

The Baker Company, Inc.
York County
Sanford, Maine
A-710-71-C-R (SM)

)
)
)
Departmental
Findings of Fact and Order
Air Emission License

After review of the air emissions 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 Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

The Baker Company, Inc. (Baker) of Sanford, Maine has applied to renew their Air Emission License permitting the operation of emission sources associated with their Sanford, Maine manufacturing facility. The facility manufactures primarily fume hoods and other metal products for laboratory use.

B. This license renewal shall also reflect the removal of the previously licensed Heater #3.

C. Emission Equipment

Baker is authorized to operate the following equipment:

Fuel Burning Equipment

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate (scf/hr)</u>	<u>Fuel Type</u>	<u>Stack #</u>
Oven #2	1.2	1165.1	Natural Gas	2-B

scf/hr = standard cubic feet per hour

Process Equipment

<u>Equipment</u>	<u>Pollution Control Equipment</u>	<u>Stack #</u>
Spray Booth #1	Filters	1-A
Spray Booth #2	Filters	1-B
Batch Booth	Filters	2-A

D. Application Classification

The application for Baker 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 current licensed emission units only.

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 Chapter 100 of the Department regulations. 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 emission from the source being considered; and
- the economic feasibility for the type of establishment involved.

B. Process Description

Baker owns and operates a manufacturing facility in Sanford, Maine which produces laboratory fume hoods, cabinets and related laboratory equipment.

Sheet metal is first cut, formed and welded to the appropriate dimensions. Components then proceed to the coating area where they are processed in one of two ways, depending on size. Those that will fit through the washer and drying oven are loaded onto a hanging conveyor line, which carries them through the 3-stage washer to remove dirt and oil. The washer is equipped with 2 natural gas burners, which are both rated at less than 1.0 MMBtu/hr and which are considered insignificant activities for the purposes of this air emission license. The washing process utilizes a non-VOC solution consisting of a mild phosphoric acid solution and other cleaning agents. The parts are then conveyed through two opposing paint booths, where painters manually spray parts as presented to them. Painted components then travel through an electrically heated infrared oven (approximately 300°F) to cure the paint.

The Baker Company, Inc.
York County
Sanford, Maine
A-710-71-C-R (SM)

)
)
)
3

Departmental
Findings of Fact and Order
Air Emission License

Components that cannot be processed on the conveyor because of their size or shape are sprayed with a mild phosphoric acid solution with cleaning agents and dried. They are then batch sprayed in the batch booth and cured in a drying oven which has a 1.2 MMBtu/hr heat input rating firing natural gas. The facility previously utilized propane but converted to natural gas in 2002.

Baker paints primarily one color, using a Sherwin Williams baked enamel. This minimizes the use of solvents to clean spray guns and paint lines that would be required if multiple colors were used. After curing, finished metal components are moved to an assembly area for assembly and packed for shipping. A small amount of paint is used in this area as a final touch-up. Paint used in this area is limited the use of 9-oz. spray cans and 4-oz. touch-up cans with brushes.

C. Coating Process

Baker utilizes various paints, cleaners and thinners for the coating process at their Sanford, Maine facility. Regulated pollutants associated with the coating process are particulate matter, VOCs and HAPs.

1. Baker shall not exceed 1,666 pounds per month (lb/month) of VOC emissions. This limit allows Baker to be exempt from the emission limitation requirements of *Surface Coating Facilities* 06-096 CMR 129 (last amended March 3, 1998) per section 1(C) Subparts 1, 2 and 3. Based on the monthly VOC emission limit, VOC emissions from all surface-coating operations shall not exceed 9.9 tons per year (tons/yr).

The normal HAP annual emissions from the coating process at Baker are approximately 3.5 tons for the worst case HAP and 5.1 tons for total combination of HAPs. To allow sufficient room for growth, the Baker Company shall be limited to 5 tons per year of any single HAP and 10 tons per year of total combination of HAPs based on a twelve-month rolling total.

To demonstrate compliance with VOC and HAP emissions limits, Baker shall maintain a record of coating material use and VOC and HAP emissions. Baker's previous Air Emission License required the facility to track VOC and HAP emissions by simply tracking monthly purchases of coating materials. Because this method has resulted in some monthly emissions as appearing artificial high or low, Baker has proposed that VOC and HAP emissions calculations be based on the actual material used per month. The amount of material used per month is obtained by calculating the difference between the end of the month inventory and the sum of the initial monthly inventory plus the total monthly purchases.

The Baker Company, Inc.
York County
Sanford, Maine
A-710-71-C-R (SM)

)
)
)
4

Departmental
Findings of Fact and Order
Air Emission License

The record shall include type of paints, cleaners and thinners used, volume of paints, cleaners and thinners used, VOC and HAP content of the material based on MSDS, beginning of month inventory, end of the month inventory, amount of material purchased based on purchase receipts and the calculated VOC and HAP emissions. The record shall be maintained on a monthly as well as a twelve-month rolling total.

2. Particulate matter from the spray coating process shall be controlled with the use of spray booths. BPT for the spray booths requires that Baker continue to maintain and operate the spray booth exhaust particulate collectors for optimal removal efficiency and to maintain a negative pressure in the spray booths during all coating operations. The removal efficiency of the paint collectors is in excess of 97.0%. Visible emissions from each spray booth exhaust shall not exceed 5% opacity based on a 3-minute block average.

D. Coating Storage and Handling

BPT for the coating containers shall require that Baker continue to ensure all coating storage and transfer containers be properly sealed when not in use.

As per 06-096 CMR 129 section 4(A) of the Department's regulations, Baker shall make use of vapor-tight containers for the storage of spent or fresh VOC containing materials.

As per 06-096 CMR 129 section 4(B) of the Department's regulations, Baker is prohibited from using VOC containing material unless equipment is used to collect the cleaning compounds and to minimize their evaporation to atmosphere. All VOC containing material used to clean spray guns must be collected in a normally closed container as per 06-096 CMR 129 section 4(B)(1).

As per 06-096 CMR 129 section 4(B)(3) of the Department's regulations, Baker shall not use compounds containing more than 8% by weight of VOC for cleaning spray booth components other than conveyors, continuous coaters and their enclosures, and/or metal filters.

E. Fuel Burning Equipment

The facility makes use of a drying oven for drying coated parts. The drying oven, designated Oven #2, is a 1.2 MMBtu/hr natural gas fired oven. The oven was previously licensed to fire propane but was converted to natural gas in 2002.

A summary of the BPT analysis is as follows:

1. *Fuel Burning Equipment Particulate Emission Standard*, 06-096 CMR 103, (last amended November 3, 1990) regulates PM emission limits. However, the PM emission limit of 0.05 lb/MMBtu when firing propane or natural gas is more stringent and shall be considered BACT. PM₁₀ emission limits are derived from PM limits.
2. SO_x, NO_x, CO and VOC emission limits are based upon AP-42 data dated 10/96.
3. Visible emissions from the drying oven stack are subject to *Visible Emissions Regulation*, 06-096 CMR 101 (last amended May 18, 2003). Visible emissions from the drying oven stack shall not exceed 10% opacity based on a six-minute block average.

F. Annual Emission Restrictions

The Baker Company, Inc. shall be restricted to the following annual emissions, based on a 12 month rolling total:

Total Allowable Annual Emission for the Facility

Pollutant	Tons/Year
PM	0.3
PM ₁₀	0.3
SO ₂	0.01
NO _x	0.5
CO	0.2
VOC	9.9
Individual HAP	5.0
Total HAPs	10.0

III. AMBIENT AIR QUALITY ANALYSIS

According to *Major and Minor Source Air Emission License Regulations*, 06-096 CMR 115 (last amended December 1, 2005), the level of air quality analyses required for a minor source shall be determined on a case-by case basis. Based on the information available in the file, and the similarity to existing sources, Maine Ambient Air Quality Standards (MAAQS) will not be violated by this source. Based on the above total facility emissions, Baker is below the emissions level required for modeling and monitoring.

ORDER

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

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

The Department hereby grants Air Emission License A-710-71-C-R subject to the following conditions:

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 (Title 38 MRSA §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 06-096 CMR 115. [06-096 CMR 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 CMR 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 CMR 115]
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353.
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 CMR 115]

The Baker Company, Inc.
York County
Sanford, Maine
A-710-71-C-R (SM)

)
)
)
7

Departmental
Findings of Fact and Order
Air Emission License

- (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 CMR 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 CMR 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 CMR 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 CMR 115]
- (11) 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:
- (i) perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
 - a. 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
 - b. pursuant to any other requirement of this license to perform stack testing.
 - (ii) 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
 - (iii) submit a written report to the Department within thirty (30) days from date of test completion.
[06-096 CMR 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:
- (i) 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
 - (ii) 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
 - (iii) 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 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 CMR 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 emission 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 CMR 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 CMR 115]

The Baker Company, Inc.)
York County)
Sanford, Maine)
A-710-71-C-R (SM) 9

Departmental
Findings of Fact and Order
Air Emission License

SPECIFIC CONDITIONS

(16) Coating Process and Equipment

1. Baker shall not exceed 1,666 pounds per month (lb/month) of VOC emissions. This limit allows Baker to be exempt from the emissions limitations requirements of 06-096 CMR 129. [06-096 CMR 115, BPT]
2. Based on the monthly VOC emission limit, VOC emissions from all surface-coating operations shall not exceed 9.9 tons per year (tons/yr). [06-096 CMR 115, BPT]
3. Baker shall not exceed total annual HAP emissions limit of 5 tons per year of any single HAP and 10 tons per year of any combination of HAPs based on a twelve month rolling total. [06-096 CMR 115, BPT]
4. Baker shall maintain a record of coating material use and VOC and HAP emissions. VOC and HAP emissions calculations shall be based on the actual material used per month. The amount of material used per month is obtained by calculating the difference between the end of the month inventory and the sum of the initial monthly inventory plus the total monthly purchases. The record shall include type of paints, cleaners and thinners used, volume of paints, cleaners and thinners used, VOC and HAP content of the material based on MSDS, beginning of month inventory, end of the month inventory, amount of material purchased based on purchase receipts and the calculated VOC and HAP emissions. The record shall be maintained on a monthly as well as a twelve-month rolling total. [06-096 CMR 115, BPT]
5. Baker shall continue to maintain and operate the spray booth exhaust particulate collectors for optimal removal efficiency and to maintain a negative pressure in the spray booths during all coating operations. [06-096 CMR 115, BPT]
6. Visible emissions from each spray booth exhaust shall not exceed 5% opacity based on a 3-minute block average. [06-096 CMR 101]

(17) Coating Transfer and Storage

1. Baker shall continue to ensure all coating storage and transfer containers be properly sealed when not in use. [06-096 CMR 115, BPT]

The Baker Company, Inc.
York County
Sanford, Maine
A-710-71-C-R (SM)

)
)
)
10

Departmental
Findings of Fact and Order
Air Emission License

2. As per 06-096 CMR 129 section 4(A) of the Department's regulations, Baker shall make use of vapor-tight containers for the storage of spent or fresh VOC containing materials. [06-096 CMR 129]
 3. As per 06-096 CMR 129 section 4(B) of the Department's regulations, Baker shall make use of equipment to collect the cleaning compounds and to minimize their evaporation to atmosphere. [06-096 CMR 129]
 4. All VOC containing material used to clean spray guns must be collected in a normally closed container as per 06-096 CMR 129 section 4(B)(1). [06-096 CMR 129]
 5. As per 06-096 CMR 129 section 4(B)(3) of the Department's regulations, Baker shall not use compounds containing more than 8% by weight of VOC for cleaning spray booth components other than conveyors, continuous coaters and their enclosures, and/or metal filters. [06-096 CMR 129]
- (18) Fuel Burning Equipment

A. Emissions from the natural gas fired drying oven shall not exceed the following:

Equipment		PM	PM₁₀	SO₂	NO_x	CO	VOC
Drying Oven #2	lb/hr	0.3	0.3	0.01	0.5	0.2	0.01

[06-096 CMR 115, BPT]

B. Visible emissions from Stack #2-B shall not exceed 10% opacity based on a six-minute block average. [06-096 CMR 101]

The Baker Company, Inc.
York County
Sanford, Maine
A-710-71-C-R (SM)

)
)
)
11

Departmental
Findings of Fact and Order
Air Emission License

- (19) Baker 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 (Title 38 MRSA §605-C).

DONE AND DATED IN AUGUSTA, MAINE THIS 25th DAY OF FEBRUARY, 2008.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
DAVID P. LITTELL, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

The term of this Order shall be for five (5) years from the signature above

Date of initial receipt of application: **January 7, 2008**

Date of application acceptance: **January 16, 2008**

Date filed with the Board of Environmental Protection: February 26, 2008

This Order prepared by, Peter G. Carleton, Bureau of Air Quality