

TECHNICAL SUPPORT DOCUMENT (TSD)

I. GENERAL COMMENTS:

A. Company Information

Physical Address:

Central Arizona Block Company, Inc.
6030 South Mann Avenue
Tucson, Arizona 85706

Mailing Address:

(Same as physical address)

B. Background

This facility has operated under a 5-year air quality permit first issued in September 25, 2001. The source has remained relatively unchanged and this TSD addresses the May 2012 permit renewal application.

C. Attainment Classification

The facility is located in an area that is in attainment for all pollutants.

II. SOURCE DESCRIPTION

A. Process Description

The facility manufactures concrete masonry products (namely blocks) from raw materials. The raw materials consist of sand, gravel, cinders as well as other suitable materials proportioned with Portland cement and water. After the concrete mix is formulated, it is poured into molds of varied shapes and sizes. The molded concrete is then placed in drying rooms (for curing). A process diagram is presented as Attachment 1 of this TSD.

The facility operations have the potential to emit the following air pollutants PM₁₀, NO_x, SO_x, CO, VOC and HAPs.

B. Air Pollution Control Equipment

Emissions control operations include four (4) baghouses to control particulate matter (PM) emissions from the Cement Silo, numerous spray bars for controlling PM emissions from the transfer points/conveyor belts and one (1) water truck for controlling potential fugitive dust emissions from the haul roads.

The facility also operates an 80ton cement storage silo with baghouse for the purpose of bagging cement and mortar. The baghouse is used to control particulate matter emissions.

The facility uses gravel to provide a temporary cover on the ground to minimize potential fugitive emissions caused by motorized traffic. Heavily trafficked areas are covered in concrete.

III. REGULATORY HISTORY

A. Testing & Inspections

The facility has been permitted since September 2001 and has was last inspected on January 12, 2012.

B. Excess Emissions

No reports of permit deviations.

IV. EMISSIONS ESTIMATES

The source estimated the facility wide emissions using published emission factor data, namely EPA AP-42 Ch 11.12 for concrete batching Table 11.12-2 and Ch 1.4.2 for natural gas combustion.

The emission calculations are shown in Appendix D of the permit application. Subsequent revisions to the fugitive emission calculations have been provided via e-mail. A summary of the potential facility wide emissions are provided in Table 1 below.

Table 1
Source Wide Potential Uncontrolled Emissions

Emission Unit/s	Uncontrolled Emissions (tons/yr)					
	NO _x	CO	SO _x	VOC	HAPs	PM ₁₀
Concrete Block Plant 1	-	-	-	-	-	12.55
Concrete Block Plant 2	-	-	-	-	-	12.55
Cement Bagging	-	-	-	-	-	6.25
12 Curing Rooms (Total)	1.80	1.52	0.02	0.10	<0.01	0.14
Total (tons/year)	1.80	1.52	0.02	0.10	<0.01	31.49¹

¹ Potential to emit does not include uncontrolled fugitive emissions, estimated at 23.81 tons/yr.

V. APPLICABLE REQUIREMENTS

There are no NSPS or NESHAP regulations that apply to the source.

(PCC) Title 17, Chapter 17.16:

No new applicable requirements. Existing conditions as follows:

- 17.16.010 Local rules and standards; Applicability of more than one standard
- 17.16.050 Visibility Limiting Standard
- 17.16.060 Fugitive Dust Producing Activities
- 17.16.100 Particulate Materials
- 17.16.110 Storage Piles
- 17.16.130 Applicability
- 17.16.370 Standards of Performance for Gravel or Crushed Stone Processing Plants
- 17.20.010 Testing Requirements

VI. PERMIT CONTENTS

A. Applicability:

The Specific Conditions are applicable facility wide:

B. Emission Limits & Standards:

Facility Wide Operations:	PCC 17.12.185.A.2
Opacity Standard	PCC 17.16.050.B & 17.16.130.B.1
Visibility Limiting Standard	PCC 17.16.050.A, 17.16.050.D, 17.16.050.D.2 & PCC 17.16.050.D.3
Pollution Control Requirement	PCC 17.12.185.A.2, 17.16.100.A & 17.16.370.D
Fugitive Emission Standards	PCC 17.16.060.A, 17.16.060.A.1, 17.16.060.A.2, 17.16.100.C & 17.16.110.A
Concealment of Emissions	PCC 17.20.040
Local rules and standards - applicability of more than one standard	PCC 17.16.010.B
Facility Changes	PCC 17.12.240 or 17.12.255, or 17.12.260
Visibility Limiting Standard	PCC 17.16.050.A, 17.16.050.D, 17.16.050.D.2 & 17.16.050.D.3

C. Monitoring requirements: (PCC 17.12.185.A.3)

Opacity Checks
Baghouse Inspection

D. Recordkeeping Requirements: (PCC 17.12.185.A.4)

Retention of Records PCC 17.24.020.A

E. Reporting Requirements: (PCC 17.12.185.A.5)

See Additional Permit Requirements

F. Testing Requirements: (PCC 17.12.050 & 17.20.010)

Opacity EPA Reference Method 9, Appendix A in 40 CFR 60
Alternative Test Method Appendix A in 40 CFR 60

G Miscellaneous comments:

Additional Permit Requirements:	
Compliance with Permit Conditions	PCC 17.12.185.A.7.a & b, 17.12.185.A.5, 17.12.040, 17.12.185.A.9 & 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, 17.12.185.A.7.e
Severability Clause	PCC 17.12.185.A.6

VII. IMPACTS TO AMBIENT AIR QUALITY

Not a major source thus no studies are required.

VIII. CONTROL TECHNOLOGY DETERMINATION

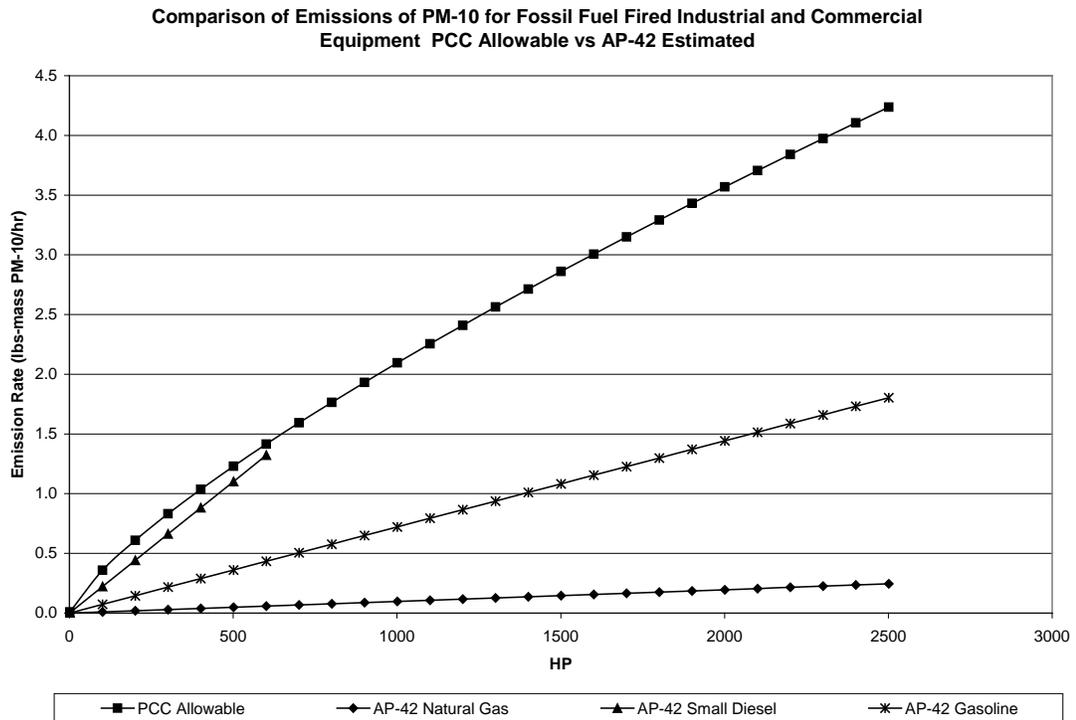
No control technologies needed to be determined.

IX. PREVIOUS PERMIT CONDITIONS

Removed Permit Requirements:

1. Particulate Matter

PCC 17.16.165.C.1 limits the emissions of particulate matter from fossil fuel fired industrial and commercial equipment. This rule has not been included in the permit as allowable emissions are well above potential emissions. The following Chart illustrates the fact:



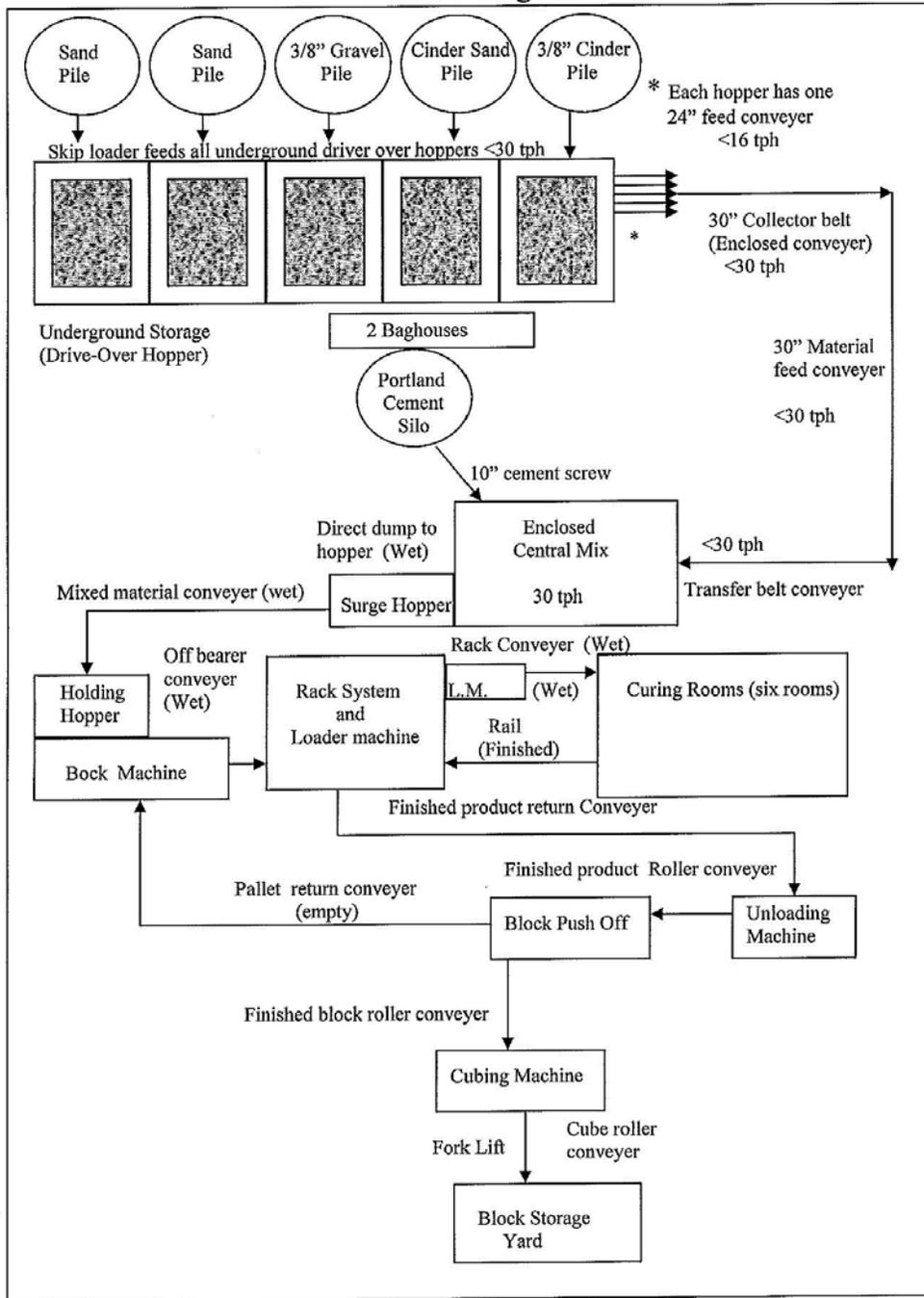
AP-42 estimated emissions are demonstrably less than allowable emissions. Therefore, it is not necessary to include the standard in the permit explicitly but, by reference in Attachment 1.

2. Sulfur Dioxide:

Compliance with the fuel limitation requirement of PCC 17.16.165.G (I.E.3 of the Specific Conditions) shall ensure compliance with the Sulfur Dioxide Standard of PCC 17.16.165.E which limits the emission of SO₂ to 1.0 pound per million BTU heat input, when burning low sulfur fuel. The definition of low sulfur fuel (PCC 17.04.340.A. "Low Sulfur Fuel") is fuel oil containing less than 0.9 percent sulfur by weight. AP-42 Appendix A, page A-5 states the heating value of diesel fuel is 137,000 BTU per gallon. Thus, 1 million BTU of heat input is equivalent to 7.3 gallons of diesel. At 7.05 lbs per gallon, 51.47 lbs of diesel will produce 1 million BTU. At 0.9% 51.47 lbs of diesel contains 0.46 lbs of sulfur. Combined with Oxygen to form SO₂ and assuming 100% of the sulfur in the fuel forms SO₂ this would yield 0.92 lb SO₂ per 1MMBtu. Thus, low sulfur fuel oil will produce 0.92 lbs of SO₂ per million BTU of heat input. This is roughly 8% less than the prescribed 1.0 pound SO₂ per million BTU (PCC 17.16.165.E). Likewise, distillate, residual, and other such fuel oils range from 0.84 to 0.94 lbs of SO₂ per million BTU. Thus, it is not necessary to include the standard in the permit explicitly but, by reference in Attachment 1 of the permit.

ATTACHMENT 1

Central Arizona Block Co. Process Diagram



ATTACHMENT 2

Example of a Baghouse Self Inspection Checklist

Inspector Name : _____
 (Please Print)
 Inspector Signature : _____

Week Of : _____

	SUN	MON	TUE	WED	THU	FRI	SAT
Stack and Ductwork*							
Manometer*							
Temperature*							
Fan**							
Hoppers*							
Bag Cleaning Control*							
Bags**							

Particles in Stack Gas Barely Visible? Look, Listen for Leaks in Ducts
Fabric pressure within normal operating parameters. Watch for Trends
Temperature within normal operating parameters? Air Too Hot / Too Cold? Cool Air Suggests Leaks.
Fan Static Pressure Normal?
Condition: Too Full/No Flow Condition.
Proper Cleaning Sequence and Cycle Times. Check Shakers
Check for Tears, Holes, Abrasion, Proper Fastening, Bag Tension. Replacement Bags on Hand?

* Suggested inspection every material delivery.

** Suggested inspection at least weekly.

This checklist is for guidance only. The operator may adopt this checklist in whole or in part to demonstrate compliance with the baghouse monitoring requirement in III.B of the Specific Conditions. Non-applicable monitoring parameters (i.e. manometer or temperature) shall be identified as N/A.