



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

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COMMISSIONER

FMC Corporation)
BioPolymer Division)
Knox County)
Rockland, Maine)
A-366-70-F-R)

Departmental
Findings of Fact and Order
Part 70 Air Emission License
Renewal

After review of the Part 70 License renewal application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

FACILITY	FMC Biopolymer
LICENSE NUMBER	A-366-70-F-R
LICENSE TYPE	Part 70 License Renewal
SIC CODES	2099, 2835
NATURE OF BUSINESS	Refined Hydrocolloid Products
FACILITY LOCATION	Crocketts Point, PO Box 308, Rockland
DATE OF LICENSE ISSUANCE	September 22, 2009
LICENSE EXPIRATION DATE	September 22, 2014

B. Emission Equipment

The following emission units are addressed by this Part 70 License:

EMISSION UNIT ID	STACK # (FMC ID#)	UNIT CAPACITY	CONTROL EQUIPMENT	UNIT TYPE
#1, Lime Unloading	15-1		Baghouse	Process Equipment
#3, Weed Cleaning – shredders, screen, conveyors, bins	15-2		Baghouse	Process Equipment
#4, Perlite Unloading	1A-1		Baghouse	Process Equipment
#5, Cook Vent Filtration System	1A-3		Cyclone	Process Equipment
#6, FID Hydrocolloids Isopropanol Process	2-2, 2-9, 2-6		E2501, Vacuum Dryer, and Rotary Screen Scrubbers	Process Equipment
#7 Vacuum System for Belt Dryer Area	2-41		Baghouse	Maintenance Equipment
#8, Grinder Feed System	3A-4	2,100 lb/hr	Baghouse	Process Equipment

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826
RAY BLDG., HOSPITAL ST.

BANGOR
106 HOGAN ROAD
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769-2094
(207) 764-0477 FAX: (207) 760-3143

#9, A44 Grinder System	3A-5		Baghouse	Process Equipment
#10, ACM 60 Grinder System	3A-6		Baghouse	Process Equipment
#11, Tote Dumper System	3A-7		Baghouse	Process Equipment
#12, Blending Product Conveyor System	3A-3		Baghouse	Process Equipment
#13, Blending Area and Vacuum System	8A-1		Baghouses	Process Equipment
#14, Off Line Feeding System	8A-2		Baghouse	Process Equipment
#15, ACM-10 Fine Grinding	8A-3		Baghouse	Process Equipment
#16, Specialty Blender System	7-1		Baghouse	Process Equipment
#17, Agarose Isopropanol Process	17-1		Scrubber	Process Equipment
#18, Agarose Grinding Process	17-10		Baghouse	Process Equipment
#19, Pilot Plant Area	18-1		Scrubber	Process Equipment
#20, No. 3 Boiler	5-1	85.6 MMBtu/hr	-	Fuel Burning
#21, No. 4 Boiler	5-1	48.6 MMBtu/hr	-	Fuel Burning
#22, No. 5 Boiler	5-1	48.4 MMBtu/hr	-	Fuel Burning
#23, Emergency Diesel Engine	5-5	6.0 MMBtu/hr	-	Fuel Burning
#24, Parts Cleaners	-	-	-	Maintenance Equipment
#25, Gasoline Storage Tank	12-4	1000 gallons	-	Storage Tank
#26 Cummins Generator*	5-6	1.54 MMBtu/hr	-	Fuel Burning

* FMC has requested that the Cummins Generator be included as a part of the ISO New England OP-4 emergency response program and is therefore not considered to be an insignificant activity.

FMC Corporation, BioPolymer Division (FMC) has additional insignificant activities which do not need to be listed in the emission equipment table above. The list of insignificant activities can be found in the Part 70 license application and subsequent modifications and in 06-096 CMR 140, Appendix B of the Department's Regulations.

C. Application Classification

The application for FMC does not include the licensing of increased emissions or the installation of new or modified equipment, therefore the license is considered to be a Part 70 License renewal issued under *Part 70 Air Emission License Regulations*, 06-096 CMR 140 (last amended December 24, 2005).

II. EMISSION UNIT DESCRIPTION

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 CMR 100 (last amended December 24, 2005). 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

The two process systems at the plant are the hydrocolloids process and the agarose process. The hydrocolloids process manufactures carrageenan, clarified locust bean gum and other hydrocolloids. Agarose is manufactured in the agarose process.

Hydrocolloids Description

The Hydrocolloids Process produces mainly carrageenan from red seaweed. Different types of red seaweed are used to produce carrageenans with different characteristics. The carrageenan process begins in Building 15 with weed cleaning. Here, the dried seaweed is chopped and sifted to remove extraneous material such as rocks and shells, and then the seaweed is mixed with water, and pumped to the pasting tanks.

In pasting, the mixture is heated to begin to extract the carrageenan. Process chemicals may be added to assist carrageenan extraction and modification. The material is then held until modification and resting is complete.

The material is then pumped to Building 1 and goes through a series of solids removal steps to remove sand and other small particles. This process involves shaker screens, hydroclones, centrifuges, and press filters. The filtrate is then sent to the evaporators in Building 2. Here, water is removed from the filtrate in a three-step evaporation process.

After evaporation, the filtrate is mixed with isopropal alcohol (IPA) and a carrageenan precipitate is formed. The precipitate, or coagulant, is separated out of the alcohol/water solution. The alcohol/water solution is pumped to distillation where the alcohol is distilled for reuse. The coagulant is then slurried with a high concentration IPA in the wash tanks. After the wash tanks the carrageenan alcohol mixture is pumped to a rotary screen where the IPA is again separated from the solid carrageenan. The liquid IPA flows to the high drain tank. The coagulant is further pressed to remove more alcohol and then dried.

In drying, vacuum dryers and a belt dryer are used. The vapors from the dryers pass to a vertical condenser, containing coils fed with seawater. The condenser removes most of the liquid which goes to the distillation system. The remaining vapor goes to the Drier Wet Scrubber.

The dried product is ground to a fine powder and sent to blending where it is formulated to customer specifications.

The same process is used to manufacture clarified locust bean gum and other hydrocolloids. Since the raw material for some of these other hydrocolloids comes pre-processed, the process for certain products begins with the filtration stages in Building 1 as described above. The remaining process is identical.

Agarose Process Description

Raw material for the production of Agarose is agar. Agar is made from seaweed. The process begins by putting the agar into solution with water, heating it with steam, and adding chemicals to modify the agar. The modification involves a separation of agarose and agarpectin from the agar molecule. The solution is then neutralized with acetic acid.

After neutralization, the agarpectin is filtered out of solution using a filter press with a filter aid.

The solution is evaporated to reduce the volume, then combined with IPA to form a precipitate. The precipitate is washed several times with water and alcohol, and pressed to remove as much liquid as possible. The alcohol and water solutions are distilled to reuse the alcohol. The material is then dried using vacuum dryers and blended to customer specifications.

C. Boilers #3, #4, and #5 (Units #20, #21 and #22)

No. 3 Boiler, designated as emission unit #20, was manufactured by Union Iron Works with a maximum design heat input capacity of 85.6 MMBtu/hr firing #6 fuel oil, with a maximum sulfur content of 2.0% by weight. The boiler was installed in 1966, prior to the New Source Performance Standards (NSPS) Subpart Dc applicability date. The boiler has Low NOx burners firing #6 fuel oil and propane during startup.

No. 4 Boiler, designated as emission unit #21, was manufactured by Union Iron Works with a maximum design heat input capacity of 48.6 MMBtu/hr firing #6 fuel oil, with a maximum sulfur content of 2.0% by weight. The boiler was installed in 1965, prior to the New Source Performance Standards (NSPS) Subpart Dc applicability date. The boiler has Low NOx burners firing #6 fuel oil and propane during startup.

No. 5 Boiler, designated as emission unit #22, was manufactured by Union Iron Works with a maximum design heat input capacity of 48.4 MMBtu/hr firing #6 fuel oil, with a maximum sulfur content of 2.0% by weight. The boiler was installed in 1963, prior to the New Source Performance Standards (NSPS) Subpart Dc applicability date. The boiler fires #6 fuel oil and propane during startup.

NOx RACT

FMC is subject to *Reasonably Available Control Technology for Facilities that Emit Nitrogen Oxides*, 06-096 CMR 138 (effective August 4, 1994). 06-096 CMR 138 requires that every source which has the potential to emit equal or greater than 100 tons per year apply NOx RACT to their applicable NOx emissions.

Boiler #3 is classified as a Mid-Sized Boiler and is subject to 06-096 CMR 138, Section 3(B)(1) which states:

“The NO_x emission rate for mid-size boilers licensed to fire oil shall not exceed 0.30 pounds per million BTU based on a one hour average **unless the facility installs Low NO_x burners or equivalent strategies.**”

Boiler #3 is equipped with low-NOx Burners in compliance with NOx RACT.

Boilers #4 and #5 are classified as Small Boilers and are subject to the tune-up and recordkeeping requirements found in 06-096 CMR 138, Section 3(L). FMC recently replaced the mechanical controls on the boilers with automatic control systems. Optimum oxygen settings have been determined for the boilers at various boilers loads and the settings have been input into FMC’s distributed

computer system (DCS). Oxygen levels are monitored and fed to the DCS. The DCS directs the automatic control system to adjust the fuel and air mix in the boilers on an on-going basis. The Department has determined that operation of the automatic control systems fulfill the tune-up and recordkeeping requirements for Boilers #4 and #5. The oxygen monitors shall be calibrated annually in a method consistent with the manufacturer's recommendations.

After the implementation of NOx RACT, FMC conducted stack testing for two consecutive years as outlined in Air Emission License A-366-72-H-A (2/7/1996), and established NOx emission limits with the Department as documented in A-366-70-A-I (7/28/2002).

Streamlining

FMC BioPolymer accepts streamlining for opacity requirements for boilers No. 3, 4, and 5. 06-096 CMR 101, Section 2(D) of the Department's regulations and Best Practical Treatment (BPT) requirements are applicable. The Best Practical Treatment (BPT) opacity limit established in A-366-70-A-I is more stringent. Therefore, only the more stringent BPT opacity limit is included in this license.

Periodic Monitoring

Periodic monitoring for boilers No. 3, 4, and 5 shall consist of the following:

1. Fuel use data for each boiler as recorded by fuel flow meters.
2. Records from the fuel supplier documenting type of fuel delivered, sulfur content, nitrogen content by weight (as documented by supplier, otherwise FMC shall test once per calendar quarter), and heat content of the fuel.
3. Boiler #3 shall stack test every even year for NOx.
4. Stack testing for Boilers #4 and #5 shall be performed when requested by the Department.
5. Records of annual oxygen monitor calibrations.

D. Emergency Generators

The emergency diesel engine (Unit #23) and the Cummins Generator (Unit #26) were manufactured in 1993 and 1994 and have design capacities of 6.0 MMBtu/hr and 1.54 MMBtu/hr respectively.

In order for FMC to participate in the Demand Response Program, they need to start their generators and run them prior to, or in lieu of, loss of off-site power. FMC will only operate in this manner if there is a documented request from ISO New England under their emergency OP-4 procedures. ISO New England's OP-4 Action 12 is a procedure which establishes criteria and guidelines for actions during capacity deficiencies. OP-4 is implemented when there is determined to be a serious threat to the integrity of the bulk power system. Therefore, the

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Department has agreed to redefine the term “emergency” as it applies to FMC generators to include ISO New England OP-4 emergencies.

“Emergency Generator”, as it applies to FMC, is defined as any stationary internal combustion engine whose operation is limited to emergency situations, required testing and maintenance, and ISO New England OP-4 emergencies. Examples include stationary engines used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary engines used to pump water in the case of fire or flood.

Streamlining

1. 06-096 CMR 106 regulates fuel sulfur content, however the BPT sulfur limit is more stringent. Reference BPT/BACT in A-366-70-A-I (6/28/2002) for Unit #23 and A-366-77-1-M (2/13/2009) for Unit #26.
2. 06-096 CMR 101 is applicable for visible emissions; however the BPT opacity limit is more stringent. Reference BPT/BACT in A-366-70-A-I (6/28/2002) for Unit #23 and A-366-77-1-M (2/13/2009) for Unit #26.

BPT for the Emergency Generators shall also consist of the following:

1. The Emergency Generators shall each be limited to 500 hr/yr of operation based on a 12 month rolling total. Compliance shall be demonstrated by a records of all generator operating hours. These operational limits satisfy the NO_x RACT exemption found in 06-096 CMR 138, Section 1(B)(1) for units emitting fewer than 10 tons of NO_x per year.
2. 06-096 CMR 103 regulates PM emission limits for Unit #23. A PM limit for Unit #26 was established in A-366-77-1-M (2/13/2009). The PM₁₀ limits are derived from the PM limits.
3. NO_x, CO, and VOC emission limits are based upon AP-42 data dated 10/96.
4. Each Emergency Generator shall be limited to a total of 50 hours of operation per calendar year in response to OP-4 emergencies.

Periodic Monitoring

Periodic monitoring shall consist of recordkeeping of hours of operation and fuel purchase records documenting the type of fuel received. FMC shall also keep records documenting requests for OP-4 emergency response from ISO New England.

Based on the type of fuel used and hours of operation of the Emergency Generators and operating in a manner consistent with good air pollution control practices, it is unlikely the Emergency Generators will exceed the opacity limits.

Therefore, periodic monitoring by the source in the form of visible emission testing is not required. However, neither the EPA nor the State is precluded from performing its own testing and may take enforcement action for any violations discovered.

E. Emission Units #1 - #19, Process Equipment

The following process equipment is controlled to prevent particulate matter emissions and volatile organic compound emissions.

Source #, Description	Control Equipment, % Efficiency, Pollutants Controlled
#1, Lime Unloading	Baghouse, 99%, (PM)
#3, Weed Cleaning – shredders, screen, conveyors, bins	Baghouse, 99%, (PM)
#4, Perlite Unloading	Baghouse, 99%, (PM)
#5, Tank Vent Filtration system	Cyclone, 80%, (PM)
#6, Hydrocolloids Isopropanol Process	Three Scrubbers, 85% (VOC) & Belt Dryer Cyclone (PM)
#7, Vacuum System for Belt Dryer Area	Baghouse, 99% (PM)
#8, Grinder Feed System	Baghouse, 99%, (PM)
#9, A44 Grinder System	Baghouse, 99%, (PM)
#10, ACM 60 Grinder System	Baghouse, 99%, (PM)
#11, Tote Dumper System	Baghouse, 99%, (PM)
#12, Blending Product Conveyor System	Baghouse, 99%, (PM)
#13, Blending Area and Vacuum Systems	2 Baghouses, 99%, (PM)
#14, Off Line Feeding System	Baghouse, 99%, (PM)
#15, ACM-10 Fine Grinding	Baghouse, 99%, (PM)
#16, Specialty Blender System	Baghouse, 99%, (PM)
#17, Agarose Isopropanol Process	Scrubber, 90%, (VOC)
#18, Agarose Grinding process	Baghouse, 99%, (PM)
#19, Pilot Plant Area	Scrubber, 90%, (VOC)

Streamlining

- 06-096 CMR 101 is applicable for visible emissions; however the BPT opacity limit is more stringent. Reference BPT in A-366-70-A-I (6/28/2002).
- General Process Source Particulate Emission Standard* 06-096 CMR 105 (last amended November 3, 1990) contains applicable PM emission limitations.

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Periodic Monitoring

Periodic monitoring shall consist of recordkeeping of fabric filter maintenance, and all process and control equipment malfunctions that might increase emissions.

Based on maintenance and the use of baghouses and operating in a manner consistent with good air pollution control practices, it is unlikely the process equipment will exceed the opacity limits. Therefore, periodic monitoring for opacity in the form of visible emissions is not required. However, the EPA and the State may perform its own testing or require the source to perform testing, and either EPA and/or the State may take enforcement action for any violations discovered.

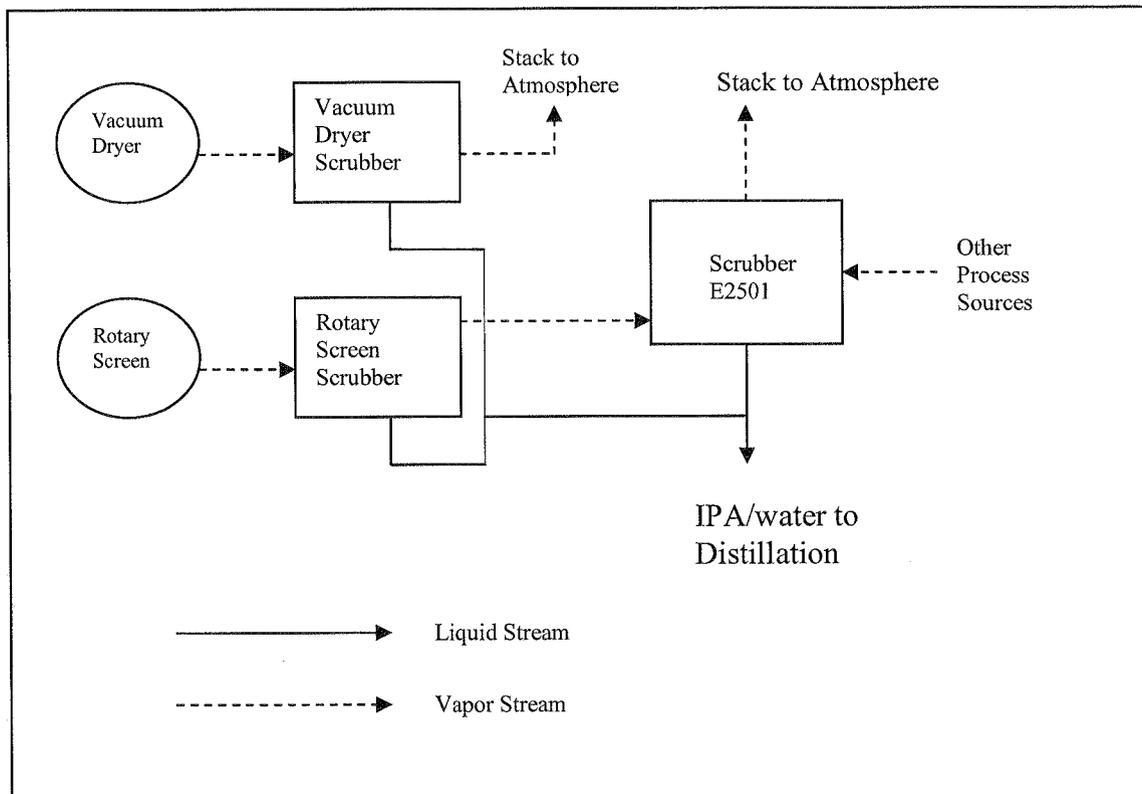
VOC RACT

Reasonably Available Control Technology for Facilities that Emit Volatile Organic Compounds (VOC RACT) 06-096 CMR 134 (last amended February 15, 1995), requires facilities that have the potential to emit forty (40) tons or more of VOC per calendar year apply VOC RACT to their applicable VOC emissions.

In accordance with 06-096 CMR 134 Section 3(A)(1), Option A, the owner or operator must install and operate a system to capture and control VOC emissions such that the total VOC emissions do not exceed, on a daily basis, fifteen (15) percent of the uncontrolled daily VOC emissions. FMC's use of wet scrubbers meets the requirements of 06-096 CMR 134 by controlling VOC emissions such that the VOC emissions do not exceed, on a daily basis, (15) percent of the uncontrolled daily VOC emissions.

The scrubbers used for control in the Hydrocolloids Process are arranged in the following manner:

Hydrocolloids Scrubber System



Periodic Monitoring

FMC demonstrates and documents compliance of 85% control efficiency utilizing a material balance approach. Records will be kept including the amount of IPA purchased annually, daily 24 hour wastewater composite analysis, and the amount of IPA used in coagulation. VOC control efficiency is based on records of IPA used, purchased and lost to wastewater and mass balance calculations. Compliance is certified based on a monthly recordkeeping program, as outlined below.

VOC (IPA) Emissions and Control Efficiency Calculations

The IPA emissions calculations are based on a process mass balance to account for total emissions to the atmosphere. This accounts for all point source and fugitive losses.

The calculations are based on the total amount of IPA used, i.e., cycled through the processes, and the amount of IPA purchased throughout the year, adjusted for beginning and ending inventories. Also, since IPA is purchased at a concentration of 99% all purchases are converted to 99% concentration for the calculations.

To determine compliance with the 85% facility-wide VOC control efficiency requirement of 06-096 CMR 134, VOC control efficiency for the FMC facility is determined by comparing the total amount of VOC emissions to the total amount of IPA used. This is expressed as a percent, as follows:

$$\text{VOC Control Efficiency \%} = \frac{\text{Total IPA Usage}^{(1)} - \text{Total VOC Emissions}^{(2)}}{\text{Total IPA Usage}^{(1)}} \times 100$$

Each of the inputs to this equation is further described below.

(1) Total IPA Usage - Total IPA usage is measured by the total amount of IPA (80% concentration) cycled through the processes. The amount used is measured by two flow meters; in the hydrocolloids process and pilot plant, and in the agarose process. Total IPA usage is calculated by multiplying the total flow, as measured by the flow meters, by 0.8 to remove the water component:

$$\text{IPA usage} = \text{Total flow} \times 0.8$$

(2) Total VOC Emissions - The total amount of VOC emissions from the facility is determined by calculating the total amount of IPA lost and subtracting the amount of IPA discharged to the wastewater stream:

$$\text{Total VOC Emissions} = \text{IPA lost}^{(2)(A)} - \text{IPA discharged to waste water}^{(2)(B)}$$

(2)(A) IPA Lost - The amount of IPA lost is determined by the actual number of gallons purchased, at a 99% concentration, adjusted for the beginning and ending inventories:

$$\text{IPA Lost} = \text{Gallons purchased} + \text{beginning inventory gallons} - \text{ending inventory gallons}$$

(2)(B) IPA Discharged to Waste Water - A small amount of IPA is discharged to the waste water system each day. This loss is quantified daily using a gas chromatograph and extrapolation.

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FMC will calculate the VOC control efficiency on a calendar month basis. Due to the difficulty in accurately measuring the inventory at any one time because of the many process variables (e.g., IPA concentrations, process temperatures, amount in process) daily calculations would not be sufficiently accurate for reporting purposes. Accuracy is improved when done over a 30-day period.

Usage will be recorded daily and monthly totals will be used for the calculation. IPA lost and VOC emissions can only be accurately determined monthly.

F. Compliance Assurance Monitoring (CAM)

40 CFR Part 64 requires that a major source required to obtain a part 70 Air License submit a Compliance Assurance Monitoring plan for each unit at the source subject to an emission limit that uses a control device to achieve compliance with the emission limit and that has potential to emit the pollutant prior to control at or above major source levels. The Hydrocolloids Process, the Agarose Process, and the Pilot Plant utilize scrubbers to control VOC, prior to which, these processes would have the potential to emit more than 100 tons per year of VOC. As such, CAM applies to these processes. For these processes, CAM shall consist of the following:

VOC CAM:

	Indicator #1
Indicator	Scrubber media flow
General Criteria	
Measurement Method	Flow meters
Indicator Range	Rotary Screen Scrubber ≥ 5 gal/min Vacuum Dryer Scrubber ≥ 2 gal/min Scrubber E2501 ≥ 15 gal/min Agarose Plant Scrubber ≥ 2 gal/min Pilot Plant Scrubber ≥ 3 gal/min If the flow rates drop below the above values, it is considered an excursion.
Performance Criteria	
Data Representativeness and QA/QC	Media Flow Meters shall be calibrated, maintained, and operated according to manufacturers specifications.
Monitoring Frequency	Once per shift.
Data Collection Procedure	Data shall be recorded and stored manually or electronically.

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PM CAM:

FMC also operates the following processes that are controlled by baghouses and, without such control, would each have the potential to emit more than 100 tons per year of PM.

1. Unit #1, Lime Unloading
2. Unit #3, Weed Cleaning
3. Unit #4, Perlite Unloading
4. Unit #8, Grinder Feed System
5. Unit #9, A44 Grinder System
6. Unit #10, ACM 60 Grinder System
7. Unit #11, Tote Dumper System
8. Unit #12, Blending Product Conveyor System
9. Unit #13, Blending Area and Vacuum System
10. Unit #14, Off Line Feeding System
11. Unit #15, ACM-10 Fine Grinding

For each of the processes, CAM shall consist of the following:

Indicator #1	
Indicator	Proper baghouse operation
General Criteria	
Measurement Method	Baghouse failure particulate detectors, in conjunction with operator observation. If a failure alarm sounds, and an operator observes a visible emission, the process is shut down until the baghouse is restored to normal operation.
Indicator Range	≤10% opacity. If the opacity is above this value on a six (6) minute block average basis, it is considered an excursion.
Performance Criteria	
Data Representativeness and QA/QC	Particulate detectors shall be maintained, calibrated, and operated as per manufacturers' specifications.
Monitoring Frequency	Continuously
Data Collection Procedure	Records documenting location, date and time of all alarms resulting in excursions, including maintenance and repairs to correct the problem.

Excursions from the VOC CAM and PM CAM indicator ranges shall only be considered violations if the emission limits specified in this license are exceeded.

G. Degreaser Units

FMC operates three solvent cleaners which are subject to the requirements of *Solvent Cleaners* 06-096 CMR 130 (last amended June 28, 2004). FMC shall operate and maintain the degreasers in accordance with the requirements set forth in this Chapter, including equipment and operation standards and compliance certification and recordkeeping procedures.

Periodic Monitoring

Periodic monitoring for the degreaser units shall consist of recordkeeping including records of solvent added and removed.

H. Gasoline Storage Tank

FMC utilizes a 1000 gallon fixed-roof gasoline storage tank. The tank is subject to the requirements in *Gasoline Dispensing Facilities Vapor Control*, 06-096 CMR 118 (last amended July 25, 1995). FMC does not exceed the 10,000 gallon per month threshold to qualify for Stage I status. Therefore, FMC is only subject to the requirements found in 06-096 CMR 118, Sections 3(A) and 9(B). Fuel delivery records shall be kept on a monthly and annual basis to demonstrate compliance with 06-096 CMR 118, Section 9(B). If FMC exceeds 5000 gallons of gasoline purchased in a month, FMC shall begin conducting monthly inventories to monitor monthly throughput.

I. Facility Emissions

1. FMC shall be limited to firing 10,000,000 gallons of #6 fuel oil in Boilers #3, #4, and #5 on a 12 month rolling total.
2. The Emergency Generators shall each be limited to 500 hours of operation on a 12 month rolling total.

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

	PM	PM₁₀	SO₂	NO_x	CO	VOC
Boilers	150	150	1570	375	25.0	8.0
Unit #23	0.2	0.2	0.1	4.8	1.3	0.1
Unit #26	0.1	0.1	0.1	1.7	0.4	0.1
Hydrocolloid, Agarose, and Pilot Plant Processes	-	-	-	-	-	426.0
Total TPY	150.3	150.3	1570.2	381.5	26.7	434.2

III. Air Quality Analysis

Modeling analysis performed by Department staff in December 1980 demonstrated that with 100% of formula GEP stack height, emissions from FMC, in conjunction with all other sources, do not violate ambient air quality standards. An additional ambient air quality analysis is not required for this Part 70 License renewal.

ORDER

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

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

The Department hereby grants the Part 70 License A-366-70-F-R pursuant to 06-096 CMR 140 and the preconstruction permitting requirements of 06-096 CMR 115 and subject to the standard and special conditions below.

All federally enforceable and State-only enforceable conditions in existing air licenses previously issued to FMC pursuant to the Department's preconstruction permitting requirements in 06-096 CMR 108 or 115 have been incorporated into this Part 70 license, except for such conditions that MEDEP has determined are obsolete, extraneous or otherwise environmentally insignificant, as explained in the findings of fact accompanying this permit. As such the conditions in this license supercede all previously issued air license conditions.

Federally enforceable conditions in this Part 70 license must be changed pursuant to the applicable requirements in 06-096 CMR 115 for making such changes and pursuant to the applicable requirements in 06-096 CMR 140.

For each standard and special condition which is state enforceable only, state-only enforceability is designated with the following statement: **Enforceable by State-only.**

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License 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 STATEMENTS

- (1) 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 CMR 140]

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- (2) The Part 70 license does not convey any property rights of any sort, or any exclusive privilege; [06-096 CMR 140]
- (3) All terms and conditions are enforceable by EPA and citizens under the CAA unless specifically designated as state enforceable. [06-096 CMR 140]
- (4) 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 CMR 140]
- (5) Notwithstanding any other provision 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 CMR 140]
- (6) Compliance with the conditions of this Part 70 license shall be deemed compliance with any Applicable requirement as of the date of license issuance and is deemed a permit shield, provided that:
 - (A) Such Applicable and state requirements are included and are specifically identified in the Part 70 license, except where the Part 70 license term or condition is specifically identified as not having a permit shield; or
 - (B) The Department, in acting on the Part 70 license application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the Part 70 license includes the determination or a concise summary, thereof.

Nothing in this section or any Part 70 license shall alter or effect the provisions of Section 303 of the CAA (emergency orders), including the authority of EPA under Section 303; the liability of an owner or operator of a source for any violation of Applicable requirements prior to or at the time of permit issuance; or the ability of EPA to obtain information from a source pursuant to Section 114 of the CAA.

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The following requirements have been specifically identified as not applicable based upon information submitted by the licensee in an application dated October 15, 1997.

SOURCE	CITATION	DESCRIPTION	BASIS FOR DETERMINATION
Boilers #3, #4 and #5	40 CFR Part 60, Subpart Dc	Standards of Performance for Small Industrial-Commercial Steam Generating Units	Commenced construction prior to June 9, 1989.
Hydrocolloids IPA Process (Emission Unit #6) and Agarose alcohol process (Emission Unit #17)	40 CFR Part 60, Subpart NNN	Standards of Performance for VOC Emissions from Synthetic Organic Chemical Manufacturing Industry Distillation Operations	Standards do not apply for FMC's Hydrocolloids IPA use, recovery, distillation and reuse processes
Facility	40 CFR Part 63	MACT Standards for sources of hazardous air pollutants	FMC is not a major HAP source.

- (7) The Part 70 license shall be reopened for cause by the Department or EPA, prior to the expiration of the Part 70 license, if:
- A. Additional Applicable requirements under the CAA become applicable to a Part 70 major source with a remaining Part 70 license term of 3 or more years. However, no opening is required if the effective date of the requirement is later than the date on which the Part 70 license is due to expire, unless the original Part 70 license or any of its terms and conditions has been extended pursuant to 06-096 CMR 140;
 - B. Additional requirements (including excess emissions requirements) become applicable to a Title IV source under the acid rain program. Upon approval by EPA, excess emissions offset plans shall be deemed to be incorporated into the Part 70 license;
 - C. The Department or EPA determines that the Part 70 license contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the Part 70 license; or
 - D. The Department or EPA determines that the Part 70 license must be revised or revoked to assure compliance with the Applicable requirements.

The licensee shall furnish to the Department within a reasonable time any information that the Department may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the Part 70 license or to determine compliance with the Part 70 license.

[06-096 CMR 140]

- (8) No license revision or amendment shall be required, under any approved economic incentives, marketable licenses, emissions trading and other similar programs or processes for changes that are provided for in the Part 70 license. [06-096 CMR 140]

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 and this license (38 M.R.S.A. §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 140; [06-096 CMR 140]
- (3) 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 CMR 140]
Enforceable by State-only
- (4) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to 38 M.R.S.A. §353.
- (5) The licensee shall maintain and operate all emission units and air pollution control systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions; [06-096 CMR 140]
Enforceable by State-only
- (6) The licensee shall retain records of all required monitoring data and support information for a period of at least six (6) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the Part 70 license. The records shall be submitted to the Department upon written request or in accordance with other provisions of this license; [06-096 CMR 140]

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(7) The licensee shall comply with all terms and conditions of the air emission license. The submission of notice of intent to reopen for cause by the Department, 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 the renewal of a Part 70 license or amendment shall not stay any condition of the Part 70 license. [06-096 CMR 140]

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

A. perform stack testing 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;
2. to demonstrate compliance with the applicable emission standards; or
3. 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 CFR 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 CMR 140]

Enforceable by State-only

(9) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicates 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 CFR Part 60 or other method approved or required by the Department; and

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- 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 CMR 140]

Enforceable by State-only

(10) The licensee shall maintain records of all deviations from license requirements. Such deviations shall include, but are not limited to malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emission unit itself that is not consistent with the terms and conditions of the air emission license.

- A. The licensee shall notify the Commissioner within 48 hours of a violation of any emission standard and/or a malfunction or breakdown in any component part that causes a violation of any emission standard, and shall report the probable cause, corrective action, and any excess emissions in the units of the applicable emission limitation;
- B. The licensee shall submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component part causes a violation of any emission standard, together with any exemption requests.

Pursuant to 38 M.R.S.A. § 349(9), the Commissioner may exempt from civil penalty an air emission in excess of license limitations if the emission occurs during start-up or shutdown or results exclusively from an unavoidable malfunction entirely beyond the control of the licensee and the licensee has taken all reasonable steps to minimize or prevent any emission and takes corrective action as soon as possible. There may be no exemption if the malfunction is caused, entirely or in part, by poor maintenance, careless operation, poor design or any other reasonably preventable condition or preventable equipment breakdown. The burden of proof is on the licensee seeking the exemption under this subsection.

C. All other deviations shall be reported to the Department in the facility's semiannual report.

[06-096 CMR 140]

(11) Upon the written request of 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 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 CMR 140]

(12) The licensee shall submit semiannual reports of any required periodic monitoring. All instances of deviations from Part 70 license requirements must be clearly identified in such reports. All required reports must be certified by a responsible official. [06-096 CMR 140]

(13) The licensee shall submit a compliance certification to the Department and EPA at least annually, or more frequently if specified in the applicable requirement or by the Department. The compliance certification shall include the following:

A. The identification of each term or condition of the Part 70 license that is the basis of the certification;

B. The compliance status;

C. Whether compliance was continuous or intermittent;

D. The method(s) used for determining the compliance status of the source, currently and over the reporting period; and

E. Such other facts as the Department may require to determine the compliance status of the source;

[06-096 CMR 140]

SPECIFIC CONDITIONS

(14) Boilers #3, #4, and #5 (Units #20, #21, and #22)

A. Boiler #3, #4, and #5 shall be limited to firing #6 fuel oil with a sulfur content not to exceed 2.0%. FMC shall keep records from the supplier documenting type of fuel delivered, sulfur content, and nitrogen content by weight (as documented by supplier, otherwise FMC shall test once per calendar quarter), and heat content of the fuel. [A-366-70-A-I (6/28/2002), BPT]

B. FMC shall be limited to firing 10,000,000 gallons of #6 fuel oil on a 12 month rolling total in boilers #3, #4, and #5. FMC shall operate fuel flow meters on Boilers #3, #4 and #5 to demonstrate compliance. Records detailing fuel

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usage in each boiler shall be maintained on a monthly basis, in addition to a 12-month rolling total. [A-366-70-A-I (6/28/2002), BPT]

- C. FMC may fire propane or lighter fuel oil only during start-up. [A-366-70-A-I (6/28/2002), BPT]
- D. FMC shall operate Boiler #3 with low NOx burners. [06-096 CMR 138]
- E. FMC shall operate Boilers #4 and #5 with low NOx burners or an equivalent control strategy. [A-366-70-A-I (6/28/2002), BPT] **Enforceable by State-Only**
- F. To meet the annual tune-up requirements in 06 096 CMR 138, section 3(L), FMC shall operate automatic boiler control systems on Boilers #4 and #5. The automatic control systems shall periodically verify that the boilers operate at the optimum excess oxygen settings and adjust the air/fuel mixtures as necessary on an on-going basis. FMC shall calibrate the oxygen monitors on an annual basis in a method consistent with the manufacturer's recommendations. [06-096 CMR 138, A-366-70-A-I (6/28/2002)]

G. Emissions from Boiler #3 shall not exceed the following limits:

<u>Pollutant</u>	<u>Lb/MMBtu</u>	<u>Origin and Authority</u>	<u>Enforceability</u>
PM	0.20	06-096 CMR 103	-
NO _x (<0.45% nitrogen)*	0.50	A-366-70-A-I (6/28/2002), BPT	Enforceable by State-only
NO _x (>0.45% nitrogen)*	0.55	A-366-70-A-I (6/28/2002), BPT	Enforceable by State-only

* denotes the nitrogen content in the fuel.

<u>Pollutant</u>	<u>Lb/hr</u>	<u>Origin and Authority</u>	<u>Enforceability</u>
PM	17.0	A-366-70-A-I (6/28/2002), BPT	Enforceable by State-only
PM ₁₀	17.0	A-366-70-A-I (6/28/2002), BPT	Enforceable by State-only
SO ₂	180	A-366-70-A-I (6/28/2002), BPT	Enforceable by State-only
NO _x (<0.45% nitrogen)	42.8	A-366-70-A-I (6/28/2002), BPT	Enforceable by State-only
NO _x (>0.45% nitrogen)	47.1	A-366-70-A-I (6/28/2002), BPT	Enforceable by State-only
CO	2.85	A-366-70-A-I (6/28/2002), BPT	Enforceable by State-only
VOC	0.73	A-366-70-A-I (6/28/2002), BPT	Enforceable by State-only

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H. Emissions from Boiler #4 shall not exceed the following limits:

<u>Pollutant</u>	<u>Lb/MMBtu</u>	<u>Origin and Authority</u>	<u>Enforceability</u>
PM	0.20	06-096 CMR 103	-
NO _x	0.50	A-366-70-A-I (6/28/2002), BPT	Enforceable by State-only

<u>Pollutant</u>	<u>Lb/hr</u>	<u>Origin and Authority</u>	<u>Enforceability</u>
PM	9.72	A-366-70-A-I (6/28/2002), BPT	Enforceable by State-only
PM ₁₀	9.72	A-366-70-A-I (6/28/2002), BPT	Enforceable by State-only
SO ₂	102.1	A-366-70-A-I (6/28/2002), BPT	Enforceable by State-only
NO _x	24.3	A-366-70-A-I (6/28/2002), BPT	Enforceable by State-only
CO	1.62	A-366-70-A-I (6/28/2002), BPT	Enforceable by State-only
VOC	0.4	A-366-70-A-I (6/28/2002), BPT	Enforceable by State-only

I. Emissions from Boiler #5 shall not exceed the following limits:

<u>Pollutant</u>	<u>Lb/MMBtu</u>	<u>Origin and Authority</u>	<u>Enforceability</u>
PM	0.20	06-096 CMR 103	-
NO _x	0.50	A-366-70-A-I (6/28/2002), BPT	Enforceable by State-only

<u>Pollutant</u>	<u>Lb/hr</u>	<u>Origin and Authority</u>	<u>Enforceability</u>
PM	9.70	A-366-70-A-I (6/28/2002), BPT	Enforceable by State-only
PM ₁₀	9.70	A-366-70-A-I (6/28/2002), BPT	Enforceable by State-only
SO ₂	101.7	A-366-70-A-I (6/28/2002), BPT	Enforceable by State-only
NO _x	24.2	A-366-70-A-I (6/28/2002), BPT	Enforceable by State-only
CO	1.62	A-366-70-A-I (6/28/2002), BPT	Enforceable by State-only
VOC	0.4	A-366-70-A-I (6/28/2002), BPT	Enforceable by State-only

J. FMC shall operate each boiler such that the visible emissions from stack #5-1 do not exceed 30% opacity on a six (6) minute block average, for more than two (2), six (6) minute block averages in a 3-hour block period. [A-366-70-A-I (6/28/2002), BPT]

K. For Boiler #3 compliance with the following limit shall be demonstrated by a stack test in accordance with this license:

<u>Pollutant</u>	<u>Limits</u>	<u>Method</u>	<u>Schedule</u>
NO _x	lb/MMBtu	Method 7E	Every Even Calendar Year

Test Methods are in accordance with 40 CFR Part 60, Appendix A. [A-366-70-A-I (6/28/2002), BPT] **Enforceable by State-Only.**

(15) **Emergency Generators (Unit #23 and Unit #26)**

- A. The Emergency Generators shall fire only diesel fuel with a sulfur content not to exceed 0.05% by weight. Records from the supplier documenting type and sulfur content of the fuel shall be kept for compliance purposes. [A-366-70-A-I (6/28/2002), A-366-77-1-M (2/13/2009), BPT]
- B. The Emergency Generators shall each not exceed 500 hours per year of operation (12-month rolling total). Hour meters shall be installed on the units, and records shall be kept detailing hours of operation. [06-096 CMR 138]
- C. Emissions from the Emergency Generators shall not exceed the following:

Unit #23 [06-096 CMR 140, BPT]

	PM	PM ₁₀	SO ₂	NO _x	CO	VOC
lb/MMBtu	0.12	-	-	-	-	-
lb/hr (Enforceable by State only)	0.72	0.72	0.31	19.20	5.1	0.54

Unit #26 [A-366-77-1-M, BPT]

	PM	PM ₁₀	SO ₂	NO _x	CO	VOC
lb/MMBtu	0.12	-	-	-	-	-
lb/hr (Enforceable by State only)	0.18	0.18	0.08	6.79	1.46	0.54

- D. Unit #23 shall not exceed 30% opacity on a six (6) minute block average, except for no more than two (2), six (6) minute block averages in a 3-hour period. [A-366-70-A-I (6/28/2002), BPT]
- E. Unit #26 shall not exceed 20% opacity on a six (6) minute block average, except for no more than two (2), six (6) minute block averages in a 3-hour period. [A-366-77-1-M (2/13/2009), BPT]
- F. FMC shall only operate the emergency generators for periods of maintenance and readiness testing, emergencies when off-site power is unavailable, and ISO New England OP-4 emergencies. [06-096 CMR 140, BPT]
Enforceable by State-only
- G. FMC shall keep records for OP-4 emergencies which include the date, which generators were operated, start time and stop time for each generator, and documentation that FMC was contacted by ISO New England and asked to reduce consumption as part of an OP-4 event. [06-096 CMR 140, BPT]
Enforceable by State-only

H. Each Emergency Generator shall be limited to a total of 50 hours of operation per calendar year in response to OP-4 emergencies.
[06-096 CMR 140, BPT] **Enforceable by State-only**

(16) **Process Equipment Emitting Particulate Matter**

A. FMC shall operate and maintain baghouses for particulate matter control on the following:

1. Unit #1, Lime Unloading
 2. Unit #3, Weed Cleaning –Shredders, Screen, Conveyers, Bins
 3. Unit #4, Perlite Unloading
 4. Unit #8, Grinder Feed System
 5. Unit #9, A44 Grinder System
 6. Unit #10, ACM 60 Grinder System
 7. Unit #11, Tote Dumper System
 8. Unit #12, Blending Product Conveyor System
 9. Unit #13, Blending Area and Vacuum Systems
 10. Unit #14, Off Line Feeding System
 11. Unit #15, ACM-10 Fine Grinding
 12. Unit #16, Specialty Blender
 13. Unit #18, Agarose Grinding
- [A-366-70-A-I (6/28/2002), BPT]

B. Visible emissions from the baghouses on each of the sources in condition 16(A) shall not exceed 10% opacity on a six (6) minute block average basis, except for no more than one six-minute block average in any one-hour period.
[A-366-70-A-I (6/28/2002), BPT]

C. FMC shall take corrective action if visible emissions from the baghouses exceed 5% opacity. [A-366-70-A-I (6/28/2002), BPT] **Enforceable by State-Only**

D. FMC shall maintain records documenting all equipment malfunctions and all maintenance on each baghouse. FMC BioPolymer shall keep records documenting the location, date, and nature of all bag failures. A bag failure or other malfunction of a baghouse shall be a violation only if the limits in paragraph B of this condition are exceeded. [A-366-70-A-I (6/28/2002), BPT]

E. FMC shall operate broken bag alarms on all baghouses in paragraph A of this condition. [A-366-70-A-I (6/28/2002), BPT]

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(17) **Emission Unit #5, Tank Vent Filtration System**

- A. FMC shall operate and maintain a wet cyclone for control of Perlite emissions from the tank vent filtration system. [A-366-70-A-I (6/28/2002), BPT]
- B. Visible emissions from the cyclone shall not exceed 20% opacity on a six (6) minute block average basis. [A-366-70-A-I (6/28/2002), BPT]
- C. FMC shall maintain records documenting all equipment malfunctions and all maintenance on the cyclone. The records shall include the date and nature of all cyclone malfunctions. [A-366-70-A-I (6/28/2002), BPT]

(18) **VOC emissions and VOC RACT**

- A. FMC shall maintain and operate five wet scrubbers: Scrubber E2501, the Vacuum Dryer Scrubber, the Rotary Screen Scrubber, the Agarose Plant Scrubber, and the Pilot Plant Scrubber for VOC control. The scrubbers shall be operated such that VOC emissions do not exceed 15% of the uncontrolled VOC emissions, as determined under paragraph E of this condition. [A-366-70-C-A (3/22/2005), 06-096 CMR 134, BPT]
- B. FMC shall install, maintain and operate the following parameter monitors: [A-366-70-C-A (3/22/2005), 06-096 CMR 134, BPT]

Emission Unit	Items to be Monitored	Record
Scrubber E2501	Scrubber media flow	Once per shift
Rotary Screen Scrubber	Scrubber media flow	Once per shift
Vacuum Dryer Scrubber	Scrubber media flow	Once per shift
Agarose Plant Scrubber	Scrubber media flow	Once per shift
Pilot Plant Packed Tower	Scrubber media flow	Once per shift

- C. FMC shall maintain records documenting all equipment malfunctions and all maintenance on all scrubbers and packed tower absorbers used at the FMC facility. The records shall include the date and nature of all control equipment malfunctions or maintenance. [A-366-70-C-A (3/22/2005), 06-096 CMR 134, BPT]
- D. FMC shall maintain records of IPA purchased annually, daily 24-hour wastewater composite analysis of IPA concentration, amount of IPA used in coagulation, and the amount of IPA in inventory at the beginning and end of each month. Material balances shall be calculated from these records as set forth in paragraph E of this condition to demonstrate and document compliance of 85% control efficiency for total facility VOC emissions. [06-096 CMR 134]

- E. FMC shall achieve facility-wide VOC control efficiency of 85% or greater on a calendar monthly basis. FMC BioPolymer shall perform monthly mass balance calculations to demonstrate VOC control on a 12-month rolling average. Compliance with this requirement shall be determined using the following formula: [06-096 CMR 134]

$$\text{VOC Control Efficiency \%} = \frac{\text{Total IPA Usage} - \text{Total VOC Emissions}}{\text{Total IPA Usage}} \times 100$$

Where:

Total IPA usage = (Total measurement flow) x (0.8)

Total VOC Emissions = IPA lost – IPA discharged to waste water

And:

IPA Lost = Gallons purchased + beginning inventory gallons – ending inventory gallons

IPA discharged to waste water = IPA measured in still bottoms in the wastewater, as determined using a gas chromatograph and extrapolation.

(19) **Gasoline Storage Tank**

- A. The fill pipe shall extend within 6 inches of the bottom of the gasoline storage tank. [06-096 CMR 118]
B. The licensee shall maintain monthly and annual purchase records for the Gasoline Storage Tank. [06-096 CMR 118]
C. If FMC exceeds 5000 gallons of gasoline purchased in a month, FMC shall begin conducting monthly inventories to monitor monthly throughput. [06-096 CMR 140, BPT]

(20) **Parts Washer**

Parts washers at FMC are subject to *Solvent Cleaners*, 06-096 CMR 130 (last amended June 28, 2004).

- A. FMC shall keep records of the amount of solvent added to each parts washer. [06-096 CMR 115, BPT]
B. The following are exempt from the requirements of 06-096 CMR 130 [06-096 CMR 130]:
1. Solvent cleaners using less than two liters (68 oz) of cleaning solvent with a vapor pressure of 1.00 mmHg, or less, at 20° C (68° F);

2. Wipe cleaning; and,
 3. Cold cleaning machines using solvents containing less than or equal to 5% VOC by weight.
- C. The following standards apply to cold cleaning machines that are applicable sources under 06-096 CMR 130.
1. FMC shall attach a permanent conspicuous label to each unit summarizing the following operational standards [06-096 CMR 130]:
 - (i) Waste solvent shall be collected and stored in closed containers.
 - (ii) Cleaned parts shall be drained of solvent directly back to the cold cleaning machine by tipping or rotating the part for at least 15 seconds or until dripping ceases, whichever is longer.
 - (iii) Flushing of parts shall be performed with a solid solvent spray that is a solid fluid stream (not a fine, atomized or shower type spray) at a pressure that does not exceed 10 psig. Flushing shall be performed only within the freeboard area of the cold cleaning machine.
 - (iv) The cold cleaning machine shall not be exposed to drafts greater than 40 meters per minute when the cover is open.
 - (v) Sponges, fabric, wood, leather, paper products and other absorbent materials shall not be cleaned in the degreaser.
 - (vi) When a pump-agitated solvent bath is used, the agitator shall be operated to produce no observable splashing of the solvent against the tank walls or the parts being cleaned. Air agitated solvent baths may not be used.
 - (vii) Spills during solvent transfer shall be cleaned immediately. Sorbent material shall be immediately stored in covered containers.
 - (viii) Work area fans shall not blow across the opening of the degreaser unit.
 - (ix) The solvent level shall not exceed the fill line.
 2. The remote reservoir cold cleaning machine shall be equipped with a perforated drain with a diameter of not more than six inches. [06-096 CMR 130]
- (21) **Fugitive Particulate Matter Emissions**
Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed an opacity of 20 percent, except for no more than five (5) minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual fifteen (15)-second opacity observations which exceed 20 percent in any one (1) hour. [06-096 CMR 101]

(22) **General Process Sources**

Visible emissions from any general process source shall not exceed an opacity of 20% on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 1-hour period. [06-096 CMR 101]

(23) **Compliance Assurance Monitoring (CAM)**

A. FMC operates wet scrubbers to meet VOC CAM for the Hydrocolloid, Agarose, and Pilot Plant processes.
 [40 CFR Part 64]:

VOC CAM shall consist of the following:

	Indicator #1
Indicator	Scrubber media flow
General Criteria	
Measurement Method	Flow meters
Indicator Range	Rotary Screen Scrubber ≥ 5 gal/min Vacuum Dryer Scrubber ≥ 2 gal/min Scrubber E2501 ≥ 15 gal/min Agarose Plant Scrubber ≥ 2 gal/min Pilot Plant Scrubber ≥ 3 gal/min If the flow rates drop below the above values, it is considered an excursion.
Performance Criteria	
Data Representativeness and QA/QC	Media Flow Meters shall be calibrated, maintained, and operated according to manufacturers specifications.
Monitoring Frequency	Once per shift.
Data Collection Procedure	Data shall be recorded and stored manually or electronically.

B. FMC shall operate baghouses to meet PM CAM for the following equipment
 [40 CFR Part 64]:

1. Unit #1, Lime Unloading
2. Unit #3, Weed Cleaning
3. Unit #4, Perlite Unloading
4. Unit #8, Grinder Feed System
5. Unit #9, A44 Grinder System
6. Unit #10, ACM 60 Grinder System
7. Unit #11, Tote Dumper System
8. Unit #12, Blending Product Conveyor System
9. Unit #13, Blending Area and Vacuum System

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10. Unit #14, Off Line Feeding System
11. Unit #15, ACM-10 Fine Grinding

For each of the processes, PM CAM shall consist of the following:

Indicator #1	
Indicator	Proper baghouse operation
General Criteria	
Measurement Method	Baghouse failure particulate detectors, in conjunction with operator observation. If a failure alarm sounds, and an operator observes a visible emission, the process is shut down until the baghouse is restored to normal operation.
Indicator Range	≤10% opacity. If the opacity is above this value on a six (6) minute block average basis, it is considered an excursion.
Performance Criteria	
Data Representativeness and QA/QC	Particulate detectors shall be maintained, calibrated, and operated as per manufacturers' specifications.
Monitoring Frequency	Continuously
Data Collection Procedure	Manual records documenting location, date and time of all alarms resulting in excursions, including maintenance and repairs to correct the problem.

- C. Any excursion shall be reported on semiannual reports. If excursions occur, FMC must also certify intermittent compliance with the emission limits for the control device monitored on their annual compliance certification. Excursions from the VOC CAM and PM CAM indicator ranges shall only be considered violations if the emission limits specified in this license are exceeded. [40 CFR 64]
- D. FMC shall restore normal operation of the control equipment as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. [40 CFR 64.7.d]
- E. FMC shall operate and monitor the control equipment within the ranges established by the CAM plan outlined in sections A and B above. Prior to making any changes to the approved CAM plan, FMC shall notify the Department and, if necessary, submit a proposed modification to this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters. [40 CFR 64.7.e]

(24) **Monitoring and Recordkeeping Requirements**

[06-096 CMR 140]

The following are identified as Periodic Monitors:

1. Fuel flow for Boilers #3, #4 and #5.
2. Records from #6 fuel oil supplier documenting:
 - a. Type of fuel
 - b. Sulfur content
 - c. Nitrogen content by weight (as documented by supplier, otherwise FMC shall test once per calendar quarter)
 - d. Heat content of the fuel
3. #3 Boiler shall stack test every even year for NOx.
4. Records from the Diesel Fuel supplier documenting type and sulfur content of the fuel.
5. Records of annual calibration of the oxygen monitors serving Boilers #4 and #5.
6. Records documenting hours of operation for each Emergency Generator. Records should include whether operation was for emergency or OP-4 response purposes.
7. Records documenting requests for OP-4 emergency response from ISO New England.
8. Maintenance records for baghouses.
9. Baghouse Failure Alarm (particulate detector)
10. Monthly and annual IPA purchase records.
11. Daily IPA concentration composite wastewater analysis.
12. IPA usage in Hydrocolloids and Pilot Plant processes.
13. IPA usage in Agarose process.
14. Solvent usage in Degreaser Units.
15. Monthly and annual purchase records in gasoline storage tank.

(25) **Semiannual Reporting** [06-096 CMR 140]

- A. The licensee shall submit semiannual reports every six months to the Bureau of Air Quality. The semiannual reports are due on **January 31st** and **July 31st** of each year. The facility's designated responsible official must sign this report.
- B. The semiannual report shall be considered on-time if the postmark of the submittal is before the due date or if the report is received by the DEP within seven calendar days of the due date.
- C. Each semiannual report shall include a summary of the periodic and CAM monitoring required by this license.

D. All instances of deviations from license requirements and the corrective action taken must be clearly identified and provided to the Department in summary form for each six-month interval.

(26) **Annual Compliance Certification**

FMC shall submit an annual compliance certification to the Department in accordance with Standard Condition (13) of this license. The initial annual compliance certification is due January 31 of each year with the initial annual certification due Jan 31, 2005. The facility's designated responsible official must sign this report.

The annual compliance certification shall be considered on-time if the postmark of the submittal is before the due date or if the report is received by the DEP within seven calendar days of the due date. Certification of compliance is to be based on the stack testing or monitoring data required by this license. Where the license does not require such data, or the license requires such data upon request of the Department and the Department has not requested the testing or monitoring, compliance may be certified based upon other reasonably available information such as the design of the equipment or applicable emission factors. [06-096 CMR 140]

(27) **Annual Emission Statement**

In accordance with *Emission Statements*, 06-096 CMR 137 (last amended November 8, 2008), the licensee shall annually report to the Department the information necessary to accurately update the State's emission inventory by means of:

- A. A computer program and accompanying instructions supplied by the Department; or
- B. A written emission statement containing the information required in 06-096 CMR 137.

Reports and questions should be directed to:

Attn: Criteria Emission Inventory Coordinator

Maine DEP

Bureau of Air Quality

17 State House Station

Augusta, ME 04333-0017 Phone: (207) 287-2437

The emission statement must be submitted by the date as specified in 06-096 CMR 137.

[06-096 CMR 137]

FMC Corporation
BioPolymer Division
Knox County
Rockland, Maine
A-366-70-F-R

) Departmental
) Findings of Fact and Order
) Part 70 Air Emission License
33 Renewal

(28) **Air Toxics Emission Statement**

If FMC exceeds the thresholds for HAPs listed in Appendix A of 06-096 CMR 137 in an inventory year, in accordance with 06-096 CMR 137 the licensee shall report, every three years (2005, 2008, 2011, etc.) or as otherwise stated in 06-096 CMR 137, the information necessary to accurately update the State's toxic air pollutants emission inventory by means of a computer program supplied by the Department or a written emission statement containing the information required in 06-096 CMR 137.

Reports and questions should be directed to:

Attn: HAP Inventory Coordinator
Maine DEP
Bureau of Air Quality
17 State House Station
Augusta, ME 04333-0017 Phone: (207) 287-2437

[06-096 CMR 137]

(29) The licensee is subject to the following State regulations listed below.

<i>Origin and Authority</i>	<i>Requirement Summary</i>
06-096 CMR 101	Visible Emissions Regulation
06-096 CMR 102	Open Burning
06-096 CMR 103	Fuel Burning Equipment Particulate Emission Standard
06-096 CMR 105	General Process Source Particulate Emission Standard
06-096 CMR 106	Low Sulfur Fuel
06-096 CMR 109	Emergency Episode Regulation
06-096 CMR 110	Ambient Air Quality Standard
06-096 CMR 116	Prohibited Dispersion Techniques
06-096 CMR 118	Gasoline Dispensing Facilities Vapor Control
06-096 CMR 130	Solvent Degreasers
06-096 CMR 134	VOC RACT
06-096 CMR 137	Emission Statements
06-096 CMR 138	NOx RACT

(30) **Units Containing Ozone Depleting Substances**

When repairing or disposing of units containing ozone depleting substances, the licensee shall comply with the standards for recycling and emission reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioning units in Subpart B. An example of such units include refrigerators and any size air conditioner that contain CFCs.

[40 CFR, Part 82, Subpart F]

(31) **Asbestos Abatement**

When undertaking Asbestos abatement activities, FMC shall comply with the Standard for Asbestos Demolition and Renovation 40 CFR Part 61, Subpart M.

(32) **Expiration of a Part 70 license**

- A. FMC shall submit a complete Part 70 renewal application at least 6 months prior, but no more than 18-months prior, to the expiration of this air license.
- B. Pursuant to Title 5 MRSA §10002, and 06-096 CMR 140, the Part 70 license shall not expire and all terms and conditions shall remain in effect until the Department takes final action on the renewal application of the Part 70 license. An existing source submitting a complete renewal application under Chapter 140 prior to the expiration of the Part 70 license will not be in violation of operating without a Part 70 license. **Enforceable by State-only**

FMC Corporation
BioPolymer Division
Knox County
Rockland, Maine
A-366-70-F-R

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Departmental
Findings of Fact and Order
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Renewal

(33) New Source Review

FMC is subject to all previous New Source Review (NSR) requirements summarized in this Part 70 air emissions license and the NSR requirements remain in effect even if this 06-096 CMR 140 Air Emissions License, A-366-70-F-R, expires.

DONE AND DATED IN AUGUSTA, MAINE THIS 22nd DAY OF September, 2009.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: James P. Brookshier
DAVID P. LITTELL, COMMISSIONER

The term of this license shall be five (5) years from the signature date above.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 12/22/2006

Date of application acceptance: 12/10/2007

Date filed with the Board of Environmental Protection:

This Order prepared by Jonathan Voisine, Bureau of Air Quality.

