

**T3 Engineered Products
Air Quality Permit # 1347**

TECHNICAL SUPPORT DOCUMENT

January 29, 2007

I. General Comments:

A. Company Information

1. T3 Engineered Products

2. Physical Address

2560 N. Coyote #108
Tucson, AZ 85745

Mailing Address

6680 N. Paddock Pl.
Tucson, AZ 85743

B. Background

This is the first 5-year permit for T3 Engineered Products, the Permittee. The source had been operating under a 1-year permit with the name Triangle Industrial Corporation. An application dated June 18, 2002 was submitted for a minor revision to construct Tank 11, a new hard chromium electroplating tank. This tank has still not been put into service. T3 Engineered Products will be required to follow all requirements of 40 CFR 63 Subpart N before putting Tank 11 into service. The application was also for a permit renewal. Triangle Industrial Corporation was sold to T3 Engineered Products in August of 2006. The operating permit at that time was transferred to the new owner. Permit processing was continued and the permit will be issued to the new owner.

C. Attainment Classification

The source is located in an area which is in attainment for all criteria pollutants.

II. Source Description

A. Process Description

The source is a large hard chromium electroplater and an area source under 40 CFR 63 Subpart N – NESHAPs for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks. (T3 Engineered Products cumulative potential capacity is ~ 514.5 MM amp-hr/yr) which is greater than the 60 million ampere-hours per year (amp-hr/yr) in Subpart N). The source operates 11 enclosed electroplating tanks of various size and capacity, 10 of which were operational at the time of permit issuance.

B. Air Pollution Control Equipment

The Permittee operates composite mesh pad scrubber systems in conjunction with a floating cover consisting of plastic particles. This technology combination is unique and original to the source for which the Permittee is seeking a patent. Consequently, this technology falls under 63.343(d) (air pollution devices not specifically listed in 63.343(c)). While composite mesh scrubbers are a listed control technology, the source conducted performance testing with both the scrubber and plastic particles in place requiring them to subsequently utilize both to demonstrate ongoing compliance.

III. Regulatory History

The source has had regular inspections and is currently in compliance with air quality regulations.

IV. Emissions Estimates

The following emission rates are for reference purposes only and are not intended to be enforced by direct measurement unless otherwise noted in the Specific Conditions of the operating permit. See the potential to emit document for calculations.

Pollutant	Tons per Year
Chromium	Negligible
PM ₁₀	<1.0
Other Criteria Pollutants	Negligible
Other HAPs	Negligible

V. Applicable Requirements

- A. Code of Federal Regulations Title 40, Chapter 63 (40 CFR 63):

Subpart N National Emission Standards for Chromium Emissions From Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks

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

17.16.030 Odor Limiting Standards
 17.16.050 Visibility Limiting Standard
 17.16.130 Applicability

VI. Permit Contents

- A. Applicability:

Hard Chromium Electroplating – Pieces of equipment which conduct hard chromium electroplating by applying an electric current including the following internal and external components needed for chromium electroplating: tanks, rectifiers, anodes, heat exchanger equipment, circulation pumps, and air agitation systems.

- B. Emission Limits/ Standards:

Citation	Applicable Units	Standard Title	Description	Discussion
II.A	HCE tanks	Chromium Emissions	Applicability of standards during various scenarios.	Standard taken directly from 40 CFR 63.342(b)(1).
II.B	APCD tanks	APCD	Requirement to operate APCDs when corresponding tanks are being operated.	Standard drawn from 40 CFR 63.342(b)(2).
II.C	HCE tanks	Chromium Emissions	Emissions no greater than 0.015 mg/dscm from any/all chromium electroplating tanks.	Requirement taken directly from 40 CFR 63.342(c)(2)(i).

Citation	Applicable Units	Standard Title	Description	Discussion
II.D	HCE tanks	APCD outlet Concentration	Requirement to meet the standard in II.A.1 at the outlet of each APCD.	Standard taken directly from 40 CFR 63.344(e)(2).
II.E	HCE tanks	O&M Practice	Requirements to continually operate and maintain source according to good air pollution control practices.	Requirement taken directly from 40 CFR 63.342(f)(1).
II.F	HCE tanks	O&M Plan	Requirement for Permittee to draft and follow a PDEQ approved Operations and Maintenance Plan that meets specific parameters.	Requirement taken directly from 40 CFR 63.342(f)(3).
II.G	HCE tanks	O&M Oversight	Provision for the Control Officer to evaluate and require revisions to be made to O&M Plans.	Standard taken directly from 40 CFR 63.342(f)(2).
II.H	HCE tanks	Major Source	Requirement to comply with certain provisions should the Permittee become a major source.	Requirement streamlined between PCC 17.12.140, 17.12.260, and 40 CFR 63.343(a)(3).

C. Monitoring Requirements:

Citation	Applicable Units	Standard Title	Description	Discussion
III	HCE tanks	Daily Monitoring	Requirement to develop and implement a monitoring scheme in the O&M Plan.	Standard based in PCC 17.12.185.A.3.c.

D. Recordkeeping Requirements:

Citation	Applicable Units	Standard Title	Description	Discussion
IV.A	HCE tanks	O&M plan Maintenance	Requirement to maintain O&M Plan (current and previous versions) on-site as specified.	Requirement taken directly from 40 CFR 63.342(f)(3)(v).
IV.B	HCE tanks	General HCE Recordkeeping	Requirement to maintain comprehensive records of source operations as specified.	Requirements taken directly from 40 CFR 63.346(b)(1-6 & 9-11).
IV.C	Facility-wide operations	Records Maintenance	Requirement to maintain all records for a period of at least 5 years.	Requirement streamlined from PCC 17.12.185.A.4.b and 40 CFR 63.346(c).
IV.D	Facility-wide operations	Permit Maintenance	Requirement to maintain and post the permit on-site.	Requirement taken directly from PCC 17.12.080.

E. Reporting Requirements:

Citation	Applicable Units	Standard Title	Description	Discussion
V.A	HCE tanks	N/A	Requirement to fulfill all reporting requirements identified	Requirement taken directly from 63.347(a).
V.B	HCE tanks	Initial Notification	Requirement to have submitted initial notifications for tanks operational before Jan 25, 1995.	Requirement taken directly from 63.347(c)(1).
V.C	Tank 11	Tank 11 Initial Notification	Requirement to submit initial notifications with startup of Tank 11.	Requirement taken directly from 40 CFR 63.347(c)(2)(iii).
V.D	APCDs	APCD Notification	Requirement to submit preliminary notifications for Tank 11's APCDs.	Requirements taken directly from 40 CFR 63.343(d).
V.E	HCE tanks	O&M Deviation Reporting Standard	Requirement to report actions taken during malfunctions inconsistent with O&M Plan.	Requirement taken directly from 40 CFR 63.34342(f)(3)(iv).
V.F	Tank 11	Initial Test Notification	Requirement to notify Control Officer prior to initial performance test.	Requirement taken directly from 40 CFR 63.347(d).
V.G	Tank 11	Compliance Status Notification	Requirement to submit an initial compliance status notification report that includes the information specified.	Requirement taken directly from 40 CFR 63.347(e). Item V.G.1.i is taken from 63.347(f). Item 10 is streamlined from 63.347(e)(2 & 3) and 347(f).
V.H.1	HCE tanks	Annual Summary Reports	Requirement to prepare & retain onsite an annual ongoing compliance status summary report to be made to the Control Officer upon request.	Requirement taken directly from 40 CFR 63.347(h)(1).
V.H.2	HCE tanks	Exceedance Reports	Requirement to submit the summary report semiannually upon an emissions exceedance.	Requirement taken directly from 40 CFR 63.347(h)(2).
V.I	Facility-wide operations	Emissions Inventory	Standard requirement to submit annual emissions inventory reports when required.	Requirement taken from PCC 17.12.320.

F. Testing Requirements:

Citation	Applicable Units	Standard Title	Description	Discussion
VI.A.1	HCE tanks	Initial Testing	Requirement to conduct initial testing on each new operational tank-scrubber combination.	Requirement taken directly from 40 CFR 63.343(b)(1). Testing has already been completed on tanks 1-4 with scrubber 1 and tanks 5-10 with scrubber 2.
VI.A.2	HCE tanks	Initial Testing	Requirement to conduct initial testing on each operational tank-scrubber combination.	Tank 11 with scrubber 3 will be tested upon startup.

Citation	Applicable Units	Standard Title	Description	Discussion
VI.B	Facility-wide operations	Performance Testing	Requirement to contact the Control Officer before conducting performance testing for appropriate test methods.	Requirement based on PCC 17.20.010.D. As the Control Officer shall make final compliance determinations, it would benefit the source to confer with the Control Officer before conducting any testing for the purpose of demonstrating compliance with any requirement.



