Appendix O & M Plan
O & M Plan for Aeropower Corporation
Facility ID: 1010335
Revised: 01/12/2012

Purpose: To facilitate procedure for controlling emissions from NPR's chromic acid anodize tank in accordance with facility's Title V air permit and pertinent EPA & FDEP regulations.

1.0 Applicable regulation

40 CFR part 63 subpart N- National Emission Standards for Chromium Emissions From Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks.

2.0 Emission control

Addition of surfactant based additive lowers surface tension of the chromic acid solution in anodize tank. When parts are anodized i.e. electrochemical formation of aluminum oxide on aluminum alloys, the outgassing from the anodize process creates a foam because of the lower surface tension of chromic acid solution. This foam acts like a fume suppressant by preventing chromic acid mist from being emitted into the environment.

3.0 Operations and Maintenance plan

Following is the operations and maintenance plan to comply with the chrome NESHAP (National Emission Standard for Hazardous Air Pollutants).

PALL AEROPOWER CORPORATION – NPR

Operations and Maintenance Plan
Controlling Emissions from Chromic Acid Anodize Process

1.0 Purpose

The purpose of this plan is to ensure operation of chromic acid anodize process in a way which meets the requirements of EPA's National Emission Standard for Chromium emissions (Ref: 40 CFR Part 63, subpart N).

2.0 Method of Compliance

Compliance is being achieved by lowering the surface tension of chromic acid solution by use of a wetting agent. The surface tension is maintained below 35 dynes/cm as measured with a tensiometer or below 45 dynes/cm as measured with a stalagmometer, which are the criteria in EPA's Chromium air emissions rule.
The wetting agent used for this application is Fumetrol 140 by Atotech or Chrome Mist Ease by Surtec International and distributed by Alert Sales.

3.0 Apparatus

Fisher Surface Tensiomat Model 21, manufactured by Fisher Scientific Company or Stalagmometer (chromium) by Kocour Company or equivalents.

4.0 Procedure

The surface tension of chromic acid solution is determined by following the procedure for determining surface tensions in Fischer's instruction booklet or Kocour's instructions for the stalagmometer.

5.0 Frequency

Surface tension of chromic acid solution is determined, at a minimum, every 40 hours of operation. If, at any time, the surface tension is found to be higher than 35 dynes/cm using a tensiometer or higher than 45 dynes/cm. using a stalagmometer then the frequency of determination is tightened in accordance with schedule outlined in EPA's rule (Ref: 40 CFR part 63, subpart N). The tightened frequency is a determination once every 4 hours for 40 hours, followed by once every 8 hours for 40 hours followed by back to once every 40 hours of operation. The same tightened frequency applies to new baths also.

6.0 Recordkeeping

The surface tension values are logged on the attached form (Surface Tension Log - Chromic Acid Anodize Tank).

4.0 Surface tension Log

Following is the surface tension log used for documenting compliance with the chrome NESHAP regulations.

PALL AEROPOWER CORPORATION

For compliance to EPA's National Emission Standard for Chromium Emissions from Chromium Anodizing Tanks. Ref: PACS-EMS-0671 procedure.

SURFACE TENSION LOG
CHROMIC ACID ANODIZE TANK

DATE/TIME	HOURS TANK OPERATED SINCE LAST MEASURE-MENT	SURFACE TENSION (DYNES/CM) 'S" or "T"	COMMENTS	ANALYST

Note - Maximum surface tension allowed: 35 dynes/cm as measured with a tensiometer (T) or 45 dynes/cm as measured with a stalagmometer (S).