch. 115]

(5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S. § 353-A. [06-096 C.M.R. ch. 115]

(6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 C.M.R. ch. 115]

(7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 C.M.R. ch. 115]

(8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 C.M.R. ch. 115]

(9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [06-096 C.M.R. ch. 115]

(10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [06-096 C.M.R. ch. 115]

(11) In accordance with the Department's air emission compliance test protocol and 40 C.F.R. Part 60 or other method approved or required by the Department, the licensee shall:

A. Perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:

1. Within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or

2. Pursuant to any other requirement of this license to perform stack testing.

B. Install or make provisions to install test ports that meet the criteria of 40 C.F.R. Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and

C. Submit a written report to the Department within thirty (30) days from date of test completion.

[06-096 C.M.R. ch. 115]

(12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:

A. Within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 C.F.R. Part 60 or other method approved or required by the Department; and

B. The days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and

C. The licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.

[06-096 C.M.R. ch. 115]

(13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [06-096 C.M.R. ch. 115]

(14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emissions and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [06-096 C.M.R. ch. 115]

(15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 C.M.R. ch. 115]

SPECIFIC CONDITIONS

(16) Dryer - Burner #1

A. Fuel

1. Burner #1 shall fire wood only. [06-096 C.M.R. ch. 115, BPT]

2. Total fuel use for Burner #1 shall not exceed 2500 tons/year of wood at 15% moisture (or equivalent), on a twelve-month rolling total basis. [06-096 C.M.R. ch. 115, BPT]

3. Records of annual fuel use shall be kept on a monthly and twelve-month rolling total basis. [06-096 C.M.R. ch. 115, BPT]

B. Emissions shall not exceed the following:

Equipment	Pollutant	lb/MMBtu	Origin and Authority
Dryer - Burner #1	PM	0.30	06-096 C.M.R. ch. 103, § (2)(B)(4)(a)

C. Emissions shall not exceed the following [06-096 C.M.R. ch. 115, BPT]:

Equipment	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Dryer- Burner #1	8.6	8.6	0.5	9.8	8.0	0.3

D. Visible emissions from the Dryer when Burner #1 is operating or from the bypass stack shall not exceed 20% opacity on a six-minute block average basis, except for no more than two six-minute block averages in a three-hour period during which time visible emissions shall not exceed 50% opacity. 06-096 C.M.R. ch. 115, BPT]

(17) Dryer - Burner #2

A. Fuel

1. Burner #2 shall fire distillate fuel only. [06-096 C.M.R. ch. 115, BPT]

2. Total fuel use for Burner #2 shall not exceed 25,000 gallons/year of distillate fuel, on a twelve-month rolling total basis. [06-096 C.M.R. ch. 115, BPT]

3. Prior to July 1, 2018, any distillate fuel fired in Burner #2 shall have a maximum sulfur content not to exceed 0.5% by weight. [06 096 C.M.R. ch. 115, BPT]

4. Beginning July 1, 2018, Lucerne Farms shall not purchase or otherwise obtain distillate fuel with a maximum sulfur content that exceeds 0.0015% by weight (15 ppm). [06-096 C.M.R. ch. 115, BPT]

5. Compliance shall be demonstrated by fuel records from the supplier showing the quantity, type, and the percent sulfur of the fuel delivered. [06-096 C.M.R. ch. 115, BPT]

6. Records of annual fuel use shall be kept on a monthly and twelve-month rolling total basis. [06-096 C.M.R. ch. 115, BPT]

B. Emissions shall not exceed the following:

Equipment	Pollutant	lb/MMBtu	Origin and Authority
Dryer - Burner #2	PM	0.12	06-096 C.M.R. ch. 103, § (2)(B)(1)(a)

C. Emissions shall not exceed the following [06-096 C.M.R. ch. 115, BPT]:

Equipment	PM (lb/hr)	PM_{10} (lb/hr)	SO_2 (lb/hr)	NO_x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Dryer - Burner #2	4.2	4.2	6.5	5.2	0.5	0.1

D. Visible emissions from the Dryer when Burner #2 is operating or from the bypass stack shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BPT]

(18) Cyclones

A. Lucerne Farms shall continuously operate both cyclones when the Dryer is operating with either Burner #1 or Burner #2. [06-096 C.M.R. ch. 115, BPT]

B. Lucerne Farms shall conduct a monthly inspection of the cyclones and maintain a log detailing all routine and non-routine maintenance on each cyclone. The log shall contain location, date, nature of maintenance/failure and action taken to correct any failure(s). [06-096 C.M.R. ch. 115, BPT]

(19) Fugitive Emissions

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed 20% opacity, except for no more than five minutes in any one-hour period. Compliance shall be determined by an aggregate of the individual fifteen-second opacity observations which exceed 20% in any one hour. [06-096 C.M.R. ch. 115, BPT]

(20) General Process Sources

Visible emissions from any general process source shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BPT]

(21) Lucerne Farms shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (38 M.R.S. § 605).

DONE AND DATED IN AUGUSTA, MAINE THIS 13 DAY OF June , 2017.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: Marc Allen Robert Cone for
PAUL MERCER, COMMISSIONER

The term of this license shall be ten (10) years from the signature date above.

[Note: If a renewal application, determined as complete by the Department, is submitted prior to expiration of this license, then pursuant to Title 5 M.R.S. § 10002, all terms and conditions of the license shall remain in effect until the Department takes final action on the license renewal application.]

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: March 3, 2017
Date of application acceptance: March 3, 2017

Date filed with the Board of Environmental Protection:

Filed
JUN 13 2017
State of Maine
Board of Environmental Protection

This Order prepared by Kevin J Ostrowski, Bureau of Air Quality.