

TECHNICAL REVIEW AND EVALUATION
AIR QUALITY PERMIT NO. 48447
Cal-Chem Metals Inc.

I. INTRODUCTION

This is a renewal Class II minor permit for existing Permit No. 28717 issued to Cal-Chem Metals Inc. for the operation of a scrap metal processing plant in Globe, Arizona. A permit is required for this source because the facility operates fuel burning equipment at a sustained rate of more than 1 million Btu per hour (MMBtu/hr) for more than an 8-hour period.

A. Company Information

Facility Name: Cal-Chem Metals Inc
Address: 2451 Highway 70 East
Globe, Arizona 85501

B. Attainment Classification

The area is attainment for all criteria pollutants.

C. Learning Sites Evaluation

In accordance with ADEQ's Environmental Permits and Approvals Near Learning Sites Policy, the Department conducted an evaluation to determine if any nearby learning sites would be adversely impacted by the facility. Learning sites consist of all existing public schools, charter schools and private schools the K-12 level, and all planned sites for schools approved by the Arizona School Facilities Board. The learning sites policy was established to ensure that the protection of children at learning sites is considered before a permit approval is issued by ADEQ.

There are no learning sites within two miles of the facility.

II. PROCESS DESCRIPTION

Cal-Chem Metals processes secondary copper, slag, and other metallic materials for resale. The facility operates 5 indirect-fired furnaces, 1 direct-fired furnace, 2 afterburners, and various crushing, screening and bagging equipment. Each piece of fuel burning equipment has a capacity above 1 MMBtu/hr and the total capacity of all fuel burning equipment at the facility is 13.3 MMBtu/hr. Permit #48447 allows for the addition of one indirect-fired furnace, one direct-fired furnace, one afterburner, one direct-fired copper atomizer and one direct-fired copper melting furnace. Once all the changes are completed, the facility will operate six indirect-fired furnaces, two direct-fired furnaces, three afterburners, and various crushing, screening, and bagging equipment.

III. COMPLIANCE HISTORY

There have been 12 inspections of this facility since August 17, 1995. No cases or violations have developed as a result of the inspections. There are no current violations associated with this facility.

IV. EMISSIONS

The emissions from this facility are the result of the natural gas fired equipment and the crushing, sizing, and bagging of product. Table-1 below provides the facility's potential to emit (PTE).

Table 1: PTE of Facility

Pollutant	Total Tons per year (tpy)
VOC	0.31
SO ₂	0.03
NO _x	5.55
CO	4.66
PM	1.88
PM ₁₀	1.18
HAPs	0.66

Notes:

1. All emissions are based on AP-42 emission factors.

V. APPLICABLE REGULATIONS

Table 2 identifies applicable regulations and verification as to why that standard applies.

Table 2: Verification of Applicable Regulations

Unit	Control Device	Rule	Verification
Indirect Fired Fuel Burning Equipment	Afterburners Baghouse, Cyclone	A.A.C. R18-2-724.B A.A.C. R18-2-724.C.1 A.A.C. R18-2-724.J	These standards are applicable to existing fuel burning equipment where the products of combustion do not come into contact with the process materials.
Direct Fired Fuel Burning Equipment	Afterburners, Baghouses, Cyclones, Fume Scrubbers	A.A.C. R18-2-702.B A.A.C. R18-2-702.C A.A.C. R18-2-730.A.1.a A.A.C. R18-2-730.A.2 A.A.C. R18-2-730.A.3 A.A.C. R18-2-730.B A.A.C. R18-2-730.D A.A.C. R18-2-730.F A.A.C. R18-2-730.G	These standards apply to unclassified point sources. A.A.C. R18-2-724 does not apply because the products of combustion in direct fired fuel burning equipment come into direct contact with the process materials.
Crushing and Screening Equipment	Baghouses, Cyclones	A.A.C. R18-2-702.B A.A.C. R18-2-702.C A.A.C. R18-2-721.B.2 A.A.C. R18-2-721.D	These standards apply to existing nonferrous metal industry sources. New Source Performance Standard (NSPS). Subpart LL does not apply because this facility does not process metallic mineral ore.

Unit	Control Device	Rule	Verification
Fugitive dust sources	Water, gravel on roads, speed limits, vegetation, other reasonable precautions	A.A.C. R18-2-604.A,B A.A.C. R18-2-605.A,B A.A.C. R18-2-606 A.A.C. R18-2-607.A,B A.A.C. R18-2-614 A.A.C. R18-2-702.B	These are applicable to fugitive dust sources at the facility.
Mobile sources	Water Sprays/Water Truck for dust control / Other reasonable precautions	A.A.C. R18-2-801.A,B A.A.C. R18-2-802.A,B A.A.C. R18-2-804.A,B	These are applicable to off-road mobile sources, which either move while emitting air pollutants or are frequently moved during the course of their utilization.
Spray Painting	N/A	A.A.C. R18-2-702.B A.A.C. R-18-2-727.A,B,C,D	This standard is applicable to any spray painting operation.
Abrasive Blasting	Wet blasting, Dust collecting equipment or other approved methods	A.A.C. R-18-2-702.B A.A.C. R-18-2-726	These standards are applicable to any abrasive blasting operation.
Demolition/renovation Operations	N/A	A.A.C. R18-2-1101.A.8	This standard is applicable to any asbestos related demolition or renovation operations.

VI. PREVIOUS PERMIT CONDITIONS

Table 3 compares the conditions in Permit No. 28717 with the conditions in this permit and cross-references the previous permit conditions to their location in the new permit

Table 3: Comparison of Previous and Current Permit Conditions

Condition # in Permit No. 28717	Determination				Comments
	Deleted	Kept	Revised	Streamlined	
Attachment A			x		This Attachment has been revised and the most recent Attachment "A" is used for this permit.
Attachment B					
Condition I.A.1		x			This condition to follow manufacturer's specifications has been retained.
Condition I.A.2		x			This condition to have an Environmental Protection Agency (EPA) Method 9 certified observer has been retained.
Condition I.B.1		x			This condition to require records of manufactures specification to be kept onsite has not been moved.

Condition # in Permit No. 28717	Determination				Comments
	Deleted	Kept	Revised	Streamlined	
Condition I.B.2	x				This condition to require records to be kept for five years is unnecessary as this requirement is in Attachment "A"
Condition I.C		x			The condition to require the reporting of all required monitoring activities has been moved to I.B.2.
Condition II		x			This condition limiting the feedstock has been moved to I.A.3.
Condition III.B		x			This fuel limitation has been moved to II.B.
Condition III.C.1.a		x			This PM emission limit has been moved to II.C.1.a.
Condition III.C.1.b		x			This requirement to aggregate heat input has been moved to II.C.1.b.
Condition III.C.1.c		x			This opacity limit has been moved to II.D.1.
Condition III.C.2.a	x				This requirement to operate air pollution control equipment has been removed because the equipment has been eliminated.
Condition III.C.2.b		x			This requirement to operate air pollution control equipment has been moved to II.C.2.
Condition III.C.3.a		x			This requirement to conduct monthly opacity observations has been moved to II.D.2.b.
Condition III.C.3.b		x			This requirement to perform corrective action has been moved to II.D.2.b.
Condition III.C.3.c	x				This requirement to maintain records of maintenance on baghouses and cyclones is unnecessary.
Condition IV.A.1		x			This fuel limitation has been moved to III.B.1.
Condition IV.A.2		x			This general requirement to not produce air pollution has been moved to III.B.2.
Condition IV.A.3		x			This general requirement to limit air pollution has been moved to III.B.3.

Condition # in Permit No. 28717	Determination				Comments
	Deleted	Kept	Revised	Streamlined	
Condition IV.A.4		x			This general requirement to install air pollution control equipment when required by the Director has been moved to III.B.4.
Condition IV.B.1.a		x			This PM emission limit has been moved to III.C.1.a.
Condition IV.B.1.b		x			This requirement to aggregate process weight rates has been moved to III.C.1.b.
Condition IV.B.1.c		x			This opacity limit has been moved to III.D.1.
Condition IV.B.2.a		x			This requirement to operate air pollution control equipment has been moved to III.C.2.a.
Condition IV.B.2.b		x			This requirement to operate air pollution control equipment has been moved to III.C.2.b.
Condition IV.B.2.c		x			This requirement to operate air pollution control equipment has been moved to III.C.2.c.
Condition IV.B.2.d		x			This requirement to operate air pollution control equipment has been moved to III.C.2.b.
Condition IV.B.3.a		x			This requirement to conduct monthly opacity observations has been moved to III.D.1.
Condition IV.B.3.b		x			This requirement to perform corrective action has been moved to III.D.1.
Condition IV.B.3.c	x				This requirement to maintain records of maintenance on baghouses and cyclones is unnecessary because Attachment "A" requires the retention of maintenance records.
Condition IV.C.1		x			This SO ₂ emission limit has been moved to III.F.1.
Condition IV.D.1		x			This NO _x emission limit has been moved to III.G.1.
Condition V.A.1		x			This PM emission limit has been moved to IV.B.1.a.
Condition V.A.2		x			This opacity limit has been moved to IV.C.1.
Condition V.B		x			This requirement to operate air pollution control equipment has been moved to IV.B.2.a.

Condition # in Permit No. 28717	Determination				Comments
	Deleted	Kept	Revised	Streamlined	
Condition V.C.1			x		This requirement to conduct quarterly opacity observations has been revised to monthly and moved to IV.C.2.
Condition V.C.2	x				This requirement to keep daily records of the production rate of crushed material is unnecessary because there are no permitted limitations on the production rate.
Condition VI			x		These general standards for non point sources have been revised and moved to Condition V.
Condition VII			x		These general standards for mobile sources have been revised and moved to Condition VI.

VII. MONITORING AND RECORDKEEPING REQUIREMENTS

A. Facility Wide

The Permittee is required to maintain, on-site, records of the manufacturer's specifications for all equipment listed in the permit.

B. Direct and Indirect Fired Fuel Burning Equipment

1. The Permittee is required to show compliance with the opacity standards in Attachment "B", Section II by having a Method 9 certified observer perform a monthly survey of visible emissions from the stacks of the fuel burning equipment. The observer is required to conduct a 6-minute Method 9 observation if the results of the initial survey appear on an instantaneous basis to exceed the applicable standard.
2. The Permittee is required to keep records of the name of the observer, the time, date, and location of the observation and the results of all surveys and observations.
3. The Permittee is required to keep records of any corrective action taken to lower the opacity of any emission point and any excess emission reports.

C. Crushing and Screening Equipment

1. The Permittee is required to show compliance with the opacity standards in Attachment "B", Section IV by having a Method 9 certified observer perform a monthly survey of visible emissions from the crushing and screening equipment. The observer is required to conduct a 6-minute Method 9 observation if the results of the initial survey appear on an instantaneous basis to exceed the applicable standard.
2. The Permittee is required to keep records of the name of the observer, the time, date, and location of the observation and the results of all surveys and observations.
3. The Permittee is required to keep records of any corrective action taken to lower the opacity of any emission point and any excess emission reports.

D. Fugitive Dust

1. The Permittee is required to keep record of the dates on which any of the dust control measures contained in Attachment “B”, Conditions V.B.1.a.(3)(a) through V.B.1.a.(3)(h) are employed.
2. The Permittee is required to show compliance with the opacity standards in Attachment “B”, Section V by having a Method 9 certified observer perform a monthly survey of visible emission from fugitive dust sources. The observer is required to conduct a 6-minute Method 9 observation if the results of the initial survey appear on an instantaneous basis to exceed the applicable standard.
3. The Permittee is required to keep records of the name of the observer, the time, date, and location of the observation and the results of all surveys and observations.
4. The Permittee is required to keep records of any corrective action taken to lower the opacity of any emission point and any excess emission reports.

E. Mobile Sources

The Permittee is required to keep records of all emission related maintenance performed on the mobile sources.

F. Periodic Activities

1. The Permittee is required to record the date, duration and pollution control measures of any abrasive blasting project.
2. The Permittee is required to record the date, duration, and quantity of paint used, any applicable Material Safety Data Sheet (MSDS), and pollution control measures of any spray painting project.
3. The Permittee is required to maintain records of all asbestos related demolition or renovation projects. The required records include the “National Emission Standards for Hazardous Air Pollutants (NESHAP) Notification for Renovation and Demolition Activities” form and all supporting documents.

VIII. INSIGNIFICANT ACTIVITY

Table 4, below, lists insignificant activities conducted by the Permittee.

Table 4: Insignificant Activities

Equipment/Activity	Verification of Insignificance
Atmospheric Generators used to produce pure nitrogen and oxygen gas.	A.A.C. R18-2-101.57.j Emissions will be insignificant
Laboratory equipment used exclusively for chemical and physical analysis	A.A.C. R18-2-101.57.i

IX. LIST OF ABBREVIATIONS

A.A.C.....	Arizona Administrative Code
ADEQ.....	Arizona Department of Environmental Quality
CO.....	Carbon Monoxide
EPA.....	Environmental Protection Agency
HAP.....	Hazardous Air Pollutant
MMBtu/hr.....	Million British Thermal Units Per Hour
MSDS.....	Material Safety Data Sheet
NESHAP.....	National Emission Standard for Hazardous Air Pollutants
NO _x	Nitrogen Oxides
NSPS.....	New Source Performance Standard
PM.....	Particulate Matter
PM ₁₀	Particulate Matter with an aerodynamic diameter less than 10 microns
PTE.....	Potential-to-Emit
SO ₂	Sulfur Dioxide
TPY.....	Tons per Year
VOC.....	Volatile Organic Compound

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