



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI  
GOVERNOR

DAVID P. LITTELL  
COMMISSIONER

**AVX Tantalum Corporation  
York County  
Biddeford, Maine  
A-664-71-F-A**

**Departmental  
Findings of Fact and Order  
Air Emission License  
Amendment #1**

After review of the air emissions license amendment 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., §344 and §590, the Department finds the following facts:

**I. REGISTRATION**

A. Introduction

AVX Tantalum Corporation (AVX) has submitted an amendment application to add a new emergency generator to their current air emission license. AVX was issued air emission license A-664-71-E-R on March 13, 2006 allowing the manufacturing of tantalum capacitors with the associated equipment including three small boilers, pyrolysis ovens, a dip process, and other manufacturing processes. The capacitors are used in a variety of electronic equipment including pacemakers, hearing aides, medical implants, military equipment, power supplies, two-way radios, computers, etc.

This amendment also includes a correction to add the 2.0 tpy particulate matter limit from the de-flash process which was inadvertently not included in the renewal.

B. Emission Equipment

The following equipment is addressed in this air emission license:

**Emergency Generator**

<u>Equipment</u>	<u>Input Capacity (MMBtu/hr)</u>	<u>Capacity (kW)</u>	<u>Firing Rate (gal/hr)</u>	<u>Fuel Type</u>
Generator 1	1.31	100	13.95	propane

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AUGUSTA, MAINE 04333-0017  
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RAY BLDG., HOSPITAL ST.

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

PRESQUE ISLE  
1235 CENTRAL DRIVE, SKYWAY PARK  
PRESQUE ISLE, MAINE 04769-2094  
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C. Application Classification

The modification of a minor source is considered a major modification based on whether or not expected emission increases exceed the "Significant Emission Levels" as defined in *Definitions Regulation*, 06-096 CMR 100 (last amended December 24, 2005). The emission increases are determined by subtracting the current licensed emissions preceding the modification from the maximum future licensed allowed emissions, as follows:

<b>Pollutant</b>	<b>Current License (TPY)</b>	<b>Future License (TPY)</b>	<b>Net Change (TPY)</b>	<b>Sig. Level</b>
PM*	3.4	5.4	+2.0	100
PM <sub>10</sub> *	3.4	5.4	+2.0	100
SO <sub>2</sub>	14.1	14.1	-	100
NO <sub>x</sub>	19.4	19.5	+ 0.1	100
CO	1.0	1.1	+ 0.1	100
VOC	10.1	10.1	-	50

\* Note: The increase in PM is a correction. The renewal in 2006 omitted the 2.0 tpy from the de-flash process.

This modification 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 06-096 CMR 100. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

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

B. Emergency Generator

AVX is proposing to install a propane fired emergency generator. The unit will be an Olympian 100 kW generator manufactured in 2009 with a firing rate of 13.95 gal/hr (1.31 MMBtu/hr).

‘Emergency Generator’ is defined as any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary engines used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary engines used to pump water in the case of fire or flood. Stationary engines used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines.

Generator 1 was ordered after July 11, 2005 and manufactured after April 1, 2006, therefore, Generator 1 is subject to New Source Performance Standards 40 CFR Part 60, Subpart JJJJ, *Standards of Performance for Stationary Spark Ignition Internal Combustion Engines*.

A summary of the BACT analysis for the propane fired Generator 1 (1.31 MMBtu/hr, 100 kW, 147 hp) is the following:

- PM/PM<sub>10</sub> – based on Maine DEP guidance for propane fired boilers dated Aug. 26, 2006: 0.05 lb/MMBtu (0.07 lb/hr)
- SO<sub>2</sub> - based on Santa Barbara County Air Pollution Control District, Technical Information for SO<sub>x</sub> Gaseous Emission Factors (equivalent to mass balance): 0.017 lb/MMBtu (0.022 lb/hr)
- NO<sub>x</sub> – based on manufacturer’s data: 1.18 g/bhp-hr (0.38 lb/hr)
- CO – based on manufacturer’s data: 1.56 g/bhp-hr (0.51 lb/hr)
- VOC - based on manufacturer’s data: 0.03 g/bhp-hr (0.01 lb/hr)
- Opacity - Visible emissions from the Generator 1 shall not exceed 20% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period, based on *Visible Emissions*, 06-096 CMR 101 (last amended May 18, 2003)

Generator 1 shall be limited to 100 hr/yr of operation for maintenance checks and readiness testing. Generator 1 shall be limited to 500 hours per year of total operation. Both of these limits are based on a 12 month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours and Generator 1 shall be equipped with a non-resettable hour meter.

AVX shall operate and maintain Generator 1 in accordance with the manufacturer's written instructions.

C. Annual Emissions

AVX shall be restricted to the following annual emissions on a 12 month rolling total, based on a 400,000 gallons/year #2 fuel oil limit, 500 hours/year of generator operation, and process emission limits:

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

	<b>PM</b>	<b>PM<sub>10</sub></b>	<b>SO<sub>2</sub></b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>VOC</b>
Boilers	3.4	3.4	14.1	8.4	1.0	0.1
Generator 1	0.02	0.02	0.01	0.1	0.13	0.002
Pyrolysis Oven	-	-	-	11.0	-	-
De-Flash	2.0	2.0	-	-	-	-
Misc. VOC	-	-	-	-	-	10.0
<b>Total TPY</b>	<b>5.4</b>	<b>5.4</b>	<b>14.1</b>	<b>19.5</b>	<b>1.1</b>	<b>10.1</b>

### III. AMBIENT AIR QUALITY ANALYSIS

Based on the total facility licensed emissions, AVX is below the emissions levels 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-664-71-F-A subject to the conditions found in Air Emission License A-664-71-E-R and in the following conditions.

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

**NEW CONDITIONS**

**(24) Generator 1**

- A. Generator 1 shall fire only propane fuel. [06-096 CMR 115, BACT]
- B. Generator 1 shall be limited to 100 hr/yr of operation for maintenance checks and readiness testing. Generator 1 shall be limited to 500 hours per year of total operation. Both of these limits are based on a 12 month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours. [40 CFR 60.4243(d) and 06-096 CMR 115, BACT]
- C. Generator 1 shall be equipped with a non-resettable hour meter [40 CFR 60.4237 and 06-096 CMR 115, BACT]
- D. Generator 1 emissions shall not exceed the following [06-096 CMR 115, BACT]:

<b>Emission Unit</b>	<b>PM (lb/hr)</b>	<b>PM<sub>10</sub> (lb/hr)</b>	<b>SO<sub>2</sub> (lb/hr)</b>	<b>NO<sub>x</sub> (lb/hr)</b>	<b>CO (lb/hr)</b>	<b>VOC (lb/hr)</b>
Generator 1	0.07	0.07	0.022	0.38	0.51	0.01

- E. Generator 1 is subject to emission requirements set forth in 40 CFR 60, Subpart JJJJ. Compliance with these emission requirements shall be demonstrated by certification from the manufacturer. [40 CFR 60, Subpart JJJJ]
- F. AVX shall operate and maintain Generator 1 in accordance with the manufacturer's written instructions and keep records of conducted maintenance. [40 CFR 60.4243(a)(1)]
- G. AVX shall meet all applicable requirements of 40 CFR Part 60, Subpart JJJJ.

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H. Visible emissions from Generator 1 shall not exceed 20% opacity on a six (6) minute block average, except for no more than two (2) six (6) minute block averages in a continuous 3-hour period. [06-096 CMR 101]

DONE AND DATED IN AUGUSTA, MAINE THIS 23<sup>RD</sup> DAY OF Sept., 2009.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:



DAVID P. LITTELL, COMMISSIONER

**The term of this license shall be concurrent with air emission license A-664-71-E-R.**

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: June 22, 2009

Date of application acceptance: July 8, 2009

Date filed with the Board of Environmental Protection:

This Order prepared by Kathleen E. Tarbuck, Bureau of Air Quality.

