

**NOTICE OF PROPOSED RULEMAKING**

**Rule 325**

**Maricopa County Air Pollution Control Regulations**

**PREAMBLE**

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| <b>1.</b> | <b><u>Rules Affected</u></b><br>Rule 325 – Brick and Structural Clay Products (BSCP) Manufacturing | <b><u>Rulemaking Action</u></b><br>New Rule |
|-----------|--|---|

- 2. The statutory authority for the rulemaking, including both the authorizing statute (general) and the statutes the rule is implementing (specific):**

Authorizing Statutes: Arizona Revised Statutes (A.R.S.) § 49-112 (A) and § 49-479

Implementing Statute: Arizona Revised Statutes (A.R.S.) § 49-479

- 3. A list of all previous notices appearing in the Register addressing the proposed rule:**

Notice of Rulemaking Docket Opening, Volume 11, Issue 27, Arizona Administrative Register (A.A.R.), July 1, 2005.

- 4. The name and address of department personnel with whom persons may communicate regarding this rulemaking:**

Name:	Patricia P. Nelson or Jo Crumbaker, Air Quality Division
Address:	1001 North Central Avenue, Suite # 695, Phoenix, AZ 85004
Telephone Number:	602-506-6709 or 602-506-6705
Fax Number:	602-506-6179
E-Mail Address:	<a href="mailto:pnelson@mail.maricopa.gov">pnelson@mail.maricopa.gov</a> or <a href="mailto:jcrumbak@mail.maricopa.gov">jcrumbak@mail.maricopa.gov</a>

- 5. An explanation of the rule, including the department’s reasons for initiating the rule:**

Maricopa County is proposing to promulgate a new rule, Rule 325, Brick and Clay Structural Products (BCSP) Manufacturing to regulate industries that are now regulated by Rule 311, Particulate Matter from Process Industries. Maricopa County is proposing to incorporate Best Available Control Measures (BACM) and Most Stringent Measures (MSM) proposed in the Salt River PM10 State Implementation Revision.

**Section by Section Explanation of Changes:**

Section 101	This proposed text lists the purpose of the rule.
Section 102	This proposed text outlines the applicability of the rule.
Section 103	This proposed text lists the exemptions to the rule.

Section 201	This proposed text defines a “brick and structural clay manufacturing facility.”
Section 202	This proposed text defines a “continuous kiln.”
Section 203	This proposed text defines the term “existing kiln.”
Section 204	This proposed text defines the term “kiln feed.”
Section 205	This proposed text defines the term “periodic kiln.”
Section 206	This proposed text defines the term “research and development kiln.”
Section 207	This proposed text defines the term “tunnel kiln.”
Section 301	This proposed text states the opacity limitation for all tunnel kilns subject to the proposed rule.
Section 302	This proposed text lists the particulate matter limitations for existing tunnel kilns.
Section 303	This proposed text lists the two different particulate matter limitations for new or reconstructed tunnel kilns with a capacity of less than 10 tons per hour throughput and of those with greater than 10 tons per hour.
Section 401	This proposed text lists the compliance time schedule for the rule.
Section 501	This proposed text lists the method for proving compliance with the proposed rule.
Section 502	This proposed text states the fact that records shall be kept for 5 years.
Section 502.1	This proposed text states that daily records of kiln feed and hours of operation shall be kept.
Section 502.2	This proposed text states the type of monthly records that shall be kept: both product amount and materials delivered.
Section 503	This proposed text lists where the tests methods in the Code of Federal Regulations is kept at Maricopa County.
Section 503.1	This proposed text lists EPA reference Method 9.
Section 503.2	This proposed text lists EPA reference Method 5.
Section 503.3	This proposed text lists EPA reference Method 202.

**6. A reference to any study that the department proposes to rely on its evaluation of or justification for the proposed rules and where the public may obtain or review the study, all data underlying each study, any analysis of the study, and other supporting material:**

“Economic Impact Analysis on Particulate Matter Emissions for Brick and Structural Clay Products Manufacturing” by David Lillie, Economist at Arizona Department of Environmental Quality, September 28, 2004; and the “National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Products Manufacturing; and National Emission Standards for Hazardous Air Pollutants for Clay Ceramics Manufacturing; Final Rule”, Federal Environmental Protection Agency, 40 CFR, Part 63, May 16, 2003.

7. **A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision of this state:**

Not applicable.

8. **The preliminary summary of the economic, small business, and consumer impact:**

Arizona Department of Environmental Quality (ADEQ) has prepared an extensive economic impact analysis on the proposed rule on September 20, 2004 which is summarized in the following text: There are 2 brick and structural clay product manufacturing facilities that have the potential to be regulated by this proposed rule in Arizona and only one tunnel kiln in Maricopa County. The common materials used in both are clay minerals. Kilns used in these industries to dry and cure brick may be either periodic or batch kilns or continuous kilns such as tunnel kilns. The facility has been manufacturing brick in its present location since 1935. Its actual production rates of brick in 2002 and 2003 were approximately 45,400 tons and 40,500 tons, respectively. Reported PM emissions from curing and firing for those respective years were about 39,500 pounds and 35,200 pounds. These PM emissions from the tunnel kiln represent about 80 percent of total PM emissions at this facility. This proposed rule will address tunnel kilns. Uncontrolled particulate matter emissions from these tunnel kilns range from 0.0350 lb/ton to 0.9756 lb/ton with an average of 0.492 lb/ton. Air pollution control devices for these kilns are dry lime scrubbers with fabric filter (DFLS) and dry injection fabric filter (DIFF) which can achieve 99 % control efficiency for PM. DLA (dry lime adsorption) technology is less efficient and is basically an acid gas device yet can provide some control for particulate matter in the range of 50% for an upper range. The MACT (Maximum Achievable Control Technology) was established by EPA in the proposed rulemaking and the MACT floor was based upon the use of DIFF, DLS and WS (wet scrubbers). DLA was not considered at that time. Because of several retrofitting concerns with DIFF, DLS and WS, EPA now believes that DLA is the only technology currently that can be used to retrofit existing sources without significant impacts on the production process. The average cost per ton of PM removed for a medium-sized tunnel kiln using DLS/FF control technology is approximately \$21,125. For installing DIFF in a medium-sized tunnel kiln, the cost per ton of removing PM is estimated at \$18,300. DLS data and kiln test results show that DLS/FF and DIFF control technology can

achieve a 99 percent control efficiency for PM. Although DLA is an acid gas device, it does provide some control for PM. The upper bound of control of PM is probably 50 percent, according to EPA. DLA control devices are used around the world to control emissions from brick kilns. EPA test data from four DLAs, which control emissions from six kilns, revealed outlet PM emissions ranged from 0.0732 lb/ton to 0.411 lb/ton. If the removal efficiency of a DLA was 50 percent with uncontrolled PM emissions averaging 0.492 lb/ton, the cost per ton to remove PM for a medium-sized tunnel kiln would be about \$20,400. Caution should be used in evaluating the cost effectiveness for a DLA control device because the removal efficiency may be less than 50 percent.

This preliminary economic statement (EIS) was developed to estimate the impact of proposed rule. This impact statement, comprised of potential costs and benefits, represents an estimate. Maricopa County solicits input from stakeholders that are small businesses and organizations on the administrative and other costs required for compliance with the proposed rulemaking, and any other information relevant to the economic, small business and consumer impact statement.

9. **The name and address of department personnel with whom persons may communicate regarding the accuracy of the economic, small business and consumer impact statement:**

Name: Patricia P. Nelson or Jo Crumbaker, Air Quality Division  
Address: 1001 North Central Avenue, Suite #695, Phoenix, AZ 85004  
Telephone Number: 602-506-6705 or 602-506-6705  
Fax Number: 602-506-6179  
E-Mail Address: [pnelson@maricopa.mail.gov](mailto:pnelson@maricopa.mail.gov) or [jcrumbak@mail.maricopa.gov](mailto:jcrumbak@mail.maricopa.gov)

10. **The time, place, and nature of the proceedings for the adoption, amendment, or repeal of the rules or, if no proceeding is scheduled, where, when, and how persons may request an oral proceeding on the proposed rules:**

Oral Proceeding Date: August 1, 2005  
Location: Maricopa County Environmental Services Department  
5<sup>th</sup> Floor Conference Room #560  
1001 North Central Avenue, Phoenix, Arizona 85004

Nature: Public hearing with the opportunity for formal comments on the record regarding the proposed rules. Call (602) 506-0169 for current information. Please call (602) 506-6443 for special accommodations under the Americans with Disabilities Act.

11. **Any other matters prescribed by statute that are applicable to the specific department or to any specific rule or class of rules:**

Not applicable.

<b><u>12. Incorporations by reference and their location in the rules:</u></b>	<b><u>Location</u></b>
EPA Reference Method 9 (Visual Determination of the Opacity of Emissions from Stationary Sources)	Section 503.1
EPA Reference Method 5 (Determination of Particulate Emissions from Stationary Sources)	Section 503.2
EPA Reference Method 202 (Determination of Condensable Particulate Emissions from Stationary Sources)	Section 503.3
<b><u>Incorporations by reference updated to 7/1/04:</u></b>	<b><u>Location</u></b>
40 CFR Part 60 Appendix A	Section 503

**13. The full text of the rule follows:**

**REGULATION III - CONTROL OF AIR CONTAMINANTS**

**RULE 325**

**BRICK AND STRUCTURAL CLAY PRODUCTS (BSCP) MANUFACTURING**

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**MARICOPA COUNTY**  
**AIR POLLUTION CONTROL REGULATIONS**  
**REGULATION III - CONTROL OF AIR CONTAMINANTS**  
**RULE 325**  
**BRICK AND STRUCTURAL CLAY PRODUCTS (BSCP) MANUFACTURING**

**SECTION 100 – GENERAL**

**101** **PURPOSE:** To limit particulate matter emissions from the use of tunnel kilns for curing in the brick and structural clay product (BSCP) manufacturing processes.

**102** **APPLICABILITY:** This rule applies to any existing, new or reconstructed tunnel kiln, used in the commercial and industrial brick and structural clay product manufacturing processes. Compliance with the provisions of this rule shall not relieve any person subject to the requirements of this rule from complying with any other federally enforceable New Sources Performance Standards (NSPS). In such cases, the most stringent standard shall apply.

**103** **EXEMPTIONS:** Existing, new or reconstructed tunnel kilns that are used exclusively for research and development and are not used to manufacture products for commercial sale are not subject to this rule.

**SECTION 200 – DEFINITIONS:** See Rule 100 (General Provisions And Definitions) of these rules for definitions of terms that are used but not specifically defined in this rule. For the purpose of this rule, the following definitions shall apply:

**201** **BRICK AND STRUCTURAL CLAY PRODUCTS (BSCP) MANUFACTURING FACILITY-** A site that manufactures brick including, but not limited to: face brick, structural brick and brick pavers; claypipe; roof tile; extruded floor and wall tile; and/or other extruded, dimensional, clay products. Brick products manufacturing facilities typically process raw clay and shale, form the processed materials into bricks or shapes, and dry and fire the bricks or shapes.

**202** **CONTINUOUS KILN –** A heated chamber that heats dense loads uniformly and efficiently, and can be used without interruption for high volume production. Continuous kilns are kilns that perform well in the consistent high production of wares. Continuous kilns include tunnel kilns,

shuttle kilns, fixed-hearth kilns, bee hive kilns, roller kilns, sled kilns, decorating kilns, and pusher slab kilns. Most continuous kilns are tunnel kilns.

- 203** **EXISTING KILN** - A kiln that is in operation before the date of adoption of this rule.
- 204** **KILN FEED** – All materials except fuel entering the tunnel kiln, including raw feed and recycle dust, measured on a dry basis.
- 205** **PERIODIC KILN** – A kiln that operates on an intermittent basis to heat wares, holding them at a uniform peak temperature and cool the wares. Periodic kilns are best for inconsistent or low-volume production.
- 206** **RESEARCH AND DEVELOPMENT TUNNEL KILN**- Any tunnel kiln whose purpose is to conduct research and development for new processes and products and is not engaged in the manufacture of commercial products for sale.
- 207** **TUNNEL KILN** – Any continuous kiln that is used to fire brick and structural clay products. Tunnel kilns may have two process streams, including a process stream that exhausts directly to the atmosphere or to an Air Pollution Control Device, and a process stream in which the kiln exhaust is ducted to a brick dryer where it is used to dry bricks before the exhaust is emitted to the atmosphere.

### **SECTION 300 – STANDARDS**

- 301** **OPACITY LIMITATIONS FOR ALL TUNNEL KILNS SUBJECT TO THIS RULE:** No person shall discharge into the ambient air from any single source of emissions any air contaminant, other than uncombined water, in excess of 20 % opacity.
- 302** **LIMITATIONS FOR EXISTING TUNNEL KILNS AT BRICK OR STRUCTURAL PRODUCT (BSCP) MANUFACTURING FACILITIES:**
- 302.1** No owner or operator shall emit more than 0.42 lbs. of particulate matter per ton of fired product from a tunnel kiln with a capacity of  $\geq 1$  tons per hour throughput.
- 303** **LIMITATIONS FOR NEW OR RECONSTRUCTED TUNNEL KILNS AT BRICK OR STRUCTURAL PRODUCT (BSCP) MANUFACTURING FACILITIES:**
- 303.1** No owner or operator shall emit more than 0.42 lbs. of particulate matter per ton of fired product from a tunnel kiln with a capacity of  $< 10$  tons per hour throughput.

303.2 No owner or operator shall emit more than 0.12 lbs. of particulate matter per ton of fired product from a tunnel kiln with a capacity of  $\geq 10$  tons per hour throughput.

#### **SECTION 400 - ADMINISTRATIVE REQUIREMENTS**

**401** **COMPLIANCE SCHEDULE:** Any owner or operator of a tunnel kiln subject to this rule shall meet the following milestones:

**401.1** Submit a compliance plan, by December 31, 2005, to the Control Officer for approval which describes the method(s) used to achieve full compliance with the rule. This plan shall specify dates for completing increments of progress, such as the contractual arrival date of new control equipment. The Control Officer may require an owner or operator submitting the compliance plan to also submit subsequent reports on progress in achieving compliance;and

**401.2** Attain full compliance with all of the standards in this rule by December 31, 2006.

#### **SECTION 500 - MONITORING AND RECORDS**

**501** **COMPLIANCE DETERMINATION:** Compliance shall be demonstrated as follows:

**501.1** Compliance with Section 301 shall be demonstrated by performance of Method 9 listed in Section 503.1; and

**501.2** Compliance with Sections 302 and 303 shall be demonstrated by performance of the test methods listed in Section 503.2 and 503.3.

**502** **RECORDKEEPING / RECORDS RETENTION:** The owner or operator of any kiln subject to this rule shall comply with the following requirements and keep records for a period of 5 years:

**502.1** Daily records of kiln feed fired and hours of operation; and

**502.2** Monthly records of material delivered to the site for processing in the tunnel kiln and the amount of product produced reported in tons.

**503** **TEST METHODS:** The Environmental Protection Agency (EPA) test methods as they exist in the Code of Federal Regulations (CFR) (July 1, 2004), as listed below, are adopted by reference. These adoptions by reference include no future editions or amendments. Copies of test methods referenced in this section of this rule are available at the Maricopa County Environmental Services Department, 1001 North Central Avenue, Suite 201 Phoenix, Arizona, 85004 -1942.

**503.1** EPA Reference Method 9 (“Visual Determination of the Opacity of Emissions from Stationary Sources”), (40 CFR 60, Appendix A).

**503.2** EPA Reference Method 5(“Determination of Particulate Emissions from Stationary Sources”), (40 CFR 60, Appendix A) and possibly, if requested by the Control Officer, EPA Reference Method 202 (“Determination of Condensable Particulate Emissions from Stationary Sources”), (40 CFR 51, Appendix A).

**503.3** EPA Reference Method 202 (“ Determination of Condensible Particulate Emissions from Stationary Sources”),(40 CFR51, Appendix A).