



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

**KYOCERA AVX Components
(Biddeford) Corporation
York County
Biddeford, Maine
A-664-71-K-R**

**Departmental
Findings of Fact and Order
Air Emission License
Renewal**

Findings of Fact

After review of the air emission license renewal application, staff investigation reports, and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 Maine Revised Statutes (M.R.S.) § 344 and § 590, the Maine Department of Environmental Protection (Department) finds the following facts:

I. Registration

A. Introduction

KYOCERA AVX Components (Biddeford) Corporation (KYOCERA) has applied to renew their Air Emission License for the operation of emission sources associated with their tantalum capacitor manufacturing facility. The capacitors are used in a variety of electronic devices such as pacemakers, hearing aids, medical implants, military equipment, and aerospace applications.

The equipment addressed in this license is located at 401 Hill Street, Biddeford, Maine.

B. Emission Equipment

The following equipment is addressed in this air emission license:

Boilers

Equipment	Max. Capacity (MMBtu/hr)	Maximum Firing Rate	Fuel Type	Date of Manuf.	Date of Install.	Stack #
Boiler #1	2.5	2,451 scf/hr	Natural Gas	1992	1992	38
Boiler #1	2.5	18 gal/hr	Distillate Fuel	1992	1992	38
Boiler #2	2.5	2,451 scf/hr	Natural Gas	1996	1996	49
Boiler #2	2.5	18 gal/hr	Distillate Fuel	1996	1996	49
Boiler #3	7.0	6,863 scf/hr	Natural Gas	1984	1984	37
Boiler #3	7.0	50.7 gal/hr	Distillate Fuel	1984	1984	37

Stationary Engines

Equipment	Max. Input Capacity	Rated Output Capacity	Fuel Type	Firing Rate	Date of Manuf.	Date of Install.
Generator #1	1.31 MMBtu/hr	100 kW	Propane	13.95 gal/hr	2009	2009

Process Equipment

Equipment	Unit ID	Production Type	Pollution Control Equipment	Stack #
Pyrolysis Oven	PO3	Batch Operation	-	51a
Pyrolysis Oven	PO4	Batch Operation	-	51b
Pyrolysis Oven	PO5	Batch Operation	-	51c
De-flash Machine	DM1	Batch Operation	Fabric Filters	43
De-flash Machine	DM2	Batch Operation	Fabric Filters	50
Isopropanol Use	-	General Use	-	-
Silver Dip Process	-	Batch Operation	-	-
Marking Operations	-	General Use	-	-
Vapor Degreaser	-	General Use	-	-

C. Definitions

Closed Container means a container that is closed unless material is being actively added to or removed from it. The container is considered closed when sealed to the extent that the contents, including gaseous components, are kept within the container.

Distillate Fuel means the following:

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

Records or Logs mean either hardcopy or electronic records.

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

E. Facility Classification

With the operating hours restriction on the emergency generator, the NO_x limit on the Pyrolysis Ovens, and the VOC limit on the miscellaneous processes, the facility is licensed as follows:

- As a synthetic minor source of air emissions for criteria pollutants, because KYOCERA is subject to license restrictions that keep facility emissions below major source thresholds for NO_x and VOC; and
- As an area source of hazardous air pollutants (HAP), because the licensed emissions are below the major source thresholds for HAP.

Emissions of ethylene glycol and various other HAPs are licensed above 80% of the major source threshold. Therefore, this facility is classified as an “80% Synthetic Minor” for the purpose of determining the minimum required compliance inspection frequency in accordance with Maine’s Compliance Monitoring Strategy.

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 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 element tantalum is a hard, corrosion-resistant transition metal with the symbol Ta (atomic number 73) and has a very high melting point. KYOCERA manufactures tantalum capacitors in two main configurations: surface mount and wire-leaded. Each configuration uses tantalum metal powder as the base material, which is pressed into pellets or wafers. Some contain a chemical binder added to the powder to facilitate pressing. This binder is removed in a subsequent process step using liquid rinsing and hot air drying. Pellets and wafers are then heated to very high temperatures to fuse the powder into a cohesive, sintered structure. Sintering is performed in electric vacuum furnaces and atmospheric pressure furnaces in an inert atmosphere. Sintered parts are attached to stainless steel to facilitate handling and processing for a number of subsequent operations.

The parts then undergo electrolytic oxidation to form a tantalum pentoxide dielectric layer on the pellet/wafer using electrolytes including dilute nitric or phosphoric acids or a dilute sulfuric acid/ethylene glycol mixture. The dielectric layer provides the desired characteristics of the capacitor core.

The two surface mount configurations, tab-terminated (processed as pellets) and microchip wafers, are then immersed in a manganese nitrate, nitric acid, and water solution followed by steam pyrolysis to create manganese dioxide in the voids of the porous part. This step is repeated using varying solution concentrations until the porosity is filled. In between some of these steps, parts will go through a “healing” process in which they are dipped in dilute acetic acid or sulfuric acid/ethylene glycol solution followed by additional heating to repair any cracks that have formed during pyrolysis. This process does not use electrolysis and does not deposit a metal HAP onto a surface and is therefore not an electroplating process. Parts are then dipped in carbon solutions and heated to form a carbon layer, then dipped in a mixture of metallic silver and high flashpoint organic solvent to form a silver layer.

Tab-terminated surface mount parts are then processed in automated machinery to remove pellets from the stainless steel, weld a wire protruding from each pellet onto one side of a metal rail called a “lead frame,” and glue the pellet to the other side of the lead frame using conductive silver epoxy. These are then heated to cure the epoxy. The parts on lead frames are then put through another automated machine which presses a thermo-set epoxy material around the parts, forming the body of the capacitor. Molded lead frames are subjected to an abrasive blasting process that removes excess epoxy from these parts. These are then marked with product information using an ink-transfer stamping process. The stamped parts on lead frames are processed on automated equipment to separate parts from the rail and fold metal tabs, which become electric terminations, under the body of the

part. Parts may have their termination finishes modified by electroplating or solder dipping based on customer requirements. Parts undergo a wide range of testing and are then packaged for shipment.

Following carbon and silver coating operations, microchip wafers are secured to a flat surface and partially cut into smaller sections using dicing saws. These partially cut wafers are placed in an RF frequency sputtering machine which applies thin metallic coatings to one side of the wafer. A thin metallic sheet is secured to the other side using a conductive silver epoxy. After heating and curing the epoxy, this sandwich is placed in a rubber mold, and an epoxy is injected into the mold to form the body of the capacitor. The molded wafer is mounted to a disposable substrate material and cut on the dicing saws to separate the parts. The ends of the parts are coated with metallic silver in automated equipment to create the anode and cathode connections.

Following the non-HAP electrolytic oxidation formation of the tantalum pentoxide dielectric layers on the capacitors, the electrical terminations or “leads” may be electroplated with varying finishes as required by various customers. These finishes include tin, tin-lead, nickel, and gold. Electroplating is an electrolytic process in which metal ions in solution are reduced onto the surface of the work piece (the cathode) via an electrical current.

Following electrolytic oxidation, the wire-leaded pellets are soaked in an electrolyte and inserted into a tantalum can containing the same electrolyte. Plastic spacers are used to prevent the pellet from touching the can. A cover is laser-welded to the top of the can to form a sealed unit. Wires are tack-welded to each end of the can, and a part number stamped on the can. Parts undergo a wide range of testing and are then packaged for shipment.

Ancillary operations include the use of isopropyl alcohol, in pure and diluted forms, for drying capacitors following some operations and for miscellaneous cleaning of microscopes and other surfaces. Certain customer specifications require cleaning parts in a sodium bicarbonate solution which is then rinsed from the parts using deionized water. These parts are then soaked in isopropanol to ensure complete removal of the water.

C. Boilers #1, #2, and #3

KYOCERA operates Boilers #1, #2, and #3 for steam and facility heating. The boilers are rated at 2.5 MMBtu/hr, 2.5 MMBtu/hr, and 7.0 MMBtu/hr, respectively, and fire natural gas with distillate fuel as a backup. The boilers were installed in 1992, 1996, and 1984, respectively, and each boiler exhausts through its own stack, Stacks #38, #49, and #37, respectively.

With limited exceptions, no person shall import, distribute, or offer for sale any distillate fuel with a sulfur content greater than 0.0015% by weight (15 ppm) pursuant to 38 M.R.S. § 603-A(2)(A)(3). Therefore, the distillate fuel purchased or otherwise obtained for use in Boilers #1, #2, or #3 shall not exceed 0.0015% by weight (15 ppm).

1. BPT Findings

The BPT emission limits for Boilers #1, #2, and #3 were based on the following:

Natural Gas

PM/PM₁₀/PM_{2.5} – 0.05 lb/MMBtu, 06-096 C.M.R. ch. 115, BPT
SO₂ – 0.6 lb/MMscf based on AP-42 Table 1.4-2 dated 4/26
NO_x – 100 lb/MMscf based on AP-42 Table 1.4-1 dated 4/26
CO – 84 lb/MMscf based on AP-42 Table 1.4-1 dated 4/26
VOC – 5.5 lb/MMscf based on AP-42 Table 1.4-2 dated 4/26
Visible Emissions – 06-096 C.M.R. ch. 101

Distillate Fuel

PM/PM₁₀/PM_{2.5} – 0.08 lb/MMBtu, 06-096 C.M.R. ch. 115, BPT
SO₂ – based on firing distillate fuel with a maximum sulfur content of 0.0015% by weight
NO_x – 0.03 lb/MMBtu A-664-71-A-I (5/16/1996), BACT
CO – 5 lb/1,000 gal based on AP-42 Table 1.3-1 dated 5/10
VOC – 0.34 lb/1,000 gal based on AP-42 Table 1.3-3 dated 5/10
Visible Emissions – 06-096 C.M.R. ch. 101

The BPT emission limits for Boilers #1, #2, and #3 are the following:

Unit	Fuel Type	Pollutant	lb/MMBtu
Boiler #3	Natural Gas	PM	0.05
Boiler #3	Distillate Fuel	PM	0.08

Unit	Fuel Type	PM (lb/hr)	PM ₁₀ (lb/hr)	PM _{2.5} (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1	Natural Gas	0.13	0.13	0.13	-	0.24	0.20	0.01
Boiler #1	Distillate Fuel	0.20	0.20	0.20	-	0.75	0.09	0.01
Boiler #2	Natural Gas	0.13	0.13	0.13	-	0.24	0.20	0.01
Boiler #2	Distillate Fuel	0.20	0.20	0.20	-	0.75	0.09	0.01
Boiler #3	Natural Gas	0.35	0.35	0.35	-	0.68	0.57	0.04
Boiler #3	Distillate Fuel	0.56	0.56	0.56	0.01	2.10	0.25	0.02

2. Fuel Limit

KYOCERA will continue to be limited to a heat input of 56,000 MMBtu/year for Boilers #1, #2, and #3 combined, on a 12-month rolling total basis. This heat input limit is equivalent to 400,000 gallons/year of distillate fuel or approximately 54,368,000 scf/year of natural gas. Records shall be maintained and compliance documented using the following heat content values:

- 0.14 MMBtu/gal of distillate fuel
- 1.03×10^{-3} MMBtu/scf of natural gas

3. Visible Emissions

When firing natural gas, visible emissions from Boilers #1, #2, or #3 shall each not exceed 10% opacity on a six-minute block average basis.

Visible emissions from any boiler (Boilers #1, #2, or #3) firing distillate fuel shall each not exceed 20% opacity on a six-minute block average basis.

4. New Source Performance Standards (NSPS): 40 C.F.R. Part 60, Subpart Dc

Due to their sizes, Boiler#1, #2, and #3 are not subject to *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*, 40 C.F.R. Part 60, Subpart Dc for units greater than 10 MMBtu/hr manufactured after June 9, 1989. [40 C.F.R. § 60.40c]

5. National Emission Standards for Hazardous Air Pollutants (NESHAP): 40 C.F.R. Part 63, Subpart JJJJJJ

Boilers #1, #2, and #3 are not subject to the *National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources*, 40 C.F.R. Part 63, Subpart JJJJJJ. Natural gas-fired units are exempt from the requirements of this regulation. [40 C.F.R. § 63.11195(e)]

Gas-fired boilers are exempt from 40 C.F.R. Part 63, Subpart JJJJJJ. However, boilers which fire fuel oil are not. A “gas-fired boiler” is defined as any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or periodic testing on liquid fuel. Periodic testing of liquid fuel shall not exceed a combined total of 48 hours during any calendar year. [40 C.F.R. § 63.11237]

In order to maintain the classification of gas-fired boiler(s), KYOCERA may only fire distillate fuel in Boiler #1 during periods of gas curtailment or supply

interruption (as defined in 40 C.F.R. § 63.11237 “Period of gas curtailment or supply interruption”), startups, or for periodic testing, maintenance, or operator training on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours during any calendar year.

Any boiler designed to burn fuels besides gaseous fuels prior to June 4, 2010, is considered an existing boiler under this rule. A boiler which currently fires gaseous fuels but converts back to firing another fuel (such as distillate fuel) in the future would become subject as an existing boiler at the time it is converted back to oil.

D. Generator #1

KYOCERA operates one emergency generator, Generator #1. The emergency generator is a generator set consisting of an engine and an electrical generator. The emergency generator has an engine rated at 1.31 MMBtu/hr firing propane. The emergency generator was manufactured and installed in 2009.

1. BPT Findings

The BPT emission limits for Generator #1 are based on the following:

PM/PM₁₀/PM_{2.5} – 0.0194 lb/MMBtu from AP-42 Table 3.2-3, dated 10/24
SO₂ – 0.000588 lb/MMBtu from AP-42 Table 3.2-3, dated 10/24
NO_x – 2.27 lb/MMBtu from AP-42 Table 3.2-3, dated 10/24
CO – 3.51 lb/MMBtu from AP-42 Table 3.2-3, dated 10/24
VOC – 0.03 lb/MMBtu from AP-42 Table 3.2-3, dated 10/24
Visible Emissions– 06-096 C.M.R. ch. 101

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

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	PM _{2.5} (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #1	0.03	0.03	0.03	-	2.97	4.60	0.04

Visible emissions from Generator #1 shall not exceed 20% opacity on a six-minute block average basis.

2. Chapter 169

Generator #1 was installed prior to the effective date of *Stationary Generators*, 06-096 C.M.R. ch. 169 and is therefore exempt from this rule pursuant to section 1.

3. New Source Performance Standards

Standards of Performance for Spark Ignition Internal Combustion Engines, 40 C.F.R. Part 60, Subpart JJJJ is applicable to Generator #1 since the unit was ordered after June 12, 2006, and manufactured after January 1, 2009. [40 C.F.R. § 60.4230]

A summary of applicable federal 40 C.F.R. Part 60, Subpart JJJJ requirements is listed below.

a. Emergency Engine Designation and Operating Criteria

Under 40 C.F.R. Part 60, Subpart JJJJ, a stationary reciprocating internal combustion engine (ICE) is considered an emergency stationary ICE (emergency engine) as long as the engine is operated in accordance with the following criteria. Operation of an engine outside of the criteria specified below may cause the engine to no longer be considered an emergency engine under 40 C.F.R. Part 60, Subpart JJJJ, resulting in the engine being subject to requirements of this subpart applicable to non-emergency engines.

(1) Emergency Situation Operation (On-Site)

There is no operating time limit on the use of an emergency engine to provide electrical power or mechanical work during an emergency situation. Examples of use of an emergency engine during emergency situations include the following:

- Use of an engine to produce power for critical networks or equipment (including power supplied to portions of a facility) because of failure or interruption of electric power from the local utility (or the normal power source, if the facility runs on its own power production);
- Use of an engine to mitigate an on-site disaster;
- Use of an engine to pump water in the case of fire, flood, natural disaster, or severe weather conditions; and
- Similar instances.

(2) Non-Emergency Situation Operation

An emergency engine may be operated up to a maximum of 100 hours per calendar year for maintenance checks, readiness testing, and other non-emergency situations as described below.

- (i) An emergency engine may be operated for a maximum of 100 hours per calendar year for maintenance checks and readiness testing, provided that the tests are recommended by federal, state, or local government; the manufacturer; the vendor; the regional transmission organization or equivalent balancing authority and transmission operator; or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE more than 100 hours per calendar year.
- (ii) An emergency engine may be operated for up to 50 hours per calendar year for other non-emergency situations. **However, these operating hours are counted as part of the 100 hours per calendar year operating limit described in paragraph (2) and (2) (i) above.**

The 50 hours per calendar year operating limit for other non-emergency situations cannot be used for peak shaving, demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

[40 C.F.R. §§ 60.4243(d) and 60.4248]

b. 40 C.F.R. Part 60, Subpart JJJJ Requirements

(1) Manufacturer Certification Requirement

Generator #1 shall be certified by the manufacturer as meeting the emission standards for new nonroad spark ignition engines found in 40 C.F.R. Part 60, Subpart JJJJ, Table 1. [40 C.F.R. § 60.4233]

(2) Non-Resettable Hour Meter Requirement

A non-resettable hour meter shall be installed and operated on the engine. [40 C.F.R. § 60.4237]

(3) Operation and Maintenance Requirement

The engine shall be operated and maintained according to the manufacturer's written instructions or procedures developed by KYOCERA that are approved by the engine manufacturer. KYOCERA may only change those settings that are permitted by the manufacturer. [40 C.F.R. § 60.4243]

KYOCERA shall have available for review by the Department a copy of the manufacturer's written instructions or procedures developed by KYOCERA that are approved by the engine manufacturer for engine operation and maintenance. [06-096 C.M.R. ch. 115, BPT]

(4) Annual Time Limit for Maintenance and Testing

As an emergency engine, Generator #1 shall be limited to 100 hours/year for maintenance and testing. The emergency engine may operate up to 50 hours per year in non-emergency situations, but those 50 hours are included in the 100 hours total allowed for maintenance and testing. The 50 hours for non-emergency use cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity. [40 C.F.R. § 60.4243(d)]

(5) Recordkeeping

KYOCERA shall keep records that include maintenance conducted on the engine and the hours of operation of the engine recorded through the non-resettable hour meter. Documentation shall include the number of hours the unit operated for emergency purposes, the number of hours the unit operated for non-emergency purposes, and the reason the engine was in operation during each time. [40 C.F.R. § 60.4245(b)]

**4. National Emission Standards for Hazardous Air Pollutants (NESHAP):
40 C.F.R. Part 63, Subpart ZZZZ**

Pursuant to 40 C.F.R. § 63.6590(c), stationary spark ignition engines subject to regulations under 40 C.F.R. Part 60, Subpart JJJJ must meet the requirements of Subpart ZZZZ by meeting the requirements of 40 C.F.R. Part 60, Subpart JJJJ. No further requirements apply for Generator #1 under Subpart ZZZZ. [40 C.F.R. § 63.6590(c)]

E. Pyrolysis Ovens

KYOCERA operates three electric pyrolysis ovens which are used in the process once the pellets (the cores of the capacitors) are formed. The pellets go through a nitric acid/manganese nitrate solution and then are dried in the pre-dryers. The pyrolysis ovens use steam from the boilers to heat and react with the nitric acid/manganese nitrate.

The pyrolysis ovens emit relatively small quantities of NO_x, a byproduct of the reaction of the nitric acid, manganese nitrate, and superheated steam. No additional add-on NO_x controls are economically justified. NO_x emissions shall be minimized by minimizing the chemical usage and maximizing operational efficiency.

The BPT requirements for the pyrolysis ovens include the following:

KYOCERA shall operate the pyrolysis ovens in accordance with the facility's written procedures and work practices, based on manufacturer recommendations.

NO_x is generated from the use of manganese nitrate and nitric acid. Emissions are based on mass balance considering the concentration of the chemicals and the portion of each chemical remaining unreacted in the wastewater and waste shipped off site. NO_x emissions are then calculated based on the stoichiometric equations for the reactants based on material use.

KYOCERA shall not exceed an annual NO_x emission limit of 11.0 tons/year from the pyrolysis ovens, based on a twelve-month rolling total. Compliance shall be demonstrated on a mass-balance basis by recordkeeping including monthly records of chemical use.

F. De-Flash Machines

KYOCERA operates de-flash machines which utilize a blasting process where abrasives remove the excess plastic material from each capacitor once it is removed from its mold. The de-flash machines emit small quantities of particulate matter and are equipped with dust collectors rated at greater than 95% efficiency.

The BPT requirements for the de-flash machines include the following:

Particulate emissions from the de-flash machines shall be vented through fabric filter dust collectors, and the de-flash machines shall be maintained so as to prevent PM leaks. Particulate matter emissions from the operation of the de-

flash machines shall be limited to a total of 2.0 tons/year on a 12-month rolling total basis. Records, including media usage and control equipment efficiency estimates, shall be maintained to document compliance with the particulate matter emission limit.

Visible emissions from each of the de-flash machine exhausts shall not exceed 20% opacity on a six-minute block average basis.

G. VOC Processes

1. KYOCERA uses small quantities of VOC containing material throughout the facility for various processes including, but not limited to, the following:

- a. Silver Dip Process

The silver dip process consists of dipping the pellets into a slurry of metallic silver and high flash-point organic solvent as the final step of producing the capacitor core. The Department has determined that the silver dip process does not meet the definition of coating in *Surface Coating Facilities*, 06-096 C.M.R. ch. 129 since the process is not used to apply a “protective, decorative, or functional film.” Instead, the silver deposition is one stage in the formation of the capacitor itself. Therefore, the silver dip process is not subject to the requirements of 06-096 C.M.R. ch. 129. However, the VOC emissions from the process shall be included in the total facility VOC license limit.

- b. Marking Operation

The marking operation consists of marking the capacitors prior to shipment. The marking operation includes an automated stamping system for ink transfer efficiency optimization. KYOCERA uses approximately seven gallons of ink per year in the marking operations and is therefore exempt from 06-096 C.M.R. ch. 129 pursuant to 06-096 C.M.R. ch. 129 § 1.E.(1), which exempts coating units, lines, or operations using less than 50 gallons of coating per year. VOC emissions from the marking operation shall be included in the total facility VOC license limit.

- c. Vapor Degreaser

KYOCERA operates a batch vapor degreaser using “Ensolv-A,” which is primarily composed of 1-bromopropane. The machine has an opening of 1.98 square feet and a freeboard ratio of 1.12. The vapor degreaser is subject to *Solvent Cleaners*, 06-096 C.M.R. ch. 130. VOC emissions from

the solvent usage in the vapor degreaser shall be included in the total facility VOC license limit.

2. The BPT requirements for the VOC emitting processes at the facility include the following:
 - a. KYOCERA shall close all containers containing VOC material when not in immediate use.
 - b. KYOCERA shall maintain records of ink and thinner use to document that actual coatings used as applied from the marking operations are below 50 gallons per year.
 - c. KYOCERA shall not exceed an annual VOC emission limit of 10.0 tons/year from facility process operations, based on a 12-month rolling total. Compliance with the annual VOC limit shall be demonstrated by monthly records of VOC use.

H. Batch Vapor Cleaning Machine Chapter 130 Applicable Requirements
[06-096 C.M.R. ch. 130 § 7]

The state rule entitled *Solvent Cleaners*, 06-096 C.M.R. ch. 130 (Chapter 130), contains requirements for batch vapor cleaning machines in § 4. Alternatives to compliance with provisions of § 4 are specified in § 7 of Chapter 130. As an alternative to complying with the provisions of § 4, KYOCERA has chosen to comply with the alternative requirements under § 7(A).

KYOCERA shall maintain records sufficient to demonstrate compliance. The records shall include, at a minimum, the quantity of solvent added to and removed from the solvent cleaning machine, the dates of the addition and removal, and shall be maintained for not less than two years.

Note: Standard Condition (8) of this license requires all records be retained for six years; therefore, the five-year record retention requirement of Chapter 130 is satisfied by compliance with the more stringent six-year requirement.

Since the batch vapor cleaning machine has a solvent/air interface, KYOCERA shall:

1. Maintain a log of solvent additions and deletions for each solvent cleaning machine; and

2. Ensure that emissions from each solvent cleaning machine are equal to or less than the applicable emission limit from Chapter 130, Table 2. Table 2 specifies a three-month rolling average monthly emissions limit of 30.7 lb/ft² for a batch vapor solvent cleaning machine. The solvent/air interface for the unit is 18.5 inches by 12.5 inches, which equates to 1.6 ft², therefore limiting KYOCERA to 49.3 lbs of VOC per month, based on a three-month rolling average.

I. Electroplating Process

1. 40 C.F.R. Part 63, Subpart N

National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks, 40 C.F.R. Part 63, Subpart N does not apply to KYOCERA because there is no chromium electroplating or chromium anodizing conducted at the facility.

2. 40 C.F.R. Part 63, Subpart WWWWWW

National Emission Standards for Hazardous Air Pollutants (NESHAP): Area Source Standards for Plating and Polishing Operations, 40 C.F.R. Part 63, Subpart WWWWWW applies to plating and polishing facilities that use or have emissions of compounds of one or more “plating and polishing metal HAPs,” including cadmium, chromium, lead, manganese, and nickel. The plating room and equipment at KYOCERA were constructed and placed into operation in 2006, making the facility an existing facility pursuant to this rule.

a. Standards

KYOCERA's plating tanks are subject to the standards of 40 C.F.R. § 63.11507(a). KYOCERA complies with this standard by complying with the requirements of § 63.11507(a)(i) through (iii) by using a fume suppressant, “Ceramistan DM”, according to the following:

- (1) KYOCERA must initially add the wetting agent/fume suppressant in the amounts recommended by the manufacturer.
- (2) KYOCERA must add wetting agent/fume suppressant in proportion to the other bath chemistry ingredients that are added to replenish the bath, as in the original make-up of the bath, or in proportion such that the bath contents are returned to that of the original make-up of the bath.
- (3) If the wetting agent/fume suppressant is included in the electrolytic process bath chemicals used in the affected tank according to the manufacturer's instructions, it is not necessary to add additional wetting agent/fume suppressants to the tank to comply with this rule.

b. Management Practices

KYOCERA's shall implement the following applicable management practices for their plating tanks:

- (1) Minimize bath agitation when removing any parts processed in the tank, as practicable, except when necessary to meet part quality requirements.
- (2) Maximize the draining of bath solution back into the tank, as practicable, by extending drip time when removing parts from the tank; using drain boards (also known as drip shields); or withdrawing parts slowly from the tank, as practicable.
- (3) Optimize the design of barrels, racks, and parts to minimize drag-out of bath solution (such as using slotted barrels and tilted racks or by designing parts with flow-through holes to allow the tank solution to drip back into the tank), as practicable.
- (4) Use tank covers, if already owned and available at the facility, whenever practicable.
- (5) Minimize or reduce heating of process tanks, as practicable (e.g., when doing so would not interrupt production or adversely affect part quality).
- (6) Perform regular repair, maintenance, and preventative maintenance of racks, barrels, and other equipment associated with affected sources, as practicable.
- (7) Minimize bath contamination, such as through the prevention or quick recovery of dropped parts, use of distilled/de-ionized water, water filtration, pre-cleaning of parts to be plated, and thorough rinsing of pre-treated parts to be plated, as practicable.
- (8) Maintain quality control of materials used in the plating tanks and concentrations in the tanks of plating materials and other bath ingredients, as practicable.
- (9) Perform general good housekeeping, such as regular sweeping or vacuuming, if needed, and periodic washdowns, as practicable.
- (10) Minimize spills and overflow of tanks, as practicable.
- (11) Use squeegee rolls in continuous or reel-to-reel plating tanks, as practicable.
- (12) Perform regular inspections to identify leaks and other opportunities for pollution prevention.

[40 C.F.R. § 63.11507(g)]

c. Annual Compliance Certification

KYOCERA shall prepare an annual Certification of Compliance report according to the requirements described below. Each annual Certification of Compliance report shall be prepared no later than January 31 of the year immediately following the reporting period and kept in a readily accessible location for inspector review. If a deviation has occurred during the year, the annual Certification of Compliance report must be submitted along with the deviation report, and postmarked or delivered no later than January 31 of the year immediately following the reporting period.

- (1) For tanks used for electroplating, electroforming, or electropolishing which contain metal HAP and use a wetting agent/fume suppressant required by Subpart WWWW, KYOCERA shall demonstrate continuous compliance according to the following:
 - (i) Record that the facility has added the wetting agent/fume suppressant to the tank bath in the original make-up of the tank.
 - (ii) For tanks where the wetting agent/fume suppressant is a separate ingredient from the other tank additives, demonstrate continuous compliance according to the following:
 1. Add wetting agent/fume suppressant in proportion to the other bath chemistry ingredients that are added to replenish the tank bath, as in the original make-up of the tank; or in proportion such that the bath is brought back to the original make-up of the tank.
 2. Record each addition of wetting agent/fume suppressant to the tank bath.
 - (iii) In the annual Certification of Compliance report, state that the facility has added wetting agent/fume suppressant to the bath according to the manufacturer's specifications and instructions.
- (2) Implement the applicable management practices described in II(I)(2)(b) of this license. In the annual Certification of Compliance report, state that the facility has implemented the applicable management practices, as practicable.

d. Notification, Reporting, and Recordkeeping

(1) Notification of Compliance Status

The Notification of Compliance Status shall include the following items:

- (i) List of affected sources and the plating and polishing metal HAP used in or emitted by those sources.
- (ii) Methods used to comply with the applicable management practices and equipment standards.

- (iii) Description of the capture and emission control systems used to comply with the applicable equipment standards.
- (iv) Statement by KYOCERA as to whether the source is in compliance with the applicable standards or other requirements.

If KYOCERA makes a change to any of the items listed above that does not result in a deviation, an amended Notification of Compliance status shall be submitted to the EPA and the Department within 30 days of the change.

[40 C.F.R. § 63.11509(b)]

(2) Annual Certification of Compliance

The annual Certification of Compliance report must be prepared as described above in II(I)(2)(c). The report is not required to be submitted unless a deviation from the requirements of Subpart WWWWWW has occurred during the reporting year. If a deviation occurs, the annual Certification of Compliance report and the Deviation report shall be submitted.

(3) Deviations

If any deviations from the compliance requirements of Subpart WWWWWW occurred during the year, KYOCERA shall report the deviations, along with the corrective action taken, and submit this report with the annual Certification of Compliance to the EPA and Department.

(4) Records Retention

- (i) KYOCERA shall keep records including, but not limited to the Notification of Compliance Status submitted and all documentation supporting the notification and the records required to show continuous compliance with each management practice and equipment standard that applies to the facility.
- (ii) Records shall be in a form suitable and readily available for expeditious review. Each record must be kept for 5 years following the date of each recorded action. Each record must be kept on-site or be accessible from a central location by computer or other means that instantly provides access at the site for at least 2 years after the date of each recorded action. The records may be maintained off-site for the remaining 3 years. [40 C.F.R. § 63.11509(f)]

Note: Standard Condition (8) of this license requires all records be retained for six years; therefore, the five-year record retention

requirement of Subpart W is satisfied by compliance with the more stringent six-year requirement.

J. HAP Processes

During the capacitor manufacturing process, tantalum pellets are dipped into various solutions in a series of stages to impart specific electrical or physical properties to the capacitors. Ethylene glycol solutions are used during some electrolytic and healing stages. Most of the ethylene glycol is recovered or disposed of, although some evaporates from some processes. Mass balance techniques are used to track use, disposal, and emissions.

The BPT requirements for the HAP emitting processes at the facility include the following:

1. KYOCERA shall close all containers containing ethylene glycol (or other solutions containing HAPs) when not in immediate use.
2. KYOCERA shall not exceed an annual emission limit of 9.9 tons/year per single HAP or 24.9 tons/year for all HAPs combined from facility process operations, on a calendar-year basis. Compliance shall be demonstrated by monthly records of types and quantities of HAP-containing materials used and calculated HAP emissions.

K. Fugitive Visible Emissions

KYOCERA shall not cause emissions of any fugitive dust during any period of construction, reconstruction, or operation without taking reasonable precautions. Such reasonable precautions shall be included in the facility's continuing program of best management practices for suppression of fugitive particulate matter. See 06-096 C.M.R. ch. 101, § 4(C) for a list of potential reasonable precautions.

KYOCERA shall not cause or allow visible emissions within 20 feet of ground level, measured as any level of opacity and not including water vapor, beyond the legal boundary of the property on which such emissions occur. Compliance with this standard shall be determined pursuant to 40 C.F.R. Part 60, Appendix A, Method 22.

L. Annual Emissions

The table below provides an estimate of facility-wide annual emissions for the purposes of calculating the facility's annual air license fee and establishing the facility's potential to emit (PTE). Only licensed equipment is included, i.e.,

emissions from insignificant activities are excluded. Similarly, unquantifiable fugitive particulate matter emissions are not included except when required by state or federal regulations. Maximum potential emissions were calculated based on the following assumptions:

- Boilers #1, #2, and #3 were calculated based on KYOCERA being limited to a heat input limit of 56,000 MMBtu/year, using the equivalent of 400,000 gallons per year of distillate fuel for PM, PM₁₀, PM_{2.5}, SO₂, and NO_x and 54,368,000 scf/year for CO and VOC;
- Operating Generator #1 for 100 hrs/yr of non-emergency operation;
- An annual NO_x limit of 11.0 tpy from pyrolysis oven operation;
- A total process limit of PM emissions of 2.0 tpy for the de-flash machines;
- A process operations VOC limit of 10.0 tpy; and
- Facility-wide HAP limits of 9.9 tpy for any single HAP and 24.9 tpy for all HAP combined.

This information does not represent a comprehensive list of license restrictions or permissions. That information is provided in the Order section of this license.

**Total Licensed Annual Emissions for the Facility
Tons/year**

(used to calculate the annual license fee)

	PM	PM₁₀	PM_{2.5}	SO₂	NO_x	CO	VOC
Boilers #1, #2, and #3	2.2	2.2	2.2	-	8.4	2.3	0.2
Generator #1	-	-	-	-	0.2	0.2	-
Pyrolysis Ovens	-	-	-	-	11.0	-	-
De-Flash Emissions	2.0	2.0	2.0	-	-	-	-
VOC from Process Operations	-	-	-	-	-	-	10.0
Total TPY	4.2	4.2	4.2	0.1 *	19.6	2.5	10.2

* Emissions were small, but not zero. Emissions were rounded up to the nearest tenth of a ton.

Pollutant	Tons/year
Single HAP	9.9
Total HAP	24.9

III. Ambient Air Quality Analysis

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

Pollutant	Tons/Year
PM ₁₀	25
PM _{2.5}	15
SO ₂	50
NO _x	50
CO	250

The total licensed annual emissions for the facility are below the emission levels contained in the table above and there are no extenuating circumstances; therefore, an ambient air quality impact analysis is not required as part of this license.

This determination is based on information provided by the applicant regarding licensed emission units. If the Department determines that any parameter (e.g., stack size, configuration, flow rate, emission rates, nearby structures, etc.) deviates from what was included in the application, the Department may require KYOCERA to submit additional information and may require an ambient air quality impact analysis at that time.

Order

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

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

The Department hereby grants Air Emission License A-664-71-K-R subject to the following conditions.

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

Standard Conditions

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 M.R.S. § 347-C).
- (2) The licensee shall acquire a new or amended air emission license prior to beginning actual construction of a modification, unless specifically provided for in Chapter 115. [06-096 C.M.R. ch. 115]
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 C.M.R. ch. 115]
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 C.M.R. ch. 115]
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S. § 353-A. [06-096 C.M.R. ch. 115] Payment of the annual air emission license fee for KYOCERA is due by the end of May of each year. [38 M.R.S. § 353-A(3)]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 C.M.R. ch. 115]
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 C.M.R. ch. 115]
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records

for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 C.M.R. ch. 115]

- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [06-096 C.M.R. ch. 115]
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [06-096 C.M.R. ch. 115]
- (11) In accordance with the Department's air emission compliance test protocol and 40 C.F.R. Part 60 or other method approved or required by the Department, the licensee shall:
 - A. Perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
 - 1. Within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
 - 2. Pursuant to any other requirement of this license to perform stack testing.
 - B. Install or make provisions to install test ports that meet the criteria of 40 C.F.R. Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
 - C. Submit a written report to the Department within thirty (30) days from date of test completion.
[06-096 C.M.R. ch. 115]
- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
 - A. Within thirty (30) days following receipt of the written test report by the Department, or another alternative timeframe approved by the Department, the licensee shall re-test the non-complying emission source under circumstances

representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 C.F.R. Part 60 or other method approved or required by the Department; and

- B. The days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
- C. The licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.

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

- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or license requirement. [06-096 C.M.R. ch. 115]
- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emissions and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [06-096 C.M.R. ch. 115]
- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 C.M.R. ch. 115]
- (16) The licensee shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (38 M.R.S. § 605).

Specific Conditions

(17) Boilers #1, #2, and #3

A. Fuel

1. Boilers #1, #2, and #3 are each licensed to fire natural gas and use distillate fuel as a back-up fuel. [06-096 C.M.R. ch. 115, BPT]
2. Total heat input to Boilers #1, #2, and #3 combined shall be limited to 56,000 MMBtu/year, on a 12-month rolling total basis. Heat input from distillate fuel usage is to be converted based on a heat content value of 0.14 MMBtu/gal and heat input from natural gas usage is to be converted based on a heat content value of 1.03×10^{-3} MMBtu/scf. [06-096 C.M.R. ch. 115, BPT]
3. The facility shall not purchase or otherwise obtain distillate fuel with a maximum sulfur content that exceeds 0.0015% by weight (15 ppm). [06-096 C.M.R. ch. 115, BPT]
4. Compliance shall be demonstrated by fuel records showing the type and the percent sulfur of the fuel delivered (if applicable). Fuel sulfur content compliance shall be demonstrated by fuel delivery receipts from the supplier, a statement from the supplier that the fuel delivered meets Maine's fuel sulfur content standards, certificate of analysis, or testing of fuel in the tank on-site. [06-096 C.M.R. ch. 115, BPT]

B. Emissions shall not exceed the following:

Emission Unit	Fuel Type	Pollutant	lb/MMBtu	Origin and Authority
Boiler #3	Natural Gas	PM	0.05	06-096 C.M.R. ch. 115, BPT
Boiler #3	Distillate Fuel	PM	0.08	06-096 C.M.R. ch. 115, BPT

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

Emission Unit	Fuel Type	PM (lb/hr)	PM ₁₀ (lb/hr)	PM _{2.5} (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1	Natural Gas	0.13	0.13	0.13	-	0.24	0.20	0.01
Boiler #1	Distillate Fuel	0.20	0.20	0.20	-	0.75	0.09	0.01
Boiler #2	Natural Gas	0.13	0.13	0.13	-	0.24	0.20	0.01
Boiler #2	Distillate Fuel	0.20	0.20	0.20	-	0.75	0.09	0.01
Boiler #3	Natural Gas	0.35	0.35	0.35	-	0.68	0.57	0.04
Boiler #3	Distillate Fuel	0.56	0.56	0.56	0.01	2.10	0.25	0.02

- D. Visible emissions from any boiler (Boilers #1, #2, or #3) firing natural gas shall not exceed 10% opacity on a six-minute block average basis.
[06-096 C.M.R. ch. 101, § 4(A)(3)]
- E. Visible emissions from any boiler (Boilers #1, #2, or #3) firing distillate fuel shall not exceed 20% opacity on a six-minute block average basis.
[06-096 C.M.R. ch. 101, § 4(A)(2)]
- F. Operational Limitation

KYOCERA may only fire distillate fuel in Boilers #1, #2, and #3 during periods of gas curtailment or supply interruption (as defined in 40 C.F.R. § 63.11237 "Period of gas curtailment or supply interruption"), startups, or for periodic testing, maintenance, or operator training on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours during any calendar year. [06-096 C.M.R. ch. 115, BPT]

(18) Generator #1

- A. Generator #1 shall fire propane. [06-096 C.M.R. ch. 115, BPT]
- B. KYOCERA shall keep records of all maintenance conducted on the engine associated with Generator #1. [06-096 C.M.R. ch. 115, BPT]
- C. Emissions shall not exceed the following:

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

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

Unit	PM (lb/hr)	PM ₁₀ (lb/hr)	PM _{2.5} (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #1	0.03	0.03	0.03	-	2.97	4.60	0.04

- E. Visible Emissions

Visible emissions from Generator #1 shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 101, § 4(A)(4)]

F. Generator #1 shall meet the applicable requirements of 40 C.F.R. Part 60, Subpart JJJJ, including the following: [incorporated under 06-096 C.M.R. ch. 115, BPT]

1. Manufacturer Certification

Generator #1 shall be certified by the manufacturer as meeting the emission standards for new nonroad spark ignition engines found in 40 C.F.R. Part 60, Subpart JJJJ, Table 1.

2. Non-Resettable Hour Meter

A non-resettable hour meter shall be installed and operated on the engine. [40 C.F.R. § 60.4237 and 06-096 C.M.R. ch. 115, BPT]

3. Annual Time Limit for Maintenance and Testing

a. As an emergency engine, Generator #1 shall be limited to 100 hours/year for maintenance checks and readiness testing. Up to 50 hours/year of the 100 hours/year may be used in non-emergency situations (this does not include peak shaving, demand response, or to generate income for a facility by providing power to an electric grid or otherwise supply power as part of a financial arrangement with another entity). The limits are based on a calendar year. Compliance shall be demonstrated by records (electronic or written log) of all engine operating hours. [40 C.F.R. § 60.4243(d) and 06-096 C.M.R. ch. 115, BPT]

b. KYOCERA shall keep records that include maintenance conducted on the engine and the hours of operation of the engine recorded through the non-resettable hour meter. Documentation shall include the number of hours the unit operated for emergency purposes, the number of hours the unit operated for non-emergency purposes, and the reason the engine was in operation during each time. [40 C.F.R. § 60.4245(b)]

4. Operation and Maintenance

The engine shall be operated and maintained according to the manufacturer's written instructions or procedures developed by KYOCERA that are approved by the engine manufacturer. KYOCERA may only change those settings that are permitted by the manufacturer. [40 C.F.R. § 60.4243]

KYOCERA shall have available for review by the Department a copy of the manufacturer's emission-related written instructions for engine operation and maintenance. [06-096 C.M.R. ch. 115, BPT]

(19) Pyrolysis Ovens

- A. KYOCERA shall operate the pyrolysis ovens in accordance with the facility's written procedures and work practices, based on manufacturer recommendations. [06-096 C.M.R. ch. 115, BPT]
- B. KYOCERA shall not exceed an annual NO_x emission limit of 11.0 tons/year from the pyrolysis ovens, on a 12-month rolling total basis. Compliance shall be demonstrated by recordkeeping including monthly records of types and quantities of materials used. [06-096 C.M.R. ch. 115, BPT]

(20) De-Flash Machines

- A. Particulate matter emissions from the De-Flash Machines shall be vented through fabric filter dust collectors. The De-Flash Machines shall be maintained so as to prevent PM leaks. [06-096 C.M.R. ch. 115, BPT]
- B. Particulate matter emissions from the De-Flash Machines shall be limited to a total of 2.0 tons/year, on a 12-month rolling total basis. Compliance shall be demonstrated by recordkeeping including monthly records of media use and the manufacturer's control efficiency estimate of the fabric filters. [06-096 C.M.R. ch. 115, BPT]
- C. Visible emissions from the De-Flash Machine exhausts shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BPT]

(21) VOC Processes

- A. KYOCERA shall close all containers containing VOC material when not in immediate use. [06-096 C.M.R. ch. 115, BPT]
- B. KYOCERA shall maintain usage records of inks and thinners to document that actual coatings use, as applied, from the marking operations are below the 06-096 C.M.R. ch. 129 threshold of 50 gallons per year. [06-096 C.M.R. ch. 129 and 06-096 C.M.R. ch. 115, BPT]
- C. KYOCERA shall maintain monthly records of the total solvent used in the vapor degreaser (added and removed). The vapor degreaser shall be operated in accordance with the applicable requirements of 06-096 C.M.R. ch. 130, as described in Condition (22). [06-096 C.M.R. ch. 130 and 06-096 C.M.R. ch. 115, BPT]

- D. KYOCERA shall not exceed an annual VOC emission limit of 10.0 tons/year from facility process operations, on a 12-month rolling total basis. Compliance shall be demonstrated by monthly records of types and quantities used of VOC-containing materials. [06-096 C.M.R. ch. 115, BPT]

(22) Batch Vapor Cleaning Machine

- A. KYOCERA shall maintain a log of solvent additions and deletions for each solvent cleaning machine.
- B. KYOCERA shall maintain records documenting that emissions from each solvent cleaning machine do not exceed 49.3 lbs of VOC per month, based on a three-month rolling average.
- C. KYOCERA shall maintain records sufficient to demonstrate compliance with applicable requirements of 06-096 C.M.R. ch. 130. The records shall include, at a minimum, the quantity of solvent added to and removed from the solvent cleaning machine, the dates of the addition and removal, and shall be maintained for not less than two years.

Note: Standard Condition (8) of this license requires all records be retained for six years; therefore, the five-year record retention requirement of 06-096 C.M.R. ch. 130 is satisfied by compliance with the more stringent six-year requirement.

[06-096 C.M.R. ch.130, § 7.A]

(23) HAP Processes

- A. KYOCERA shall close all containers containing ethylene glycol or other solutions containing HAPs when not in immediate use.
[06-096 C.M.R. ch. 115, BPT]
- B. KYOCERA facility-wide HAP emissions shall not exceed 9.9 tons/year of any individual HAP or 24.9 tons per year of all HAPs combined, on a calendar-year total basis. [06-096 C.M.R. ch. 115, BPT]
- C. KYOCERA shall demonstrate compliance with the HAP limits above by maintaining monthly records of types and quantities of HAP-containing materials used and calculated HAP emissions. [06-096 C.M.R. ch. 115, BPT]

(24) Electroplating Process

A. Management Practices

KYOCERA shall implement the following applicable management practices for their plating tanks:

1. Minimize bath agitation when removing any parts processed in the tank, as practicable, except when necessary to meet part quality requirements.
2. Maximize the draining of bath solution back into the tank, as practicable, by extending drip time when removing parts from the tank; using drain boards (also known as drip shields); or withdrawing parts slowly from the tank, as practicable.
3. Optimize the design of barrels, racks, and parts to minimize drag-out of bath solution (such as using slotted barrels and tilted racks, or by designing parts with flow-through holes to allow the tank solution to drip back into the tank), as practicable.
4. Use tank covers, whenever practicable.
5. Minimize or reduce heating of process tanks, as practicable (e.g., when doing so would not interrupt production or adversely affect part quality).
6. Perform regular repair, maintenance, and preventative maintenance of racks, barrels, and other equipment associated with affected sources, as practicable.
7. Minimize bath contamination, such as through the prevention or quick recovery of dropped parts, use of distilled/de-ionized water, water filtration, pre-cleaning of parts to be plated, and thorough rinsing of pre-treated parts to be plated, as practicable.
8. Maintain quality control materials used in the plating tanks and concentrations in the tanks of plating material and other bath ingredients, as practicable.
9. Perform general good housekeeping, such as regular sweeping or vacuuming, if needed, and periodic washdowns, as practicable.
10. Minimize spills and overflow of tanks, as practicable.
11. Use squeegee rolls in continuous or reel-to-reel plating tanks, as practicable.
12. Perform regular inspections to identify leaks and other opportunities for pollution prevention.

[40 C.F.R. § 63.11507(g)]

B. Demonstrating Continuous Compliance

1. KYOCERA shall always operate and maintain the tanks subject to Subpart WWWWWW.

2. KYOCERA shall prepare an annual Certification of Compliance report according to the requirements described in this condition. Each annual Certification of Compliance report shall be prepared no later than January 31 of the year immediately following the reporting period and kept in a readily accessible location for the inspector to review. If a deviation has occurred during the year, each annual Certification of Compliance report must be submitted along with the deviation report and postmarked or delivered no later than January 31 of the year immediately following the reporting period.
3. For tanks used for electroplating, electroforming, or electropolishing that contain metal HAP and use a wetting agent/fume suppressant required by Subpart WWWW, continuous compliance shall be demonstrated according to the following:
 - a. KYOCERA shall record that the facility has added the wetting agent/fume suppressant to the tank bath in the original make-up of the tank.
 - b. For tanks where the wetting agent/fume suppressant is a separate ingredient from the other tank additives, KYOCERA shall demonstrate continuous compliance according to the following:
 - (1) KYOCERA shall add wetting agent/fume suppressant in proportion to the other bath chemistry ingredients that are added to replenish the tank bath, as in the original make-up of the tank; or in proportion such that the bath is brought back to the original make-up of the tank.
 - (2) KYOCERA shall record each addition of wetting agent/fume suppressant to the tank bath.
 - c. In their annual Certification of Compliance report, KYOCERA shall state the facility has added wetting agent/fume suppressant to the bath according to the manufacturer's specifications and instructions.
4. KYOCERA shall implement the applicable management practices described in Specific Condition (23)(A) of this air emission license. In their annual Certification of Compliance report, KYOCERA shall state the facility has implemented the applicable management practices, as practicable.

C. Notification, Reporting, and Recordkeeping

1. Notification of Compliance Status

If KYOCERA makes a change to any of the following items that does not result in a deviation, an amended Notification of Compliance status shall be submitted to the EPA and the Department within 30 days of the change.

- a. List of affected sources and the plating and polishing metal HAP used in or emitted by those sources.
- b. Methods used to comply with the applicable management practices and equipment standards.
- c. Description of the capture and emission control systems used to comply with the applicable equipment standards.
- d. Statement by KYOCERA as to whether the source is in compliance with the applicable standards or other requirements.

[40 C.F.R. § 63.11509(b)(3)]

2. Annual Certification of Compliance

The annual Certification of Compliance report should be prepared as described in Condition (24)(B). The certification does not need to be submitted unless a deviation from these requirements of Subpart WWWWWW has occurred during the reporting year. If a deviation occurs, this certification as well as the deviation report shall be submitted. [40 C.F.R. § 63.11509(c)]

3. Deviation Report

If any deviations from the compliance requirements of Subpart WWWWWW occurred during the year, KYOCERA shall report the deviations, along with the corrective action taken, and submit this report with the annual Certification of Compliance report to the EPA and the Department. [40 C.F.R. § 63.11509(d)]

4. Record Retention

- a. KYOCERA shall keep records including but not limited to the Notification of Compliance Status submitted and all documentation supporting the notification and the records required to show continuous compliance with each management practice and equipment standard that applies to the facility. [40 C.F.R. § 63.11509(e)]

- b. Records shall be in a form suitable and readily available for expeditious review. Each record must be kept for 5 years following the date of each recorded action. Each record must be kept on-site or be accessible from a central location by computer or other means that instantly provides access at the site for at least 2 years after the date of each recorded action. The records may be maintained off-site for the remaining 3 years. [40 C.F.R. § 63.11509(f)]

Note: Standard Condition (8) of this license requires all records be retained for six years; therefore, the five-year record retention requirement of Subpart WWWWWW is satisfied by compliance with the more stringent six-year requirement. [06-096 C.M.R. ch. 115, BPT]

(25) Fugitive Visible Emissions [06-096 C.M.R. ch. 101, § 4(C)]

- A. KYOCERA shall not cause emissions of any fugitive dust during any period of construction, reconstruction, or operation without taking reasonable precautions. Such reasonable precautions shall be included in the facility's continuing program of best management practices for suppression of fugitive particulate matter. See 06-096 C.M.R. ch. 101, § 4(C) for a list of potential reasonable precautions.
- B. KYOCERA shall not cause or allow visible emissions within 20 feet of ground level, measured as any level of opacity and not including water vapor, beyond the legal boundary of the property on which such emissions occur. Compliance with this standard shall be determined pursuant to 40 C.F.R. Part 60, Appendix A, Method 22.

**KYOCERA AVX Components
(Biddeford) Corporation
York County
Biddeford, Maine
A-664-71-K-R**

34

**Departmental
Findings of Fact and Order
Air Emission License
Renewal**

(26) Additional Information

If the Department determines that any parameter value pertaining to construction and operation of the emissions units, including but not limited to stack size, configuration, flow rate, emission rates, nearby structures, etc., deviates from what was submitted in the application or ambient air quality impact analysis for this air emission license, KYOCERA may be required to submit additional information. Upon written request from the Department, KYOCERA shall provide information necessary to demonstrate ambient air quality standards (AAQS) will not be exceeded, potentially including submission of an ambient air quality impact analysis or an application to amend this air emission license to resolve any deficiencies and ensure compliance with AAQS. Submission of this information is due within 60 days of the Department's written request unless otherwise stated in the Department's letter. [06-096 C.M.R. ch. 115, § 2(O)]

Done and Dated in Augusta, Maine this 20th day of AUGUST, 2026.

Department of Environmental Protection

BY: _____

for Melanie Loyzim, Commissioner

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

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

Please note attached sheet for guidance on appeal procedures.

Date of initial receipt of application: May 14, 2026

Date of application acceptance: May 15, 2026

This Order prepared by Zac Hicks, Bureau of Air Quality.