TECHNICAL SUPPORT DOCUMENT (TSD)

I. GENERAL COMMENTS:

A. Company Information

1. Tucson Iron & Metal

2. Source Address 4484 East Tennessee Street, Tucson, Arizona 85701
   Mailing Address P.O. Box 28898, Tucson, Arizona 85726

B. Background

Tucson Iron and Metal (TIM), historically known as AMCEP, AMCEP Inc., Bob's Airpark, Airmet Corporation and Kolar Inc., have been permitted since May 1973.

On April 17, 2007, TIM submitted a permit renewal application; however the application was determined to be incomplete. The application was deemed complete on May 2, 2007 after receipt of additional information. This permit and TSD supports the permit written as a result of the renewal application.

The facility is subject to New Source Performance Standards (NSPS) for Secondary Aluminum Production (Part 63 Subpart RRR) and Title 17 of the Pima County Code.

C. Attainment Classification

TIM is located in a region that is designated as attainment for all criteria pollutants.

II. SOURCE DESCRIPTION

A. Process Description

TIM is a metal recycling facility. The significant process activities which generate air emissions include the operation of a secondary aluminum sweater and an incinerator.

The secondary aluminum sweat furnace is used exclusively to reclaim aluminum scrap. The incinerator is used to destroy material limited to: marijuana, cocaine, methamphetamine, pharmaceuticals, wood, paper, burlap/fabric and associated wrapping.

For the purposes of the permit, "pharmaceutical" means any chemical product, vaccine or allergenic (including any product with the primary purpose to dispense or deliver a chemical product, vaccine or allergenic), not containing a radioactive component, that is intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease or injury in man or other animals; or any chemical product, vaccine or allergenic (including any product with the primary purpose to dispense or deliver a chemical product, vaccine or allergenic), not containing a radioactive component, that is intended to affect the structure or function of the body in man or other animals. This definition includes products such as transdermal patches, and oral delivery devices such as gums or lozenges. This definition does not include sharps or other infectious or biohazardous waste, dental amalgams, medical devices not used for delivery or dispensing purposes, equipment, contaminated personal protective equipment or contaminated cleaning materials. **[Definition of pharmaceuticals comes from EPA's Proposed Universal Waste Rule (Federal Register: December 2, 2008 (Volume 73, Number 232)), Proposed 40 CFR 273.9]**.

B. Air Pollution Control Equipment

All incinerator emissions are primarily directed through a 50,000 cubic feet per minute (CFM) baghouse. If the primary baghouse is inoperable, the facility retains the ability to redirect all incinerator emissions through a standby 35,000 CFM baghouse. This standby baghouse is equipped with a 2.8 MM Btu natural gas fired afterburner.

All the emissions from the secondary aluminum sweater are controlled by maintaining and operating the unit according to manufactures recommendations and established National Emission Standards for Hazardous Air Pollutants (NESHAP) permit conditions.

III. REGULATORY HISTORY

A. Testing & Inspections

The facility has been permitted since May 8, 1973 and has undergone regular inspections to date. Past enforcement actions are identified below:

As AMCEP, there are several documented air emission complaints for smoke and odor from the incineration process:
On 2/11/00, a Notice of Violation (NOV) was issued for failing to comply with the visible emission limitation permit condition. Remedial action was taken by AMCEP to correct the deficiency and in April of 2000, Pima County Department of Environmental Quality (PDEQ) determined the facility was compliant.

As TIM, there are also several documented air emission compliance violations, notably:

April 6, 2009, NOV (4 Violations)

- Failure to maintain operational records for the aluminum sweat furnace and afterburner between December 2008 and February 24, 2009.
- Failure to operate the aluminum sweat furnace and afterburner according to the OM&M plan.
- Failure to maintain a data logger to record the operating temperature of the afterburner and failed to maintain records of the temperature data.
- Failure to submit semiannual excess emissions/summary reports.

[This enforcement action was adequately resolved and subsequently closed in October 2009.]

February 15, 2007, CSL (1 Violation)

- CSL for the failure to operate the incinerator in a manner to prevent fugitive emissions greater than 20 percent.

[This enforcement action was adequately resolved and subsequently closed in June 2000.]

March 29, 2005, NOV (5 Violations)

- Failure to operate the sweat furnace and control equipment according to the applicable federally enforceable permit condition.
- Failure to submit a operation maintenance and monitoring plan to PDEQ as specified in the applicable federally enforceable permit condition.
- Failure to install, calibrate, maintain, and operate a device to continuously monitor and record the operating temperature of the afterburner consistent with the requirements for continuous monitoring system.
- Failure to produce any records that indicate the afterburner on the sweat furnace is being inspected at least once per year pursuant to the federally enforceable permit condition.

- Failure to develop and implement a written plan that contains specific procedures to be followed for operating and maintaining the source during periods of startup, shutdown, and malfunction, and a program of corrective action for malfunctioning process and air pollution control equipment used to comply with the standard

[Remedial action was taken by TIM to correct the deficiencies and as a result PDEQ determined the facility was compliant on February 13, 2006.]

February 28, 2005, NOV (2 Violations)

- Failure to operate the aluminum sweat furnace without meeting requirements of applicable federally enforceable permit conditions.
- Failure to submit a notification of compliance status report within 60 days after the compliance dates.

[Remedial action was taken by TIM to correct the deficiencies and as a result PDEQ determined the facility was compliant on May 9, 2005.]

February 25, 2005, CSL (1 Violation)

- Failure to comply with the requirements of the federal standard governing Secondary Aluminum Sweater Operations.

[Remedial action was taken by TIM to correct the deficiencies and as a result PDEQ determined the facility was compliant on May 9, 2005.]

December 10, 2003, CSL (8 Violations)

- Failure to incinerate substance to destruction, as indicated by a temperature-measuring device.
- Failure to charge the incinerator until the correct temperature in the combustion chamber has been reached.
- Failure to maintain a complete daily operation log for the incinerator.
- Failure to install, operate and maintain a temperature-measuring device that continuously indicates the temperature in the combustion chamber.
- Failure to retain a copy of all records required by the permit at the permitted location and promptly provide such records to the Control Officer upon the Control Officer's request.
- Failure to inspect the external baghouse system on a weekly basis.
- Failure to report other deviations from permit requirements within two working days of the time the deviation occurred.
- Failure to submit an annual compliance certification.

[Remedial action was taken by TIM to correct the deficiencies and as a result PDEQ determined the facility was compliant on February 26, 2004.]

February 11, 2000 NOV (1 Violation)

- Failure to prevent visible emissions from exiting the furnace feed door.

[Remedial action was taken by TIM to correct the deficiencies and as a result PDEQ determined the facility was compliant on April 11, 2000.]

August 27, 1999, NOV (1 Violation)

- Failure to prevent visible emissions from exiting the furnace feed door.

[Remedial action was taken by TIM to correct the deficiencies and as a result PDEQ determined the facility was compliant on July 9, 1999.]

B. Excess Emissions

There has been no Notice of Violations for excess emissions above the estimated potential to emit.

IV. EMISSIONS ESTIMATES

The renewal permit application contained potential to emit estimates provided by the source; however those estimates could not be verified as the source could not produce any calculations supporting the emission estimates. The following table of emission estimates is a result of calculations by PDEQ.

Pollutant	Potential Emissions* (Tons per Year)
Nitrogen Oxides (NO_X)	6.16
Carbon Monoxide (CO)	71.22
Volatile Organic Compounds (VOC)	4.49
Particulate Matter (as PM_{10})*	1.07
Sulfur Oxides (SO_X)	26.22
Hazardous Air Pollutants (HAPs – total)**	< 1.0

* Emissions extrapolated from stack test data dated 10/09/2007 and Natural gas combustion; see Potential To Emit (PTE) document.

Based on the above PTE estimates, TIM is a true minor source for all pollutants.

V. APPLICABLE REQUIREMENTS

Code of Federal Regulations (CFR): Title 40, Chapter I, Subchapter C-Air Programs,
Part 63 Subpart RRR, New Source Performance Standards for Secondary Aluminum Production.

Pima County Code (PCC) Title 17, Chapters:

17.16.010 Local Rules and Standards; Applicability of more than one Standard.
17.16.040 Standards and Applicability (Includes NESHAP).
17.16.050 Visibility Limiting Standard.
17.16.170 Incinerators.
17.20.010 Source Sampling, Monitoring, and Testing.

VI. PERMIT CONTENTS

A. Specific Conditions for the Aluminum Sweat Furnace

Emission Limitations and Standards	**PCC 17.12.185.A.2**
Dioxin/Furan (D/F) Standard	40 CFR 63.1505(f)(2)
Fuel Limitation Standard	PCC 12.190.B
Operation and Maintenance	40 CFR 63.1506(h)(2)
Monitoring Requirements	**PCC 17.12.185.A.3**
Afterburner Operation	40 CFR 63.1505(f)(1) & 40 CFR 63.1506(h)(1)
Afterburner Monitoring	40 CFR 63.1510 (g), 40 CFR 63.1510(w), 40 CFR 63.1510(m) & 40 CFR 63.8
Operation, Maintenance and Monitoring Plan	40 CFR 63.1510(b) & 40 CFR 63.1511(g)
Establishment of monitoring and operating Parameter values	40.CFR 63.1511(g)
Furnace Temperature Determination	
Fuel Limitation	

Recordkeeping Requirements	**PCC 17.12.185.A.4**
Operational Log	
Afterburner Temperature Log	40 CFR 63.1517(b)(2)
Record Retention	40 CFR 63.1517(a)(1)
Reporting Requirements	**PCC 17.12.185.A.5**
Startup, Shutdown, and Malfunction Plans/Reports	40 CFR 63.1516 (a)
Excess Emissions/ Summary Report	40 CFR 63.1516 (b)
Testing Requirements	
Emission Limitation	40 CFR 63.1505 (f) (1)
Alternative Test Method	40 CFR 63.1511(d) & PCC 17.12.045.D

B. Specific Conditions for the Incinerator

Emission Limitations and Standards	**PCC 17.12.185.A.2**
Operating hour Limitation	PCC 17.16.170.A
Emissions Limitation	PCC 17.16.170.C.1 & PCC 17.16.510.B
Operation and Maintenance	PCC 17.12.220.B & PCC 17.12.180.A.2
Process Limitation	
Opacity Limitation	PCC 17.16.170.B
Emissions and Opacity Limitation Exemption	PCC 17.16.170.E
Monitoring Requirements	**PCC 17.12.185.A.3**
Operation and Maintenance Plan	PCC 17.12.185.A.2
Recordkeeping Requirements	**PCC 17.12.185.A.4**
Reporting Requirements	**PCC 17.12.185.A.5**
Testing Requirements	
Demonstration of Compliance with	
Mass Emission Limit	PCC 17.12.185.A.3
Reference Methods	PCC 17.12.170.G.1, G.2. & PCC 17.20.010

C. General Standards for the Facility

Odor Limitation	PCC 17.16.030
Opacity Limitation	PCC 17.16.050.B.2
Visible Emissions	PCC 17.16.050.D
Maintenance Requirement	PCC 17.16.020.A & PCC 17.12.350
Applicable Emission Limit /Emission Standard	PCC 17.16.010

D. Additional Permit Requirements

Compliance with Permit Conditions	PCC 17.12.185.A.7.a & b
Reporting excess emissions	PCC 17.12.185.A.5 & PCC 17.12.040
Payment of fees	PCC 17.12.185.A.9 & PCC 17.12.510
Permit Revision, Reopening, Revocation and Reissuance, or Termination for Cause	PCC 17.12.185.A.7.c
Duty To Provide Information	PCC 17.12.165.G & PCC 17.12.185.A.7.e
Severability Clause	PCC 17.12.185.A.6

E. Alternate Operating Scenarios:

None

G. Miscellaneous Comments:

Sweat furnace Afterburner Operating Conditions:

Residence time means the duration of time required for gases to pass through the combustion zone of the afterburner. This may be determined by dividing the volume (cubic feet) of the combustion zone of the afterburner by the volumetric flow rate of the gas stream in actual cubic feet per second (acfs);

For example, an afterburner with a volume of 300 cubic feet and a flow rate of 200 acfs would have a residence time of:

$$\frac{300\ cubic\ \ feet}{200\ acfs} = 1.5\,\text{sec}$$

VII. IMPACTS TO AMBIENT AIR QUALITY

This is a renewal and so modeling is not required to complete processing of this permit.

VIII. CONTROL TECHNOLOGY DETERMINATION

No control technologies needed to be determined. This facility is in an area of attainment and is not a new source.

IX. PREVIOUS PERMIT CONDITIONS

All previous permit conditions are identified as such in this permit renewal.

X. INSIGNIFICANT ACTIVITIES

None identified by TIM.