

Au-TOMOTIVE GOLD, Inc.
Air Quality Permit # 1651

TECHNICAL SUPPORT DOCUMENT

April 2006

I. General Comments:

A. Company Information

1. Au-TOMOTIVE GOLD, INC.
2. Source Address: 2852 N. El Burrito Ave, Tucson, AZ, 85705
Mailing Address: 2862 N. El Burrito Ave, Tucson, AZ, 85705

B. Background

Au-TOMOTIVE GOLD, INC, the Permittee, produces automobile accessories using chromium, gold, and nickel plating facilities. In 1994 PDEQ determined and notified the source that did not require an air Quality permit as they did not “exceed the de minimis values for permitting.”¹ However, in 2005 in response to a site visit by Pima County Department of Environmental Quality (PDEQ) and subsequent research, it was determined that the source does require a permit as an area source under Pima County Code (PCC) 17.12.140 and subject to the Hard & Decorative Chromium MACT promulgated January 25, 1995.

C. Attainment Classification

Au-TOMOTIVE GOLD, Inc. is located in a region that is designated attainment for all criteria pollutants.

II. Source Description

A. Process Description

Chromium electroplating is a process by which a layer of chromium is electrodeposited on a base material (brass in the case of Au-tomotive Gold). The process is used to add a decorative layer onto the base material (decorative chromium electroplating).

To electroplate means to coat metal by using electrolysis. Electrolysis is the production of chemical changes by passage of an electric current through an electrolyte solution. A layer of chromium is deposited on a base metal through a chemical change created by an electric current passing through the solution. The result is a hard layer of chromium coating the base material.

An electroplating or anodizing bath is the electrolytic solution used as the conducting medium. Chromium plating generates hydrogen and oxygen at the electrodes. When these small gas bubbles break the surface of the solution, small droplets of chromium from the plating bath are formed. These chromium droplets constitute hazardous air pollutants and can be removed from the air by the use of air pollution control equipment.²

¹ For the full text of the letter see Appendix A.

² Adapted from “Background Information on Chromium Electroplating”. U.S. EPA Guidance Document. Available online at: <http://www.epa.gov/ttnuatw1/chrome/csigc.html>

B. Operating Capacity and Schedule

There are no operational limitations on capacity or schedule in the permit. The only limitation is that the Permittee has to exclusively use trivalent chromium baths that contain a wetting agent. This is to prevent the Permittee from triggering other additional requirements in Subpart N.

C. Applicability Categories

The following categories are addressed by the permit:

1. Chromium Electroplating; and
2. Facility-Wide Operations.

D. Air Pollution Control Equipment

Au-tomotive Gold operates scrubbers in conjunction with electroplating operations; however, they are not specifically required by rule or the permit.

III. Regulatory History

In 1994 Au-TOMOTIVE Gold submitted a permit application and PDEQ informed the source that an Air Quality Permit was not required (see Appendix A). This determination was before the January 25, 1995 promulgation date of 40 CFR 63 Subpart N. In 2005 PDEQ conducted an on-site inspection and determined that an Air Quality permit would be required due to the promulgation of 40 CFR Subpart N.

A. Testing & Inspections

None – New Source (Inspection performed in 2005 was not due to source having an air quality permit.

B. Excess Emissions

None – New Source

IV. Emissions Estimates

The following emissions estimates are for reference purposes only and are not intended to be enforceable limits unless specifically indicated elsewhere:

Pollutant	Tons per Year
Nitrogen Oxides (NO _x)	<1
Carbon Monoxide (CO)	<1
Volatile Organic Compounds (VOC)	<1
Particulate Matter (as PM ₁₀)	<1
Sulfur Oxides (SO _x)	<1
Hazardous Air Pollutants (HAPs)	<1

V. Applicable Requirements

A. Code of Federal Regulations, Title 40, Chapter 60 (40 CFR 60):

Subpart N³ NESHAPS for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks.

Discussion: Although 40 CFR 63.340(e) exempts Au-TOMOTIVE Gold from obtaining a Title V permit, it does not exempt the source from the requirement to obtain a Class II PDEQ permit under 17.12.140.B.2.a.ii. PCC requires a permit to be issued for each source with an applicable standard under 112 of the Act (NESHAPS). The source is subject to 40 CFR 63.340(a) as a decorative chrome electroplater; Furthermore, there are specific standards in the subpart that are applicable.

B. Pima County State Implementation Plan (SIP):

SIP 344 Odor Limiting Standards.

C. Pima County Code (PCC) Title 17, Chapter 17.16:

17.16.030 Odor Limiting Standards.
17.16.400 Organic Solvents and Other Organic Materials.

VI. Permit Contents

A. Applicability:

1. Chromium Electroplating;
2. Facility-Wide Operations.

B. Emission Limits/ Standards:

1. Chromium Electroplating;

Citation	Applicable Units	Standard Title	Description	Discussion
II.A.1	CrO ₃ Baths	Chromium Bath Standard	Requirement to exclusively use trivalent chromium baths that contain a wetting agent as received from vendors.	Requirement taken directly from 40 CFR 60.342(e). PCC 17.12.190 added to prevent Au-tomotive Gold from tripping additional requirements from Subpart N.
II.A.2	CrO ₃ Baths	Bath Switching Standard	Requirement to submit appropriate revision before using a Cr bath that does not meet the requirements of II.A.1.	17.12.190 requirement created to prevent Au-tomotive Gold from tripping additional requirements from Subpart N.

³ Full text of standard with comments provided in Appendix B.

2. Facility-Wide Operations.

Citation	Applicable Units	Standard Title	Description	Discussion
II.B.1	All Operations	Odor Limiting Standard	Prohibition from emitting gaseous or odorous materials so as to cause air pollution.	Standard taken directly from PCC 17.16.030 & SIP 344.
II.B.2	All Operations	VOC Storage Standard	Requirement to take precautions against unnecessary emissions of VOC.	Requirement taken directly from PCC 17.16.400.A.

C. Monitoring Requirements:

Citation	Applicable Units	Standard Title	Description	Discussion
III.A	CrO ₃ Baths	Bath Inspection Standard	Requirement to conduct monthly inspections with reference to bath components.	17.12.180.A.3 requirement created to provide basis for demonstrating on-going compliance.
III.B	Cr-Plating Operations	Plating Inspection Standard	Requirement to conduct monthly surveys of Cr-plating operations to ensure they are conducted properly.	17.12.180.A.3 requirement created to provide basis for demonstrating compliance.
III.C	VOC Storage Units	VOC Storage Inspection Standard	Requirement to conduct monthly inspections of facility to confirm that VOC containers are covered.	17.12.180.A.3 requirement created to provide a basis for demonstrating on-going compliance.

D. Recordkeeping Requirements:

Citation	Applicable Units	Standard Title	Description	Discussion
IV.A	CrO ₃ Baths	Bath Recordkeeping Standard	Requirement to keep records of bath components.	Requirement taken directly from 40 CFR 63.346(b)(14)
IV.B.1	All Operations	Inspection Records	Requirement to record results of inspections at facility.	Requirement created to show compliance with inspection requirements of III
IV.B.2	All Operations	Retention of records and permit	Requirement to retain all records and permit posting requirements.	Requirement taken directly from PCC 17.12.080 and 17.12.180.A.4.b.
IV.B.3	All Records	Recordkeeping Maintenance Standard	Requirement to keep records on-site for 5 years.	Requirement taken directly from PCC 17.12.180.A.4.b and streamlined with 40 CFR 63.346(c).

F. Reporting Requirements:

1. Chromium Electroplating;

Citation	Applicable Units	Standard Title	Description	Discussion
V.A.1	Cr-Plating	Initial Notification Standard	Requirement for initial notification to be submitted to the Administrator and control officer.	Requirement taken directly from 40 CFR 63.347(i)(1). The standard has been applied retroactively. Automotive Gold submitted this notification April 25, 2006 as a result of a Compliance Status Letter dated March 28 th , 2005.
V.A.2	Cr-Plating	Initial Compliance Notification Standard	Requirement for initial compliance notification to be submitted to the Administrator and control officer.	Requirement taken directly from 40 CFR 63.347(i)(2). The standard has been applied retroactively. Automotive Gold submitted this notification April 25, 2006 as a result of a Compliance Status Letter dated March 28 th , 2005.

2. Facility-Wide Operations

Citation	Applicable Units	Standard Title	Description	Discussion
V.B.1	All Operations	Special Reporting Standard	Requirement for prompt notification of permit deviations.	Requirement taken from 17.12.180.A.5.b.
V.B.2	All Operations	Emissions Inventory Standard	Requirement for annual emissions inventory report when requested or required.	Requirement taken from 17.12.320.

G. Testing Requirements:

Citation	Applicable Units	Standard Title	Description	Discussion
VI	All Operations	Testing Standard	Requirement to contact the control officer for appropriate test methods should the Permittee desire or be required to test.	No testing standards are specifically required by rule.

APPENDIX A

February 14, 1994 NPR Letter

Prepared for

Au-TOMOTIVE GOLD, INC.



DEPARTMENT OF ENVIRONMENTAL QUALITY
130 West Congress Street
Tucson, Arizona 85701-1317

COPY

DAVID M. ESPOSITO
Director

(602) 740-3340
FAX (602) 882-7709

February 14, 1994

Joseph B. Bottieri
Automotive Gold, Inc.
2852 N. El Burrito Dr.
Tucson, AZ 85705

RE: AIR POLLUTION PERMIT APPLICATION FOR A PLATING OPERATION
AT 2852 N. EL BURRITO AVENUE, TUCSON, ARIZONA DATED 02-02-94

Dear Mr. Bottieri:

Following is the department interpretation of the title 17 with regard to the above referenced application -

No air pollution permit is required since it is our understanding that your operation does not exceed the de minimis values for permitting. However, you should keep in mind that Pima County rules require you to comply with 17.16.100 G. of the Pima County Code as follows:

"In addition to any other permits or approvals that may be required pursuant to this Title, all sources of metallic particulates that are not covered by a standard under this chapter for which a permit is issued by the control officer, shall propose RACT for the reduction of actual emissions and concentration of metallic particulates as part of the permit application. The control officer shall review the RACT proposal and shall issue a permit if the proposal demonstrates adequate control measures to achieve emissions reductions."

The three scrubbers currently serving the nickel, gold, and tri-valent chrome plating lines are considered adequate control measures.



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February 9, 1994
Automotive Gold, Inc.

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If you have any questions please call Bill Maxwell at 740-3383.

Sincerely,



Don Burtchin
Environmental Planning Manager

JM:jm

xc: Bill Maxwell

FINAL

APPENDIX B

**40 CFR 63 Subpart N - NESHAPS For Chromium Emissions
From Hard And Decorative Chromium Electroplating and
Chromium Anodizing Tanks**

Prepared for

Au-TOMOTIVE GOLD, INC.

The following are the Standards applicable to Au-Gold from 40 CFR 63 Subpart N. The complete standard follows.

§ 63.340 Applicability and designation of sources.

(a) The affected source to which the provisions of this subpart apply is each chromium electroplating tank at facilities performing decorative chromium electroplating

(c) Process tanks associated with a chromium electroplating or chromium anodizing process, but in which neither chromium electroplating nor chromium anodizing is taking place, are not subject to the provisions of this subpart. Examples of such tanks include, but are not limited to, rinse tanks, etching tanks, and cleaning tanks. Likewise, tanks that contain a chromium solution, but in which no electrolytic process occurs, are not subject to this subpart. An example of such a tank is a chrome conversion coating tank where no electrical current is applied.

§ 63.341 Definitions and nomenclature.

Tank operation means the time in which current and/or voltage is being applied to a chromium electroplating tank or a chromium anodizing tank.

§ 63.342 Standards.

(a) Each owner or operator of an affected source subject to the provisions of this subpart shall comply with these requirements on and after the compliance dates specified in §63.343(a). All affected sources are regulated by applying maximum achievable control technology.

(b) Applicability of emission limitations.

(1) The emission limitations in this section apply during tank operation as defined in §63.341, and during periods of startup and shutdown as these are routine occurrences for affected sources subject to this subpart. The emission limitations do not apply during periods of malfunction, but the work practice standards that address operation and maintenance and that are required by paragraph (f) of this section must be followed during malfunctions.

(e) Standards for decorative chromium electroplating tanks using a trivalent chromium bath.

(1) Each owner or operator of an existing, new, or reconstructed decorative chromium electroplating tank that uses a trivalent chromium bath that incorporates a wetting agent as a bath ingredient is subject to the recordkeeping and reporting requirements of §§63.346(b)(14) and 63.347(i), but are not subject to the work practice requirements of paragraph (f) of this section, or the continuous compliance monitoring requirements in §63.343(c). The wetting agent must be an ingredient in the trivalent chromium bath components purchased from vendors.

(3) Each owner or operator of existing, new, or reconstructed decorative chromium electroplating tank that had been using a trivalent chromium bath that incorporates a wetting agent and ceases using this type of bath must fulfill the reporting requirements of §63.347(i)(3) and comply with the applicable emission limitation within the timeframe specified in §63.343(a)(7).

§ 63.343 Compliance provisions.

(a) Compliance dates.

(1) The owner or operator of an existing affected source shall comply with the emission limitations in §63.342 as follows:

(i) No later than 1 year after January 25, 1995, if the affected source is a decorative chromium electroplating tank;

(3) The owner or operator of an existing area source that increases actual or potential emissions of hazardous air pollutants such that the area source becomes a major source must comply with the provisions for existing major sources, including the reporting provisions of §63.347(g), immediately upon becoming a major source.

(7) An owner or operator of a decorative chromium electroplating tank that uses a trivalent chromium bath that incorporates a wetting agent, and that ceases using the trivalent chromium process, must comply with the emission limitation now applicable to the tank within 1 year of switching bath operation.

(b) *Methods to demonstrate initial compliance.*

(3) If the affected source is a decorative chromium electroplating tank using a trivalent chromium bath, and the owner or operator is subject to the provisions of §63.342(e), an initial performance test is not required to be conducted under this subpart.

§ 63.344 Performance test requirements and test methods.

§ 63.345 Provisions for new and reconstructed sources.

§ 63.346 Recordkeeping requirements.

(b) The owner or operator of an affected source subject to the provisions of this subpart shall maintain the following records for such source:

(14) For sources complying with §63.342(e), records of the bath components purchased, with the wetting agent clearly identified as a bath constituent contained in one of the components;

(c) All records shall be maintained for a period of 5 years in accordance with §63.10(b)(1).

§ 63.347 Reporting requirements.

(i) *Reports associated with trivalent chromium baths.* The requirements of this paragraph do not alleviate affected sources from complying with the requirements of State or Federal operating permit programs under title V. Owners or operators complying with the provisions of §63.342(e) are not subject to paragraphs (a) through (h) of this section, but must instead submit the following reports:

(1) Within 180 days after January 25, 1995, submit an initial notification that includes:

(i) The same information as is required by paragraphs (c)(1) (i) through (v) of this section; and

(ii) A statement that a trivalent chromium process that incorporates a wetting agent will be used to comply with §63.342(e); and

(iii) The list of bath components that comprise the trivalent chromium bath, with the wetting agent clearly identified; and

(2) Within 30 days of the compliance date specified in §63.343(a), a notification of compliance status that contains an update of the information submitted in accordance with paragraph (i)(1) of this section or a statement that the information is still accurate; and

(c) *Initial notifications.*

(1) The owner or operator of an affected source that has an initial startup before January 25, 1995, shall notify the Administrator in writing that the source is subject to this subpart. The notification shall be submitted no later than 180 calendar days after January 25, 1995, and shall contain the following information:

(i) The name, title, and address of the owner or operator;

(ii) The address (i.e., physical location) of each affected source;

(iii) A statement that subpart N of this part is the basis for this notification;

(iv) Identification of the applicable emission limitation and compliance date for each affected source;

(v) A brief description of each affected source, including the type of process operation performed;