



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

DEPARTMENT ORDER

**C&L Aerospace Holdings, LLC
d/b/a C&L Aviation Services
Penobscot County
Bangor, Maine
A-1093-71-C-A**

**Departmental
Findings of Fact and Order
Air Emission License
Amendment # 2**

FINDINGS OF FACT

After review of the air emission license amendment 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

C&L Aerospace Holdings, LLC d/b/a C&L Aviation Services (C&L) has applied for an Air Emission License amendment permitting the operation of emission sources associated with their aircraft exterior painting facility. Their license, A-1093-71-A-N, was issued on January 17, 2014, and was subsequently amended on August 29, 2016 (A-1093-71-B-M).

C&L has requested an amendment to their license in order to relocate the component shop paint booth (PB-1) from the Polk Street site to the satellite facility located at 395 Griffin Road approximately ½ a mile away from the Polk Street site. C&L is intending to install an additional paint booth (PB-2) at the Griffin Road site for operational flexibility. The Department is also updating the "General Process Sources" visible emission language to reflect recent changes in 06-096 C.M.R. ch. 101, *Visible Emissions Regulations* and clarifying the VOC 12-month rolling total calculation and record keeping requirement.

The equipment addressed in this license amendment is located at 112 Polk Street, Bangor, Maine and at 395 Griffin Road, Bangor, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license amendment:

Process Equipment

Equipment Unit ID	Equipment	Location	Maximum Material Process Rate	Date of Manuf.	Date of Install.	Control Device	Stack #
*PB-1	Paint Booth	Polk St.	0.125 gph primer 0.25 gph topcoat	2014	To be relocated	--	--
PB-1	Paint Booth	Griffin Road	0.125 gph primer 0.25 gph topcoat	2014	2020	HVLP paint gun and PB filter	EXH 1
PB-2	Paint Booth	Griffin Road	0.125 gph primer 0.25 gph topcoat	TBD	2020/ 2021	HVLP paint gun and PB filter	EXH 6

*the Polk Street Paint Booth is to be moved to the Griffin Road location

C&L has two natural gas-fired condensing boilers at the Griffin Road site which feed into two indirect-fired hot water heaters. The condensing boilers are each rated at 0.324 MMBtu/hr, which is below the 1.0 MMBtu/hr threshold required for inclusion in the air emission license pursuant to 06-096 C.M.R. ch. 115 Appendix B(2). In addition, both paint booths have natural gas fired heaters rated below 1.0 MMBtu/hr which were also excluded from this license. These are mentioned here for completeness purposes only.

C. Definitions

Cleaning Activities means the use of solvents to remove contaminants including, but not limited to, adhesives, inks, paint, dirt, soil, oil, and grease from parts, products, tools, machinery, equipment, vessels, and work production related areas for a variety of reasons, including safety, operability, and to avoid product contamination; this includes activities such as wiping, flushing, or spraying. Examples of such activities may include, but are not limited to, the cleaning of spray booths, spray guns, and printing presses.

D. Application Classification

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

The modification of a minor source is considered a major or minor modification based on whether or not expected emission increases exceed the “Significant Emission” levels as defined in the Department’s *Definitions Regulation*, 06-096 Code of Maine Rules (C.M.R.) ch. 100. This amendment will not increase licensed emissions of any pollutant; however, because of the addition of new equipment this amendment is determined to be a minor modification and has been processed as such.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

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

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

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

Process emission sources at C&L are those involving painting/stripping activities. Pollutants from these activities include particulate matter, volatile organic compounds (VOC), and hazardous air pollutants (HAP). The volume and identities of specific emissions are dependent on the number of aircraft painted throughout the year, aircraft size, paint type, etc. Estimated emissions and emission limits are based on the use of the primer and topcoat with the highest VOC and HAP content of those which might be applied, based on which coating manufacturer's product is used and customer specifications.

1. Coatings Applications: BACT Analysis

Alternatives to minimize emissions include the use of water-based coatings and high-efficiency application methods. Water-based coatings such as those used in the automotive industry are unsuitable for aircraft. Aircraft paints are subjected to extreme variations in use. Within a few minutes, the aircraft skin temperature could go from +70 °C to -60 °C. At high cruising altitudes, the paint is exposed to intense ultra-violet radiation. During flight, the wings flex up and down in turbulence; with each climb and descent the pressurized cabin expands and contracts. The paint must also retain adequate elasticity at extremely low temperatures. Further, it must withstand rain, hail, ice crystal, sand grains, spilled oil, kerosene, and hydraulic fluid. Even when subjected

to the most intense ultraviolet radiation, the pigment must lose nothing of its original brilliance. Coatings other than solvent-based coatings cannot meet the required performance specifications; thus, the use of water-based coatings is not a viable option for such applications.

High-efficiency application methods as identified in 40 C.F.R. Part 63, Subpart HHHHHH, *NESHAP: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources*, include the use of high volume, low pressure (HVLP) spray guns, electrostatic application, airless spray guns, air-assisted airless spray guns, or equivalent technologies. C&L shall employ application practices using HVLP paint guns, airless spray guns, and/or electrostatic spray application which reduces overspray and minimizes quantities of coating material used.

No materials containing methylene chloride (e.g., paint stripper) will be used at the C&L facility.

2. Coatings Applications: BACT/BPT Determination

The Department finds the following as BACT/BPT for the application of primer and topcoat materials at the Griffin Road site:

a. Particulate Matter (PM)

- (1) Electrostatic and/or high volume, low pressure (HVLP) spray technology shall be utilized for applying primers and topcoats.
- (2) Exhausts from all spray booths, shall be equipped with dry filters to control particulate emissions from overspray generated during the spray application of coatings. The filters shall be demonstrated to achieve at least 98% capture efficiency, based on filter efficiency data from the filter manufacturer, as specified and required in 40 C.F.R. Part 63, Subpart HHHHHH § 63.11173(e).
- (3) C&L shall keep a log (written or electronic) recording maintenance on the Paint Booths and filter systems (including filter changes).

b. Volatile Organic Compounds (VOC)

- (1) All material containing VOC shall be stored in closed containers except during actual use.
- (2) All cleaning of HVLP paint spray guns shall be done in a closed lid gun wash cabinet so that an atomized mist or spray of gun cleaning solvent and paint residue is not created. Cleaning of electrostatic paint equipment is done manually without any atomization spray.

3. Process Washing and Spray Gun Cleaning

Solvents used at both locations (Polk Street and Griffin Road) will be a custom blended solvent used for process washing and for spray gun cleaning, comprised of 80% methyl ethyl ketone (MEK) and 20% acetone, to achieve reduced VOC and zero HAP emissions. C&L shall retain current Safety Data Sheets (SDS) on the custom blended solvent which shall be submitted to the Department upon request. No materials containing methylene chloride shall be used at the C&L facility.

4. C&L shall maintain the following records:

- a. SDS for each stripper, primer, coating, or cleaning solvent used;
- b. The percent by weight of VOC and the percent by weight of HAP in each substance.

5. C&L shall calculate VOC and HAP emissions using the following method to demonstrate compliance with the established limits:

$$\text{Monthly VOC/HAP Emissions} = \sum_{i=1}^n (\text{Product Usage} \times \text{VOC/HAP Content})$$
$$\text{Annual VOC/HAP Emissions} = \sum_{i=m-11}^{m=12} \text{Monthly VOC/HAP emissions}$$

n = Number of different VOC/HAP emitting products
m = Month

Calculations of emissions shall be based on SDS information, the daily usage log, purchase records, and the assumption that 100% of VOCs and volatile HAPs contained in the applied substances are released to the atmosphere. Non-volatile HAP emissions shall be estimated by using the HVLP guns' PM control efficiencies and the PM control efficiency of the building's filter.

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

Presently C&L is required to document VOC and HAP emissions on a monthly and 12-month rolling total basis. As of the issuance of this license amendment, VOC and HAP emissions shall be tracked and calculated on a monthly and calendar year (annual) basis unless actual emissions total 25 tpy or greater. At such time that actual emissions total 25 tpy or greater, these emissions shall be tracked on a monthly and 12-month rolling total basis. The records and calculations shall be kept for six years and shall be made available upon request from the Department.

C. Potentially Applicable Regulations

1. 40 C.F.R. Part 63, Subpart GG, *National Emission Standards for Aerospace Manufacturing and Rework Facilities*

This federal regulation applies to major HAP sources, as defined in 40 C.F.R. Part 63. Because C&L is not a major HAP source, the facility is not subject to this subpart. [40 C.F.R. § 63.741 (a)]

2. 40 C.F.R. Part 63, Subpart HHHHHH, *NESHAP: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources*

C&L is subject to applicable requirements of 40 C.F.R. Part 63, Subpart HHHHHH. This facility is an area source of HAP which performs spray application of coatings to metal substrates. The parts of the C&L facility subject to requirements of this regulation include but are not limited to the following:

- a. Mixing rooms and equipment;
- b. Spray booths, ventilated prep stations, curing ovens, and associated equipment;
- c. Spray guns and associated equipment;
- d. Spray gun cleaning equipment; and
- e. Equipment used for storage, handling, recovery, or recycling of cleaning solvent or waste paint.

[40 C.F.R. Part 63, § 63.11171(b)]

C&L shall comply with the applicable requirements of 40 C.F.R. Part 63, Subpart HHHHHH, including but not limited to the following: training and certification requirements; spray booth requirements; enclosure specifications; coating application methods requirements; spray gun cleaning specifications; and notifications, reporting, and recordkeeping requirements. [40 C.F.R. Part 63, Subpart HHHHHH]

3. 06-096 C.M.R. ch. 129, *Surface Coating Facilities*

The following surface coating operations conducted by C&L are exempt from the requirements of the rule:

- a. Exterior of completely assembled aircraft
- b. Major aircraft subassemblies which are exposed to the exterior of the aircraft.

[06-096 C.M.R. ch. 129 (3)(a) and (b)]

4. 06-096 C.M.R. ch. 159, *Control of Volatile Organic Compounds from Adhesives and Sealants*

The substances used in C&L's aircraft coating process are not considered adhesives or sealants as defined in 06-096 C.M.R. ch. 159. Thus, the facility is not subject to requirements of this rule.

5. 06-096 C.M.R. ch. 166, *Industrial Cleaning Solvents*

C&L uses industrial cleaning solvents in cleaning activities as those defined in *Industrial Cleaning Solvents*, 06-096 C.M.R. ch. 166 (Chapter 166). These activities conducted by C&L include the wiping, flushing, or spraying during the cleaning of spray booths, spray guns, and associated equipment. The potential to emit from these activities (before control) is greater than 3.0 tons of VOC per year.

However, the solvent cleaning activities are subject to Solvent Cleaner, 06-096 C.M.R. ch. 130 (Chapter 130), thus exempt from the requirements of this rule except for Sections 5(C) and (D) which require C&L to maintain the following:

- a. An owner or operator conducting cleaning activities exempted from Chapter 166 shall maintain records sufficient to verify the exemption. If, in the future, C&L is no longer subject to Chapter 130, they may be subject to Chapter 166.
- b. Records verifying that C&L is exempt from Chapter 166 shall be maintained for a minimum of 5 years from creation and shall be provided to the Department or EPA upon request.

D. General Process Source Emissions

Visible emissions from any general process source not specifically addressed in this license amendment shall not exceed an opacity of 20 percent on a six (6) minute block average basis. [06-096 C.M.R. ch. 101]

E. Annual Emissions

This license amendment will not change the facility's licensed annual emissions.

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 Amendment A-1093-71-C-A subject to the conditions found in Air Emission License A-1093-71-A-N and in amendment A-1093-71-B-M and the following conditions.

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

SPECIFIC CONDITIONS

The following condition replaces Specific Condition (16) G., H., and I. in Air Emission License A-1093-71-B-M.

(16) Coating Applications

G. C&L shall calculate VOC and HAP emissions using the following method to demonstrate compliance with the established limits:

$$\text{Monthly VOC/HAP Emissions} = \sum_{i=1}^n (\text{Product Usage} \times \text{VOC/HAP Content})$$
$$\text{Annual VOC/HAP Emissions} = \sum_{i=m-11}^{m=12} \text{Monthly VOC/HAP emissions}$$

n = Number of different VOC/HAP emitting products
m = Month

Calculations of emissions shall be based on SDS information, the daily usage log, purchase records, and the assumption that 100% of VOCs and volatile HAP contained in the applied substances are released to the atmosphere. Non-volatile HAP emissions can be estimated by using the HVLP guns' PM control efficiencies and the PM control efficiency of the building's filter.

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

- H. VOC and HAP emissions shall be calculated on a monthly and calendar year basis unless actual emissions total 25 tpy or greater. At such time that actual emissions total 25 tpy or greater, these emissions shall be tracked on a monthly and 12-month rolling total basis.
- I. C&L shall operate the coating processes as to limit total facility VOC and HAP emissions to the following:
- a. 47.9 tons per year of VOC
 - b. 2.4 tons per year of total HAP
[06-096 C.M.R. ch. 115, BACT]

The following condition replaces Specific Condition (18) in Air Emission License A-1093-71-A-N.

(18) 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. 101]

The following conditions are in addition to the conditions listed in Air Emission License A-1093-71-A-N and A-1093-71-B-M.

(22) Griffin Road

- A. C&L is licensed to remove an existing paint booth (PB-1) from their Polk Street site and relocate it to the Griffin Road site. C&L is also licensed to install a new paint booth (PB-2) at the Griffin Road site.
- B. Equipment and processes at the Griffin Road site shall be subject to the Standard and Specific Conditions found in A-1093-71-A-N and A-1093-71-B-M, as applicable.
- C. In order to meet BACT and BPT, the coating application equipment, including the paint booths, spray guns, and associated equipment, and processes at the Griffin Road site, shall be subject to Specific Condition (16) in A-1093-71-B-M (8/26/2016).

C&L Aerospace Holdings, LLC
d/b/a C&L Aviation Services
Penobscot, Maine
Bangor, Maine
A-1093-71-C-A

10

**Departmental
Findings of Fact and Order
Air Emission License
Amendment #2**

(23) Paint Booth Maintenance

C&L shall keep a log (written or electronic) recording maintenance on the Paint Booths and filter systems (including filter changes) located at the Polk Street and Griffin Road sites.

DONE AND DATED IN AUGUSTA, MAINE THIS 2nd DAY OF JULY, 2020.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:  for
GERALD D. REID, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-1093-71-A-N.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 6/11/2020

Date of application acceptance: 6/11/2020

Date filed with the Board of Environmental Protection:

This Order prepared by Lisa P. Higgins, Bureau of Air Quality.

