TECHNICAL SUPPORT DOCUMENT (April 2011)

I. GENERAL COMMENTS:

A. Company Information

Organization Name: Chirco Granite Fabrication, Inc.
Mailing Address: 3242 S. Richey Avenue, Tucson, Arizona 85713
Facility Address: 3238 E. Columbia Street, Tucson, Arizona 85714

B. Background

None – New Source

C. Attainment Classification

The source is located in Pima County, an area that is in attainment for all pollutants.

II. SOURCE DESCRIPTION

Chirco Granite Fabrication, Inc. is a reinforcement plastics composites production facility.

A. Process Description

The composite production at the facility utilizes open molding techniques. A layer of gel coat is applied by non-atomized spray and allowed to cure. Polyester resins are applied by hand to the substrate and allowed to cure.

B. Air Pollution Control Equipment

None specified.

III. REGULATORY HISTORY

A. Testing & Inspections

None (New Source)

B. Excess Emissions

None (New Source)

IV. EMISSIONS ESTIMATES

The emission calculations submitted in the permit application and source letter dated October 7, 2009 were reviewed and extrapolated to determine the potential to emit (PTE). The facility has a potential to emit more than 10 tons per year of a single hazardous air pollutant (styrene) and is therefore determined to be a major source. The following calculation supports this determination:

Based on the data submitted for the period October 2008 through July 2009 (10 months):
Total Resin Used = 60743 lbs, Total Gel coat Used = 2680 lbs

The source stipulated in a meeting with PDEQ on July 24, 2009 that they foresee using 2-3 times more resin and gel coat within the next 5 years. This brings the yearly total to approx 219000 lbs/yr resin and approx 10,000 lbs/yr gel coat. The potential to emit spreadsheet demonstrates that styrene emissions for the facility at 21.6 tons/yr (over 11.6 tons greater than the major source threshold).

The potential resin and gel coat consumption over the next five years would generate 32.5 tons/yr of volatile organic compounds emissions.

Pollutant	Potential To Emit (Tons Per Year)
Volatile Organic Compounds (VOC)	32.5
Total Hazardous Air Pollutants (HAPS)	21.6

Potential emissions from the facility are limited by the organic HAP content (% by weight) of styrene per resin/gel coat application method as required in Table 3 and Table 7 of 40 CFR 63 Subpart WWWW. This limitation ensures the source remains compliant with the emission limitation specified in Subpart WWWW.

V. APPLICABLE REQUIREMENTS

Based on facility operations, Chirco is subject to the reinforced plastic composites production NESHAP rule which became effective for all new and existing sources on April 21, 2003.

Chirco cannot avoid the NESHAP rule through the use of a 'synthetic minor limitation' (i.e. a product usage limitation which curbs potential emissions below major source thresholds), because Chirco did not apply for a synthetic minor limitation prior to beginning operations; In addition, EPA has an established "once in always in" policy for facilities which become subject to NESHAP standards after the compliance dates for new sources (August 2, 2001) and existing sources April 21, 2006.

VI. PERMIT CONTENTS

Each standard will be addressed relative to the corresponding standard in the permit. Where applicable, the citation of the related standard is included [in brackets].

A. Applicability

This is a Class I Stationary Source for a single HAP (styrene) and a true minor source of all other criteria pollutants.

B. Emission Limits/ Standards:

II.A Reinforced Plastic Composites Production

II.A.1 – Resin and gel coat material use limitation to avoid additional recordkeeping and monitoring requirements from 40 CFR 63 Subpart WWWW.

II.A.2 – Resin HAP percentage limitation per open molding (hand lay-up) operation and application method. Limitation provides the facility a method of demonstrating compliance with the emission limits identified in Table 3 in 40 CFR 63 Subpart WWWW.

II.A.3 – Gel coat styrene limitation. Limitation provides the facility a method of demonstrating compliance with the emission limits identified in Table 3 in 40 CFR 63 Subpart WWWW.

II.A.4 – Resin and gel coat delivery system requirements to utilizing "fluid impingement technology" to produce a non-atomized stream on all spray coat delivery systems. Requirement allows the source to use a lower emission factor to determine the potential to emit identified in Table 3 of 40 CFR 63 Subpart WWWW.

II.A.5 – Work Practice Standards.

II.A.5.a – Compliance with HAP emission limitations and HAP content limits without the use of add-on controls.

II.A.5.b – Type of cleaning solvent use restriction, HAP containing materials storage operations and mixing operations.

II.B All Operations

II.B.1 – Federal requirement relating to the operation and maintenance for minimizing emissions at all times. This is a condition identified in the applicable NESHAP Subpart WWWWW [40 CFR 63.5835(c)].

II.B.2 – The Odor Limiting Standard is a local only standard. Many resins used in the composite industry emit styrene vapors which are considered hazardous in high concentrations and whose odor is an unpleasant nuisance. The Permittee is prohibited to emit gaseous or odorous materials from equipment, operations or premises under the Permittee's control in such quantities or concentrations as to cause air pollution.

II.B.3 – The Opacity Standard as identified in the Pima County Code. The Permittee cannot allow any equipment under his control to emit effluents from a single emission point, multiple emission point, or fugitive emissions source to have an average optical density greater than 20% (the degree to which light cannot pass through the plume of effluent/exhaust.) The Permittee demonstrates compliance with this regulation to PDEQ by checking the emission points under his control quarterly, and keeping complete records of these checks.

II.B.4 – Visible Limiting Standard (Property boundary line standard as identified in the Pima County Code 17.16.050.D). The Permittee is required to take all reasonably necessary and feasible precautions to control generation of airborne particulate matter.

II.B.5 – Material handling standard. Pima County Code standard of performance for unclassified sources PCC 17.16.430.F. The Permittee is required to control the discharge of solvents and other volatile compounds into the ambient air so as not to cause or contribute to air pollution. The unclassified designation applies to this reinforced plastic composites production facility as it is not specifically identified as a type of source within Article IV of the Pima County Code.

II.B.6 – Control of Air Pollution. Pima County Code standard of performance for unclassified sources PCC 17.16.430.G. The Control Officer retains the right to request the Permittee to the installation of abatement equipment or the alteration of such stack, vent or other outlet to a degree that will adequately dilute, reduce or eliminate the potential discharge of air pollution to adjoining property.

II.B.7 – Federal requirement requesting a startup, shutdown, and malfunction plan according to the provisions in 40 CFR 63.6(e)(3) for any organic HAP emissions limits met using an add-on control Add on Control Device. The source currently does not use an add on control device to meet the standard.

C. Monitoring Requirements:

III.A Reinforced Plastic Composites Production.

III.A.1 – Material usage requirement. Voluntary accepted emission limitation and standard as identified in Pima County Code 17.12.190. The resin and gel coat limitations exist to allow the max usage of materials to stay in compliance with the federal enforceable emission limit (Table 3 of the NESHAP 40 CFR 63 Subpart WWWW.

III.A.2 – Federal requirement for the collection and retention of material information (MSDS sheets) to demonstrate compliance with the organic HAP content limitations in II.A.2 and II.A.3 of the Specific Conditions.

III.A.3 – Federal requirement to monitor and collect data associated with malfunctions, associated repairs, and required quality assurance or control activities.

III.4-5 – Federal requirements to collect and keep records of resin and gel coat use and organic HAP content to demonstrate compliance with the organic HAP emissions limit in Tables 3 or 5 to Subpart WWWW.

III.B All Operations.

III.B.1-6 – The monthly inspection requirements. These standards are federally enforceable applicable work practices that the Permittee is subject to. The standards are identified in Table 4 of the NESHAP 40 CFR 63 Subpart WWWW, 40 CFR 63.5805(c).

D. Recordkeeping Requirements:

IV.A Reinforced Plastic Composites Production.

IV.A.1 – Material usage (resin and gel coat) requirement to show compliance with II.A.1 & III.A.1 of the specific conditions.

IV.A.2 – Monthly inventory/usage of resins to demonstrate compliance with the organic HAP content limitations in II.A.2 and II.A.3 of the specific conditions.

IV.A.4 – Yearly totals of resins to demonstrate compliance with the organic HAP emission limits in Table 3 or Table 5 to Subpart WWWW.

IV.A.5 – Federal requirement to provided initial notification or notification of compliance status requirement from the MACT.

IV.A.6 – Federal requirement for start-up, shutdown and malfunction records.

IV.A.7 – Federal requirement for maintaining records of performance tests, design and performance evaluations (if required)

IV.A.8 – Federal requirement for maintaining compliance status reports with respect to all work practice standards.

IV.B Format of records.

IV.B.1-4 – Federal requirement for the maintenance of all applicable MACT records in the format requested and as specified.

E. Reporting Requirements:

V.A Reinforced Plastic Composites Production.

Semiannual reports of required monitoring: Class I facilities that have been issued final permits are required to submit a monitoring report to PDEQ Compliance Program every six months. The report includes a statement indicating that all monitoring required by the permit was conducted. Monitoring may include observations, measurements, calculations, sampling and anything else involved with the operation of equipment that is required by the permit to be monitored. Also, the monitoring report must identify all instances of deviations from permit requirements. The following sections identify the monitoring report requirements:

V.A.1 – Total VOC and HAP emissions from each operation/application type.

V.A.2 – VOC and HAP 12-month rolling totals (in tons) of gel coats used.

V.A.3 – Summary of the results of the monthly inspections.

V.A.4 – Summary reports due dates when required to be submitted.

V.B – Compliance Certification Reporting requirements

V.C – Emission Inventory Reporting

F. Testing Requirements:

VI.A – Established EPA test method for the purpose of establishing whether or not the facility has violated or is in violation of the opacity standard.

VI.B – Provision for the Control Officer to request testing to confirm the information contained in the manufacturer's product information sheet.

VI.C – Provision for the Control Officer to request testing for odor if there is cause to believe a violation of a standard has been committed.

G. Alternate Operating Scenarios:

No alternate operating scenarios requested by the Permittee.

H. Miscellaneous Comments:

If the Permittee wishes to use a resin or gel coat application technology (new or existing), whose emission characteristics are not represented by the equations in Table 1 of Subpart WWWW, then the Permittee may use the procedures in paragraphs (a) or (b) below to establish an organic HAP emissions factor. This organic HAP emissions factor may then be used to determine compliance with the emission limits in the Subpart WWWW, and to calculate facility organic HAP emissions.

(a) Perform an organic HAP emissions test to determine a site-specific organic HAP emissions factor using the test procedures in CFR 63.5850.

(b) Submit a petition to the Control Officer for administrative review of this subpart. This petition

must contain a description of the resin or gel coat application technology and supporting organic HAP emissions test data obtained using EPA test methods or their equivalent. The emission test data should be obtained using a range of resin or gel coat HAP contents to demonstrate the effectiveness of the technology under the different conditions, and to demonstrate that the technology will be effective at different sites. PDEQ will review the submitted data, and, if appropriate, update the equations in Table 1 to this subpart.

VII. IMPACTS TO AMBIENT AIR QUALITY

Not applicable. The source is not subject to PSD or NSR review and there are no local requirements to study impacts to air quality.

VIII. PREVIOUS PERMIT CONDITIONS

None, Chirco Granite Fabrication Inc. is a new source.

Attachment 2
NESHAP Subpart WWWW Regulatory Review

This appendix describes the regulatory analysis of the applicable NESHAP rule.

40 CFR 63, Subpart WWWW National Emission Standards for Hazardous Air Pollutants for Reinforced Plastic Composites Production

This subpart establishes national emissions standards for hazardous air pollutants (NESHAP) for reinforced plastic composites production. This subpart also establishes compliance options, operating requirements, and work practice requirements to demonstrate initial and continuous compliance with the hazardous air pollutants (HAP) emissions standards for open molding, polymer casting, mixing, and cleaning of equipment procedures used in reinforced plastic composites manufacture. The requirements of this subpart apply to this facility because the facility-wide HAP emissions of the facility exceed major source thresholds.

40 CFR 63.5785(a) Am I subject to this subpart?

The requirements of this subpart apply to this facility because the facility owns or operates a reinforced plastic composites production facility that is located at a major source of HAP emissions.

40 CFR 63.5787 What if I also manufacture fiberglass boats or boat parts?

40 CFR 63.5787(a) applies because the source meets the applicability criteria in 40 CFR 63.5785, and is not subject to the Boat Manufacturing NESHAP (40 CFR Part 63, subpart VVVV). The requirements of 40 CFR 63.5785(b) through (d) does not apply because the facility is not subject to the Boat Manufacturing NESHAP (40 CFR Part 63, subpart VVVV).

40 CFR 63.5790 What parts of my plant does this subpart cover?

In accordance with 40 CFR 63.5790(a), the facility is subject to this subpart because it is a new or existing facility. In accordance with 40 CFR 63.5790(b), the affected sources located at the facility are open molding, mixing, cleaning of equipment used in reinforced plastic composites manufacture, HAP- containing materials storage, and repair operations on parts that the facility manufactures. The requirements of 40 CFR 63.5790(d) does not apply because the facility does not manufacture parts that are required to meet military specifications.

40 CFR 63.5795 How do I know if my reinforced plastic composites production facility is a new affected source or an existing affected source?

In accordance with 40 CFR 63.5795(a) and (b), the facility is a new affected source because it began construction after August 2, 2001.

40 CFR 63.5796 What are the organic HAP emissions factor equations in Table 1 to this subpart, and how are they used in this subpart?

This section is informational.

40 CFR 63.5797 How do I determine the organic HAP content of my resins and gel coats?

In accordance with 40 CFR 63.5797, the Permittee may rely on information provided by the material manufacturer, such as manufacturer's formulation data and material safety data sheets (MSDS), using the procedures specified in 40 CFR 63.5797(a) through (c).

40 CFR 63.5798 What if I want to use, or I manufacture, an application technology (new or existing) whose organic HAP emissions characteristics are not represented by the equations in Table 1 to this subpart?

This section is informational and is not currently applicable to the Permittee.

40 CFR 63.5799 How do I calculate my facility's organic HAP emissions on a tpy basis for purposes of determining which paragraphs of 40 CFR 63.5805?

In accordance with 40 CFR 63.5799, the facility is a "new facility after start-up", and therefore required to use the procedures in either paragraph (b)(1) or (2) of this section to calculate the facility's organic HAP emissions in tpy for purposes of determining which paragraphs in 40 CFR 63.5805 apply to the facility.

40 CFR 63.5800 When do I have to comply with this subpart?

In accordance with 40 CFR 63.5800, the Permittee must comply with the standards in this subpart by the dates specified in Table 2 to this subpart. For an existing source, the date specified in Table 2 is April 21, 2006. The Permittee has organic HAP emissions standard based on a 12-month rolling total, and, therefore, must begin collecting data on the compliance date in order to demonstrate compliance.

40 CFR 63.5805 What standards must I meet to comply with this?

40 CFR 63.5805(a), (a)(1), and (a)(2) do not apply to the facility because it does not have any centrifugal casting or continuous casting/lamination operations. In accordance to 40 CFR 63.5805(b) and (c) the Permittee must meet the organic HAP emissions limits in Table 3 to this subpart and the work practice standards in Table 4 to this subpart that apply, regardless of the quantity of HAP emitted. The requirements of 40 CFR 63.5805(d) through (f) do not apply because the facility is not a new source nor is it a existing source that emits 100 tpy or more of HAP emissions, subject to the provisions of (d)(2) of the subpart. All repair operations must meet the requirements in Tables 3 and 4 to subpart WWWW. The requirement of 40 CFR 63.5805(h) does not apply because the facility does not use an add-on control device to comply with this subpart.

40 CFR 63.5810 What are my options for meeting the standards for open molding and centrifugal casting operations at new and existing sources?

The facility must use one of the methods in 40 CFR 63.5810 paragraphs (a) through (d) to meet the standards for open molding in Table 3 of this subpart.

40 CFR 63.5820 What are my options for meeting the standards for continuous lamination/casting operations?

Paragraphs (a) through (d) of this section do not apply to the facility because the facility has open molding operations, and is not subject to the standards continuous lamination/casting operations.

40 CFR 63.5830 What are my options for meeting the standards for pultrusion operations subject to the 60 weight percent organic HAP emissions reductions requirement?

40 CFR 63.5830 and paragraphs (a) through (d) of the section do not apply to the facility because the facility has open molding operations, and is not subject to the standards for pultrusion operations subject to the 60 weight percent organic HAP emissions reductions requirement.

40 CFR 63.5835 What are my general requirements for complying with this subpart?

Paragraph (a) of this section applies to the facility and requires the facility to be in compliance at all times with the work practice standards in Table 4 and the organic HAP emissions limits in Table 3. Paragraph (b) of this section does not apply because the facility does not use add-on controls. Paragraphs (c) and (d) of 40 CFR 63.5835 generally apply to all facilities subject to 40 CFR 63, Subpart WWWW.

40 CFR 63.5840 By what date must I conduct a performance test or other initial compliance demonstration?

The facility must comply with the data collection and compliance demonstration requirements of this paragraph by the compliance date specified by 40 CFR 63.5800, Table 2 of subpart WWWW.

40 CFR 63.5845 When must I conduct subsequent performance tests?

This section does not apply to the Permittee because it does not operate an add-on control device to meet a standard.

40 CFR 63.5850 How do I conduct performance tests, performance evaluations, and design evaluations?

Paragraph (a)(e)(f)(g) & (h) does not apply to the Permittee because these requirements apply to facilities that operate an add-on control device to meet a standard. Paragraphs (b)(c) & (d) apply.

40 CFR 63.5855 What are my monitor installation and operation requirements?

This section does not apply to the Permittee because these requirements apply to facilities that operate an add-on control device to meet a standard.

40 CFR 63.5860 How do I demonstrate initial compliance with the standards?

Paragraph (a) of this section applies to the facility and requires the facility demonstrate initial compliance with each applicable organic HAP emissions standard in 40 CFR 63.5805 paragraphs (a) through (h) by using the procedures shown in Tables 8 and 9 of this subpart. Specifically, only item 1 of Table 8 applies, and items 2 &3 of Table 9 apply. Paragraph (b) of this section does not apply to the Permittee because these requirements apply to facilities that operate an add-on control device to meet a standard.

40 CFR 63.5865-5890 What data must I generate to demonstrate compliance with the standards for continuous lamination/casting operations?

This section does not apply to the Permittee because these requirements apply to facilities that have continuous lamination/casting operations. The facility has open molding operations.

40 CFR 63.5895 How do I monitor and collect data to demonstrate continuous compliance?

Paragraph (a) of this section does not apply to the Permittee because this requirement applies to facilities that operate an add-on control device to meet a standard. Paragraphs (b), (b)(1) through (b)(3), (c) and (d) of this section apply. Paragraph (b)(4) is informational. Paragraph (e) of this section does not apply to the Permittee because this requirement applies to facilities that operate pultrusion machines.

40 CFR 63.5900 How do I demonstrate continuous compliance with the standards?

Paragraph (a)(1), (a)(3) and (d) of this section do not apply to the Permittee because these requirements apply to facilities that operate an add-on control device to meet a standard. Paragraphs (a)(2) through (a)(4), (b), (c) and (e) of this section apply.

40 CFR 63.5905 What notifications must I submit and when?

Paragraphs (a) and (b) of this section apply. The facility is subject to the initial notification requirements for existing sources under Table 13.

40 CFR 63.5910 What reports must I submit and when?

Paragraphs (a), (b), (b)(1) through (b)(5), (c), (c)(1) through (c)(5), (d)(1) and (2), and (h), (i) and (g) of this section apply. Paragraphs (c)(6), (e), and (e)(1) through (e)(12) do not apply because the facility does not operate a continuous monitoring system. Paragraph (f) does not apply because 40 CFR 63.5805(a)(1) and (d).

40 CFR 63.5915 What records must I keep?

Paragraphs (a), (a)(1) through (3), (c), and (d) of this section apply. Paragraphs (b) of this section does not apply to the Permittee because this requirement applies to facilities that operate an add-on control device, which the Permittee does not. Paragraphs (e)(1) through (4) of this section do not apply because the facility does not have new or existing continuous lamination/ casting operations.

40 CFR 63.5920 In what form and how long must I keep my records?

Paragraphs (a) through (d) of this section apply.

40 CFR 63.5925 What parts of the General Provisions apply to me?

This section and Table 15 of Subpart WWWW, applies to this facility as specified.

40 CFR 63.5930 Who implements and enforces this subpart?

This section does not apply to the facility

40 CFR 63.5935 What definitions apply to this subpart?

The definitions of this section apply to the facility.