

# PIMA COUNTY DEPARTMENT OF ENVIRONMENTAL QUALITY

33 N. Stone Avenue, Suite 700 • Tucson, AZ 85701 • Phone: (520) 243-7400

## AIR QUALITY OPERATING PERMIT

(As required by Title 17.12, Article II, Pima County Code)

### ISSUED TO

**BRUSH CERAMIC PRODUCTS, INC.  
6100 SOUTH TUCSON BOULEVARD  
TUCSON, AZ 85706**

*This air quality operating permit does not relieve applicant of responsibility for meeting all air pollution regulations*

**THIS PERMIT ISSUED SUBJECT TO THE FOLLOWING conditions contained in Parts A, B, B-I, B-II and Attachments C, and D.**

PDEQ PERMIT NUMBER **1571**

PERMIT CLASS **II**

ISSUED **NOVEMBER 8, 2006**

REVISED **July 22, 2010**

EXPIRES **NOVEMBER 7, 2011**



SIGNATURE

**Mukonde Chama, P.E. Air Permits Supervisor, PDEQ**

TITLE

**Brush Ceramic Products Inc.  
6100 S. Tucson Blvd.  
Tucson, Arizona 85706  
Permit Number 1571**

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**SUMMARY**

This Class II stationary source operating permit is issued to Brush Ceramic Products Inc. (Permittee) for operation of its beryllium ceramic plant and machine shop. This permit constitutes the renewal of the Brush Ceramic Products Inc. air quality permit from an existing one year operating permit to a five year unitary permit.

The Brush Ceramic Products Inc (BCP) facility processes beryllium oxide powder in producing ceramic components. Air pollution control equipment at the facility includes:

1. a 15K cfm air pollution control system that includes a 60 filter cartridge housing and a triple filtered final filter housing;
2. a 40K cfm air pollution control system that includes two 80 filter cartridge housings and a double filtered final filter housing;
3. a 7K cfm (Torrit) air pollution control system that includes a wet media primary filter and a double filtered final filter housing; and
4. a 6.5K (EF1) cfm air pollution control system that includes a primary filter and a final filter.

All particulate generating production operations involving beryllium are controlled by operational procedures and a combination of ventilation, isolation, or enclosure. Captured particulate emissions are routed to the air pollution control equipment and HEPA filtered prior to exhausting through a single stack to the ambient air.

Other air handling systems not designated as air pollution control equipment include two (2) air recirculating HEPA filtering systems used in non-production areas to supplement internal containment and air purification.

The facility's operations are subject to the National Emission Standard for Hazardous Air Pollutants (NESHAPS) for Beryllium (40 CFR 61, Subparts A and C). There are no federal New Source Performance Standards (NSPS) or Maximum Achievable Control Technology (MACT) standards applicable to any operations at the facility. There are applicable State Implementation Plan (SIP) rules (primarily for fugitive dust control) and applicable county rules (fugitive dust and fossil fuel fired commercial and industrial equipment). There are no restrictions within this permit on hours of operation at the facility.

Terms and conditions of this permit that are enforceable by the Administrator of the United States Environmental Protection Agency (U.S. EPA) are noted and labeled as Federally Enforceable Requirements.

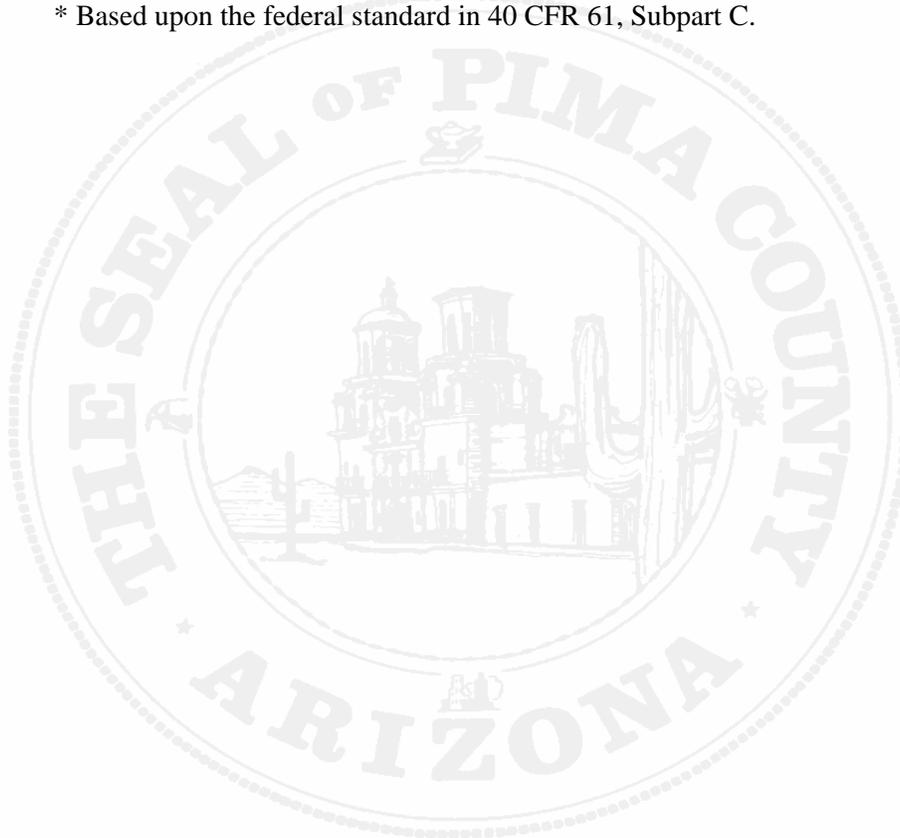
BCP has received approval from the Administrator to modify EPA Test Method 104 to include the use of an in-stack filter (per EPA Letter to PDEQ dated September 3, 1992).

The potential emissions from the plant's operations and equipment are summarized in Table 1. These values are for information purposes only and are not meant to be enforceable emission limits.

Table 1

POTENTIAL TO EMIT SUMMARY (TONS PER YEAR)	
Beryllium*	0.004
Volatile Organic Compounds	10.5
Xylene	0.067
Nickel	3.2E-4
Hydrochloric Acid	0.04
Total HAPs	0.11

\* Based upon the federal standard in 40 CFR 61, Subpart C.



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**PART A: GENERAL PROVISIONS**

*(References to A.R.S. are references to the Arizona Revised Statutes, references to A.A.C. are references to the Arizona Administrative Code, and references to PCC are references to Title 17 of the Pima County Code)*

- I. PERMIT EXPIRATION AND RENEWAL [A.R.S. § 49-480.A, PCC 17.12.165.C.2 & PCC 17.12.185.A.1]
- A. This permit is valid for a period of five years from the date of issuance of the permit.
  - B. The Permittee shall submit an application for renewal of this permit at least 6 months, but not greater than 18 months prior to the date of permit expiration.
- II. COMPLIANCE WITH PERMIT CONDITIONS [PCC 17.12.185.A.7.a & b]
- A. The Permittee shall comply with all conditions of this permit including all applicable requirements of Arizona air quality statutes and the air quality rules. Any permit noncompliance constitutes a violation of the Arizona Revised Statutes and is grounds for enforcement action; for permit termination, revocation and reissuance, or revision; or for denial of a permit renewal application. In addition, noncompliance with any federally enforceable requirement constitutes a violation of the Clean Air Act.
  - B. It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- III. PERMIT REVISION, REOPENING, REVOCATION AND REISSUANCE, OR TERMINATION FOR CAUSE [PCC 17.12.185.A.7.c & PCC 17.12.270]
- A. The permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit revision, revocation and reissuance, or termination; or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
  - B. The permit shall be reopened and revised under any of the following circumstances:
    - 1. Additional applicable requirements under the Act become applicable to a major source. Such reopening shall only occur if there are three or more years remaining in the permit term. The reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to PCC 17.12.280. Any permit reopening required pursuant to this paragraph shall comply with provisions in PCC 17.12.280 for permit renewal and shall reset the five-year permit term.
    - 2. Additional requirements, including excess emissions requirements, become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the Class I permit.

3. The Control Officer or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
  4. The Control Officer or the Administrator determines that the permit needs to be revised or revoked to assure compliance with the applicable requirements.
- C. Proceedings to reopen and issue a permit, including appeal of any final action relating to a permit reopening, shall follow the same procedures as apply to initial permit issuance. Such reopenings shall be made as expeditiously as practicable. Permit reopenings for reasons other than those stated in paragraph III.B.1 of this Part shall not result in the resetting of the five-year permit term.

IV. POSTING OF PERMIT

[PCC 17.12.080]

The Permittee shall maintain a complete copy of the complete permit shall be kept on the site. If it is not feasible to maintain a copy of the permit onsite the Permittee may request in writing, to maintain a copy of the permit at an alternate location. Upon written approval by the Control Officer, the Permittee must maintain a complete copy of the permit at the approved alternative location.

V. FEE PAYMENT

[PCC 17.12.185.A.8 & PCC 17.12.510]

The Permittee shall pay fees to the Control Officer pursuant to A.R.S. § 49-480.D and PCC 17.12.510.

VI. ANNUAL EMISSIONS INVENTORY QUESTIONNAIRE

[PCC 17.12.320]

- A. When requested by the Control Officer, the Permittee shall complete and submit an annual emissions inventory questionnaire. The questionnaire is due by March 31 or ninety days after the Control Officer makes the request and provides the inventory form each year, whichever occurs later, and shall include emission information for the previous calendar year.
- B. The questionnaire shall be on a form provided by or approved by the Control Officer and shall include the information required by PCC 17.12.320.

VII. CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS

[PCC 17.12.220.A.3]

Any document required to be submitted by this permit, including reports, shall contain a certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required by this permit shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

VIII. INSPECTION AND ENTRY

[PCC 17.12.220.A.4]

The Permittee shall allow the Control Officer or the authorized representative of the Control Officer upon presentation of proper credentials to:

- A. Enter upon the Permittee's premises where a source is located or emissions-related activity is conducted, or where records are required to be kept under the conditions of the permit;

- B. Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;
- C. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
- D. Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements; and
- E. Record any inspection by use of written, electronic, magnetic and photographic media.

IX. PERMIT REVISION PURSUANT TO FEDERAL HAZARDOUS AIR POLLUTANT STANDARD

[PCC 17.12.165.C.3]

If this source becomes subject to a standard promulgated by the Administrator pursuant to Section 112(d) of the Act, then the Permittee shall, within twelve months of the date on which the standard is promulgated, submit an application for a permit revision demonstrating how the source will comply with the standard.

X. EXCESS EMISSIONS, PERMIT DEVIATIONS, AND EMERGENCY REPORTING

[PCC 17.12.040]

A. Excess Emissions Reporting

[PCC 17.12.040]

1. Excess emissions shall be reported as follows:

a. The Permittee shall report to the Control Officer any emissions in excess of the limits established by this permit. The report shall be in 2 parts as specified below:

i. Notification by telephone or facsimile within 24 hours of the time the Permittee first learned of the occurrence of excess emission that includes all available information from PCC 17.12.040.B. The number to call to report excess emissions is **520-243-7400**. The facsimile number to report excess emissions is **520-243-7370**.

ii. Detailed written notification by submission of an excess emissions report within 72 hours of the notification under X.A.1.a.i of Part A above. **Send to PDEQ 33 N. Stone Ave. Ste 700, Tucson, Arizona 85701.**

b. The excess emission report shall contain the following information:

i. The identity of each stack or other emission point where the excess emission occurred;

ii. The magnitude of the excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions;

iii. The time and duration or expected duration of the excess emissions;

iv. The identity of the equipment from which the excess emissions emanated;

v. The nature and cause of the emissions;

- vi. The steps taken, if the excess emissions were the result of a malfunction, to remedy the malfunction and the steps taken or planned to prevent the recurrence of the malfunctions; and
- vii. The steps that were or are being taken to limit the excess emissions; If the source's permit contains procedures governing source operation during periods of startup or malfunction and the excess emissions resulted from startup or malfunction, a list of the steps taken to comply with the permit procedures.

2. In the case of continuous or recurring excess emissions, the notification requirements of this Section shall be satisfied if the source provides the required notification after excess emissions are first detected and includes in the notification an estimate of the time the excess emissions will continue. Excess emissions occurring after the estimated time period or changes in the nature of the emissions as originally reported shall require additional notification pursuant to subsections A.1 above.

B. Permit Deviations Reporting [PCC 17.12.185.A.5]

Prompt reporting of deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken.

C. Emergency Provision [PCC 17.12.185.D]

- 1. An "Emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, that requires immediate corrective action to restore normal operation and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emission attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error.
- 2. An emergency constitutes an affirmative defense to an action brought for noncompliance with the technology-based emission limitations if the conditions of X.E.3 of Part A are met.
- 3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
  - a. An emergency occurred and that the Permittee can identify the cause or causes of the emergency;
  - b. At the time of the emergency, the permitted facility was being properly operated;
  - c. During the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
  - d. The Permittee submitted notice of the emergency to the Control Officer by certified mail or hand delivery within two working days of the time when emission limitations were exceeded due to the emergency. This notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective

action taken.

4. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.

D. Compliance Schedule

[ARS § 49-426.I.5]

For any excess emission or permit deviation that cannot be corrected within 72 hours, the Permittee is required to submit a compliance schedule to the Control Officer within 21 days of such occurrence. The compliance schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with the permit terms or conditions that have been violated.

E. Affirmative Defenses for Excess Emissions Due to Malfunctions, Startup, and Shutdown

[PCC 17.12.035]

1. Applicability

This rule establishes affirmative defenses for certain emissions in excess of an emission standard or limitation and applies to all emission standards or limitations except for standards or limitations:

- a. Promulgated pursuant to Sections 111 or 112 of the Act,
- b. Promulgated pursuant to Titles IV or VI of the Clean Air Act,
- c. Contained in any Prevention of Significant Deterioration (PSD) or New Source Review (NSR) permit issued by the U.S. E.P.A., or
- d. Included in a permit to meet the requirements of PCC 17.16.590.A.5.

2. Affirmative Defense for Malfunctions

Emissions in excess of an applicable emission limitation due to malfunction shall constitute a violation. The owner or operator of a source with emissions in excess of an applicable emission limitation due to malfunction has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the owner or operator of the source has complied with the reporting requirements of XII.A of Part A and has demonstrated all of the following:

- a. The excess emissions resulted from a sudden and unavoidable breakdown of process equipment or air pollution control equipment beyond the reasonable control of the operator;
- b. The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;
- c. If repairs were required, the repairs were made in an expeditious fashion when the applicable emission limitations were being exceeded. Off-shift labor and overtime were utilized where practicable to ensure that the repairs were made as expeditiously

as possible. If off-shift labor and overtime were not utilized, the owner or operator satisfactorily demonstrated that the measures were impracticable;

- d. The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;
- e. All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;
- f. The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;
- g. During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in PCC Chapter 17.08 that could be attributed to the emitting source;
- h. The excess emissions did not stem from any activity or event that could have been foreseen and avoided, or planned, and could not have been avoided by better operations and maintenance practices;
- i. All emissions monitoring systems were kept in operation if at all practicable; and
- j. The owner or operator's actions in response to the excess emissions were documented by contemporaneous records.

3. Affirmative Defense for Startup and Shutdown

- a. Except as provided in X.C.2 of Part A, and unless otherwise provided for in the applicable requirement, emissions in excess of an applicable emission limitation due to startup and shutdown shall constitute a violation. The owner or operator of a source with emissions in excess of an applicable emission limitation due to startup and shutdown has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the owner or operator of the source has complied with the reporting requirements of XII.A of Part A and has demonstrated all of the following:
  - i. The excess emissions could not have been prevented through careful and prudent planning and design;
  - ii. If the excess emissions were the result of a bypass of control equipment, the bypass was unavoidable to prevent loss of life, personal injury, or severe damage to air pollution control equipment, production equipment, or other property;
  - iii. The source's air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;
  - iv. The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;

- v. All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;
  - vi. During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in PCC Chapter 17.08 that could be attributed to the emitting source;
  - vii. All emissions monitoring systems were kept in operation if at all practicable; and
  - viii. The Permittee's actions in response to the excess emissions were documented by contemporaneous records.
- b. If excess emissions occur due to a malfunction during routine startup and shutdown, then those instances shall be treated as other malfunctions subject to X.B of Part A.

4. Affirmative Defense for Malfunctions During Scheduled Maintenance

If excess emissions occur due to a malfunction during scheduled maintenance, then those instances will be treated as other malfunctions subject to X.B of Part A.

5. Demonstration of Reasonable and Practicable Measures

For an affirmative defense under X.B or C, the owner or operator of the source shall demonstrate, through submission of the data and information required by this Section and XII.B, that all reasonable and practicable measures within the owner or operator's control were implemented to prevent the occurrence of the excess emissions.

XI. RECORDKEEPING REQUIREMENTS

[PCC 17.12.185.A.4]

- A. Permittee shall keep records of all required monitoring information including, where applicable, the following:
- 1. The date, place as defined in the permit, and time of sampling or measurements;
  - 2. The date(s) analyses were performed;
  - 3. The name of the company or entity that performed the analyses;
  - 4. A description of the analytical techniques or methods used;
  - 5. The results of such analyses; and
  - 6. The operating conditions as existing at the time of sampling or measurement.
- B. The Permittee shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and copies of all reports required by the permit.
- C. All required records shall be maintained either in an unchangeable electronic format or in a handwritten logbook utilizing indelible ink.

**XII. REPORTING REQUIREMENTS**

[PCC 17.12.185.A.5]

The Permittee shall comply with all of the reporting requirements of this permit. These include all of the following:

- A. Excess emission; permit deviation, and emergency reports.
- B. Performance test results.
- C. Reporting requirements listed in Part “B” of this permit.

**XIII. DUTY TO PROVIDE INFORMATION**

[PCC 17.12.165.G & PCC 17.12.185.A.7.e]

- A. The Permittee shall furnish to the Control Officer, within a reasonable time, any information that the Control Officer may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the Permittee shall also furnish to the Control Officer copies of records required to be kept by the permit. For information claimed to be confidential, the Permittee, for Class I sources, shall furnish an additional copy of such records directly to the Administrator along with a claim of confidentiality.
- B. If the Permittee has failed to submit any relevant facts or if the Permittee has submitted incorrect information in the permit application, the Permittee shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information.

**XIV. PERMIT AMENDMENT OR REVISION**

[PCC 17.12.245, PCC 17.12.255 & PCC 17.12.260]

The Permittee shall apply for a permit amendment or revision for changes to the facility which do not qualify for a facility change without revision under Section XV, as follows:

- A. Administrative Permit Amendment (PCC 17.12.245.);
- B. Minor Permit Revision (PCC 17.12.255.); and
- C. Significant Permit Revision (PCC 17.12.260.).

The applicability and requirements for such action are defined in the above referenced regulations.

**XV. FACILITY CHANGES WITHOUT A PERMIT REVISION**

[PCC 17.12.240]

- A. Except for a physical change or change in the method of operation at a Class II source requiring a permit revision under PCC 17.12.235, or a change subject to logging or notice requirements in XV.B or C of Part A, a change at a Class II source shall not be subject to revision, notice, or logging requirements under this Chapter.
- B. Except as otherwise provided in the conditions applicable to an emissions cap created under PCC 17.12.195, the following changes may be made if the source keeps onsite records of the changes according to XV.J of this Part:

1. Implementing an alternative operating scenario, including raw material changes;
  2. Changing process equipment, operating procedures, or making any other physical change if the permit requires the change to be logged;
  3. Engaging in any new insignificant activity listed in PCC 17.04.340.113.a - i, but not listed in the permit;
  4. Replacing an item of air pollution control equipment listed in the permit with an identical (same model, different serial number) item. The Control Officer may require verification of efficiency of the new equipment by performance tests; and
  5. A change that results in a decrease in actual emissions if the source wants to claim credit for the decrease in determining whether the source has a net emissions increase for any purpose. The logged information shall include a description of the change that will produce the decrease in actual emissions. A decrease that has not been logged is creditable only if the decrease is quantifiable, enforceable, and otherwise qualifies as a creditable decrease.
- C. Except as provided in the conditions applicable to an emissions cap created under PCC 17.12.195, the following changes may be made if the source provides written notice to the Department in advance of the change as provided below:
1. Replacing an item of air pollution control equipment listed in the permit with one that is not identical but that is substantially similar and has the same or better pollutant removal efficiency: seven days. The Control Officer may require verification of efficiency of the new equipment by performance tests;
  2. A physical change or change in the method of operation that increases actual emissions more than 10% of the major source threshold for any conventional pollutant but does not require a permit revision: seven days;
  3. Replacing an item of air pollution control equipment listed in the permit with one that is not substantially similar but that has the same or better efficiency: 30 days. The Control Officer may require verification of efficiency of the new equipment by performance tests;
  4. A change that would trigger an applicable requirement that already exists in the permit: 30 days unless otherwise required by the applicable requirement;
  5. A change that amounts to reconstruction of the source or an affected facility: seven days. For purposes of XV.C of this Part, reconstruction of a source or an affected facility shall be presumed if the fixed capital cost of the new components exceeds 50% of the fixed capital cost of a comparable entirely new source or affected facility and the changes to the components have occurred over the 12 consecutive months beginning with commencement of construction; and
  6. A change that will result in the emissions of a new regulated air pollutant above an applicable regulatory threshold but that does not trigger a new applicable requirement for that source category: 30 days. For purposes of this requirement, an applicable regulatory threshold for a conventional air pollutant shall be 10% of the applicable major source threshold for that pollutant.
- D. For each change under XV.C of this Part, the written notice shall be by certified mail or hand delivery and shall be received by the Control Officer the minimum amount of time in advance of the

change. Notifications of changes associated with emergency conditions, such as malfunctions necessitating the replacement of equipment, may be provided with less than required notice, but must be provided as far in advance of the change, or if advance notification is not practicable, as soon after the change as possible. The written notice shall include:

1. When the proposed change will occur,
  2. A description of the change,
  3. Any change in emissions of regulated air pollutants, and
  4. Any permit term or condition that is no longer applicable as a result of the change.
- E. A source may implement any change in XV.C of this part without the required notice by applying for a minor permit revision under PCC 17.12.255 and complying with PCC 17.12.255.D.2 and G.
- F. The permit shield described in PCC 17.12.310 shall not apply to any change made under this Section, other than implementation of an alternate operating scenario under XV.B.1 of this part.
- G. Notwithstanding any other part of this Section, the Control Officer may require a permit to be revised for any change that, when considered together with any other changes submitted by the same source under this Section over the term of the permit, constitutes a change under PCC 17.12.235.A.
- H. If a source change is described under both XV.B and C of this Part, the source shall comply with XV.C. If a source change is described under both XV.C of this Part and PCC 17.12.235.B, the source shall comply with PCC 17.12.235.B.
- I. A copy of all logs required under XV.B of this Part shall be filed with the Control Officer within 30 days after each anniversary of the permit issue date. If no changes were made at the source requiring logging, a statement to that effect shall be filed instead.
- J. Logging Requirements
1. Each log entry required by a change under PCC 17.12.240.B shall include at least the following information:
    - a. A description of the change, including:
      - i. A description of any process change.
      - ii. A description of any equipment change, including both old and new equipment descriptions, model numbers and serial numbers, or any other unique equipment number.
      - iii. A description of any process material change.
    - b. The date and time that the change occurred.
    - c. The provision of PCC 17.12.240.B that authorizes the change to be made with logging.
    - d. The date the entry was made and the first and last name of the person making the entry.

2. Logs shall be kept for five years from the date created. Logging shall be performed in indelible ink in a bound log book with sequentially numbered pages, or in any other form, including electronic format, approved by the Control Officer.

## XVI. TESTING REQUIREMENTS

[PCC 17.12.050]

### A. Operational Conditions During Testing

Tests shall be conducted while the unit is operating under representative conditions unless other conditions are required by the applicable test method or in this permit. With prior written approval from the Control Officer, testing may be performed at a lower rate. Operations during start-up, shutdown, and malfunction (as defined in PCC 17.04.340.A.) shall not constitute representative operational conditions unless otherwise specified in the applicable requirement.

- B. Tests shall be conducted and data reduced in accordance with the test methods and procedures contained in the Arizona Testing Manual unless modified by the Control Officer pursuant to A.A.C. R18-2-312.B.

### C. Test Plan

At least 30 calendar days prior to performing a test, the Permittee shall submit a test plan to the Control Officer, in accordance with PCC 17.12.050.B and the Arizona Testing Manual. The test plan may be submitted at the beginning of the permit term for use during the entire permit term as specified in V.B.3 of Part B. Any changes, modifications, or deviations from the approved test plan will require the Permittee to re-submit the plan for approval.

### D. Stack Sampling Facilities

The Permittee shall provide or cause to be provided, performance testing facilities as follows:

1. Sampling ports adequate for test methods applicable to the facility;
2. Safe sampling platforms;
3. Safe access to sampling platforms; and
4. Utilities for sampling and testing equipment.

### E. Interpretation of Final Results

Each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs is required to be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control, compliance may, upon the Control Officer's approval, be determined using the arithmetic mean of the results of the other two runs. If the Control Officer or the Control Officer's designee is present, tests may only be stopped with the Control Officer's or such designee's approval. If the Control Officer or the Control Officer's designee is not present, tests may only be stopped for good cause. Good cause includes: forced shutdown, failure of an irreplaceable portion of

the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control. Termination of any test without good cause after the first run is commenced shall constitute a failure of the test. Supporting documentation, which demonstrates good cause, must be submitted.

F. Report of Final Test Results

A written report of the results of all performance tests shall be submitted to the Control Officer within 60 days after the test is performed. The report shall be submitted in accordance with the Arizona Testing Manual and PCC 17.12.050.A.

XVII. PROPERTY RIGHTS [PCC 17.12.185.A.7.d]

This permit does not convey any property rights of any sort, or any exclusive privilege.

XVIII. SEVERABILITY CLAUSE [PCC 17.12.185.A.6]

The provisions of this permit are severable. If any provision of this permit is held invalid, the remainder of this permit shall not be affected thereby.

XIX. PERMIT SHIELD [PCC 17.12.310]

Compliance with the conditions of this permit shall be deemed compliance with the applicable requirements identified in Part "C" of this permit. The permit shield shall not apply to any change made pursuant to XV.B and XVI of Part A.

XX. ACCIDENT PREVENTION REQUIREMENTS UNDER THE CLEAN AIR ACT (CAA Section 112(r))

Should this stationary source, as defined in 40 CFR Section 68.3, become subject to the accidental release prevention regulations in Part 68, then the Permittee shall submit a risk management plan (RMP) by the date specified in Section 68.10 and shall certify compliance with the requirements of Part 68 as part of the semiannual compliance certification as required by 40 CFR Part 70 and Part B of this permit.

XXI. ASBESTOS REQUIREMENTS (Demolition/ Renovation)

Should this stationary source, pursuant to 40 CFR 61, Subpart M become subject to the National Emission Standards for Hazardous Air Pollutants - Asbestos for asbestos regulations when conducting any renovation or demolition at this premises, then the Permittee shall submit proper notification as described in 40 CFR Subpart M and shall comply with all other applicable requirements of subpart M. The Permittee shall keep a record of all relevant paperwork on file.

[40 CFR 61, Subpart M]

XXII. STRATOSPHERIC OZONE DEPLETING SUBSTANCES

The Permittee shall not use, sell, or offer for sale any fluid as a substitute material for use in any motor vehicle, residential, commercial, or industrial air conditioning system, refrigerator or freezer unit, or other cooling or heating device designed to use a chlorofluorocarbon (CFC) or hydrochlorofluorocarbon (HCFC) compound as a working fluid, unless such fluid has been approved for sale and such use by the Administrator. The Permittee shall keep a record of all paperwork relevant to the applicable requirements of 40 CFR 82,

Subpart F onsite.

[40 CFR 82 & PCC 17.16.710]



**Brush Ceramic Products Inc.**  
**6100 S. Tucson Blvd.**  
**Tucson, Arizona 85706**  
**Permit Number 1571**

**PART B: BERYLLIUM PROCESSING SPECIFIC CONDITIONS**

**I. APPLICABILITY**

This Part contains specific conditions applicable to the stationary source including the ceramic plant and machine shop operations as defined in 40 CFR Part 61 Subpart C, National Emission Standard for Beryllium.

**II. EMISSION LIMITATIONS AND OTHER REQUIREMENTS**

A. The Permittee shall not allow total emissions to the atmosphere from the stationary source into the ambient air to exceed 10 grams of beryllium over a 24-hour period. [40 CFR 61, §61.32(a)]  
**[Federally Enforceable Requirement]**

B. The Permittee shall install, operate, and maintain air pollution control equipment listed in Attachment D that consists of the following components: [40 CFR 61, §61.12.c & PCC 17.12.185.A.2]  
**[Federally Enforceable Requirement]**  
**[Material Permit Condition]**

1. A 40K cubic feet per minute capacity HEPA filtered air pollution control device that includes two (2) 80 cartridge filter houses and one (1) two stage final safety filter house.
2. A 15K cubic feet per minute capacity HEPA filtered air pollution control device that includes one (1) 60 cartridge filter house and one (1) three stage final safety filter house.
3. A 7K cubic feet per minute capacity (Torrit) HEPA filtered air pollution control device that includes one (1) multi-stage wet separator filter, one (1) primary filter bank, and one (1) final safety filter bank.
4. A 6.5K cubic feet per minute capacity (EF1)HEPA filtered air pollution control device that includes one (1) primary filter bank and one (1) final safety filter bank.
5. The Permittee shall exhaust each of the four components (i.e., II.B.1 - 4) to a single final exhaust stack.

C. The Permittee shall not emit or allow to be emitted any beryllium emissions from any operations, roof vent, doorway or other opening from the stationary source except through the air pollution control equipment and the stack identified in II.B of Part B, by implementing an emissions prevention plan required in III.C of Part B. [PCC 17.12.185.A.2]  
**[Material Permit Condition]**

D. The Permittee shall not emit or allow to be emitted any beryllium emissions when changing filters or collector drums on any of the air pollution control equipment identified in II.B by implementing the following operation and maintenance procedures: [PCC 17.12.185.A.2]

1. 40K Final Safety Filter Change Procedure, dated 10/12/2006.
  2. 15K Final Safety Filter Change Procedure, dated 10/12/2006.
  3. Torit Final Safety Filter Change Procedure, dated 10/12/2006.
  4. Dust Collector Drum Change Out Procedure, dated 10/12/2006, Revised 5/14/2008.
- E. Any changes to the operation and maintenance procedures originally approved by the Control Officer and identified in II.D of this part shall be submitted to and approved by the Control Officer prior to implementation.
- F. The Permittee shall operate the air pollution control equipment at all times that there is the potential to emit beryllium or beryllium containing compounds. [PCC 17.12.185.A.2]  
**[Material Permit Condition]**
- G. The Permittee shall not cause, suffer, allow, or permit diffusion of visible emissions, including fugitive dust, beyond the property boundary line within which the emissions become airborne, without taking reasonably necessary and feasible precautions to control generation of airborne particulate matter. Sources may be required to cease temporarily the activity or operation that is causing or contributing to the emissions until reasonably necessary and feasible precautions are taken. [SIP Rule 343 & PCC 17.16.050.D]  
**[Federally Enforceable Requirement]**
- H. The Permittee shall maintain and operate the source, including associated equipment for air pollution control, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator and Control Officer that may include, but is not limited to, monitoring results, review of operating and maintenance procedures, and inspection of the source. [40 CFR Part 61, §61.12(c) & PCC 17.12.350]  
**[Federally Enforceable Requirement]**  
**[Material Permit Condition]**
- I. The Permittee shall not build, erect, install, or use any article machine, equipment, process, or method, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous dilutants to achieve compliance with a visible emissions standard, and the piecemeal carrying out of an operation to avoid coverage by a standard that applies only to operations larger than a specified size. [40 CFR Part 61, §61.19]  
**[Federally Enforceable Requirement]**
- J. Where the Permittee locates a stack, vent or other outlet at such a level that fumes, gas, mist, odor, smoke, vapor or any combination thereof constituting air pollution are discharged to adjoining property, the Control Officer may require the installation of abatement equipment or the alteration of such stack, vent or other outlet by the owner or operator thereof to a degree that will adequately dilute, reduce or eliminate the discharge of air pollution to adjoining property. [PCC 17.12.350 & PCC 17.16.430.G]  
**[Material Permit Condition]**
- K. The Permittee shall not cause, allow or permit the emission of particulate matter, caused by combustion of fuel, from any fuel burning operation in excess of the amount calculated by the following equation: [SIP Rule 332][PCC 17.16.165.C.1]

**[Federally Enforceable Requirement]**

$$E = 1.02Q^{0.769}$$

Where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour.

Q = the heat input in million BTU per hour.

L. The actual values shall be calculated from the applicable equations and rounded off to two decimal places. [PCC 17.16.165.D]

M. The Permittee shall use only Pipeline Quality Natural Gas. [PCC 17.12.185.A.2]

**[Material Permit Condition]**

N. The opacity of effluent from any stack or point source shall not exceed 40%, as determined by reference Method 9 of the Arizona Testing Manual. [SIP Rule 321]

**[Federally Enforceable Requirement]**

O. The Permittee shall not allow the opacity of any plume or effluent to be greater than 20% in any area that is attainment or unclassified for each particulate matter standard except as provided in PCC 12.16.130.d and e. [PCC 17.16.130]

P. No person shall transport or store VOCs without taking necessary and feasible measures to control evaporation, leakage or other discharge into the atmosphere. [PCC 17.16.400]

III. MONITORING & RECORDKEEPING REQUIREMENTS [PCC 17.12.185.A.3 & 4]

A. The Permittee shall record each instance of activation of each air pollution control device, identified in II.B of Part B. At minimum, the record shall include the date, start and stop time(s) of activation of each device, and name of the person making the entry. Once a persons name is entered into the log, the person's initials may be entered instead of their name.

B. The Permittee shall perform weekly checks of the powered exhaust vents (as listed in Table 3 of this Part), doorways, and outside duct work including all collection and filtering systems that have a potential for carrying beryllium containing compounds for evidence of any emissions. At a minimum, the inspection record shall include the date, the identification of the collection or filter system, vent, or doorway being checked, the name of the person making the check, and the results of the check (i.e., any indications of any emissions, leaks or damage that were identified, and, if so, what corrective action was taken).

C. The Permittee shall implement the Emissions Prevention Plan procedures dated 08/08/07. The plan is herein incorporated by reference. Any changes to the Emissions Prevention Plan shall follow the procedures in XIV and XV of Part A.

D. The Permittee shall perform the following: [PCC 17.12.185.A.2]

1. Operate photohelic gauges to continuously monitor the pressure drops across both the primary and final filters of the 15k cfm and 40k cfm air pollution control systems.

2. Operate photohelic gauges to continuously monitor pressure drops across the final filters of the 7k cfm and 6.5k cfm air pollution control systems.
  3. Maintain air pollution control systems so that they operate within operating ranges specified in Table 2 of this Part.
  4. Interlock the photohelic gauges, identified in III.D.1-2 of this Part, to the fans powering the air pollution control systems to provide automatic shutdown in the event pressure drops reach failure indication levels given in Table 2 of this Part.
- E. The Permittee shall operate the above monitoring and automatic shutdown system, III.D.1 – 2 of Part B, whenever there is the potential to emit beryllium or beryllium containing compounds. Prior to installation of this system, the Permittee shall monitor and record the photohelic gauge readings at least daily whenever there is the potential to emit beryllium or beryllium containing compounds. At a minimum, the record shall include the date, the time the readings were made, the specific segment of the collection system to which the pressure drop applies, the value of the pressure drop noted on the gauge, and the name of the person making the check. For purposes of IV.A.3 of Part B, a deviation from permit requirements shall be determined to have occurred if the pressure drop across the filter system segments falls outside the values listed in column four, Table 2 of Part B:

**Table 2**

<b>Air Pollution Control Device Collection System</b>	<b>Segment</b>	<b>Operating Range (inches water gauge)</b>	<b>Failure Indication (inches water gauge)</b>	<b>Meter ID Code (stenciled at the location)</b>
40K cfm	Primary Filters	1.5 – 2.5	<0.1, >7.0	A, B
40K cfm	Final Filters	0.4 – 2.4	<0.1, >7.0	D
15K cfm	Primary Filters	1.5 – 2.5	<0.1, >7.0	C
15K cfm	Final Filters	0.4 – 1.5	<0.1, >7.0	E
7K cfm (Torrit)	Final Filters	0.4 – 2.4	<0.1, >7.0	F
6.5K cfm (EF1)	Primary and Final	1.5 – 4.0	<0.1, >7.0	G

- F. The Permittee shall record each instance when the filters in any of the four air pollution control devices are replaced. The record shall include, at a minimum, the time and date the filters were replaced, the segment of the air pollution control equipment affected, the basis for replacing the filters, procedures used to replace the filter, and the name of the person replacing the filters.
- G. The Permittee shall record each instance when the dust collector drum is changed out. At a minimum, the record shall include the date, identification of the collection point location, the condition of the drum, the amount of material in the drum, the name of the person making the change out, and any occurrence of beryllium spill from this collection activity.
- H. The Permittee shall place an identifying sign at the interior location of the power switch for each of

the powered exhaust vents located in production areas and listed in Table 3 of Part B. The specific vents are identified using the same numbering scheme found on the Brush Ceramic Products Inc. schematic entitled "Building Penetrations" dated January 25, 2001 and provided to the Control Officer as part of the amended application. The sign shall state that, in the event of a beryllium powder spill, the exhaust fan(s) in the vent(s) affected by the spill shall immediately be shut off. Such a requirement shall be incorporated in the Brush Ceramic Products Inc. emission prevention plan.

**Table 3**

Vent Description	Capacity (cfm)	Vent Number
Firing Room #1	13,000	1
Lapping Room	10,000	2
Lapping Room	10,000	3
Firing Room #1	13,000	4
Firing Room #1	13,000	5
Firing Room #2	13,000	6
Firing Room #2	10,000	7
Astro Room	10,000	8

- I. The Permittee shall record each instance when a powered exhaust fan in a vent listed in Table 3 of Part B is shut down in response to a beryllium powder spill.
- J. Not more than two years nor less than one year prior to the expiration of this Permit, the Permittee shall perform testing of the four (4) powered exhaust vents designated numbers 1, 3, 7, and 8 and listed in Table 3 of Part B. Testing shall be performed in accordance with methods approved by the Control Officer.
- K. Fuel-Fired Equipment

The Control Officer may request the Permittee observe the exhaust stack or stacks of the fuel-fired equipment once per calendar quarter for evidence of abnormal emissions. The Permittee shall record the results of each of these quarterly observations in a log containing the date of the check, the person making the check, the specific stack observed, and whether abnormal emissions were observed. If abnormal emissions were observed, the Permittee shall include in the log entry any corrective action taken.

**IV. REPORTING REQUIREMENTS**

[PCC 17.12.185.A.5 & PCC 17.12.210]

- A. Special Reporting for the Affected Source or Process
  - 1. The Permittee shall furnish the Administrator and Control Officer with written notification of the anticipated date of initial startup of the source not more than 60 days nor less than 30 days before that date and a notification of the actual date of initial startup of the source within 15 days after that date.  
[40 CFR Part 61, §61.09]
  - [Federally Enforceable Requirement]**
  - 2. The Permittee notified the Administrator and Control Officer regarding start up on June 2, 1980.

3. The Permittee shall (as soon as possible, but within 24 hours of the time the Permittee first learned of the occurrence) report to the Control Officer any emissions in excess of the limits established by this permit and also submit detailed written excess emission reports (as soon as possible, but within 72 hours of the time the Permittee first notified the Control Officer).  
[PCC 17.12.040]
4. The Permittee shall report other deviations from permit requirements within two working days of the time the deviation occurred. (see X.B of Part A).
5. The Permittee shall promptly (as soon as possible, but within 72 hours of the time the Permittee first learned of the occurrence) submit a written report to the Control Officer of any instance the air pollution control system is automatically shutdown by the continuous monitoring and automatic shutdown system, (III.D.1 – 4 of Part B).
6. In the event of a beryllium spill in the production areas, the Permittee shall promptly turn off the exhaust roof vents. If an emissions exceedance occurred, as measured at the vents, as soon as possible, but within 24 hours of the time the Permittee first learned of the occurrence of a beryllium spill in the production area, the Permittee shall notify the Control Officer and submit detailed written reports within 72 hours of the first notification pursuant to procedures established in III.C.3 of Part B.

B. Emissions Inventory Reporting [PCC 17.12.320]

The Permittee shall complete and submit to the Control Officer an annual emissions inventory questionnaire when requested by the Control Officer. The questionnaire shall include emission information for the previous calendar year and shall be on a form provided or approved by the Control Officer and shall include the information required by PCC 17.12.320 (see VI of Part A).

C. Annual Beryllium Technology Assessment [PCC 17.20.010]

The Permittee shall annually submit (no later than 30 days after the permit anniversary) a report that evaluates the following:

1. New technologies or techniques regarding continuous emissions monitoring (CEM) for beryllium.
2. New technologies or techniques for field assessment or real time beryllium detection.
3. Applicability of technologies to Brush Ceramic Products Inc and their associated cost.

## V. TESTING REQUIREMENTS

A. Initial Test [40 CFR Part 61, §61.13 & §61.33]  
**[Federally Enforceable Requirement]**

1. The Permittee shall test emissions from the source according to Method 104 of Appendix B to 40 CFR Part 61. Method 103 of appendix B to 40 CFR Part 61 is approved by the Administrator as an alternative method. The emission test shall be performed:
  - a. Within 90 days of the effective date in the case of an existing source or a new source

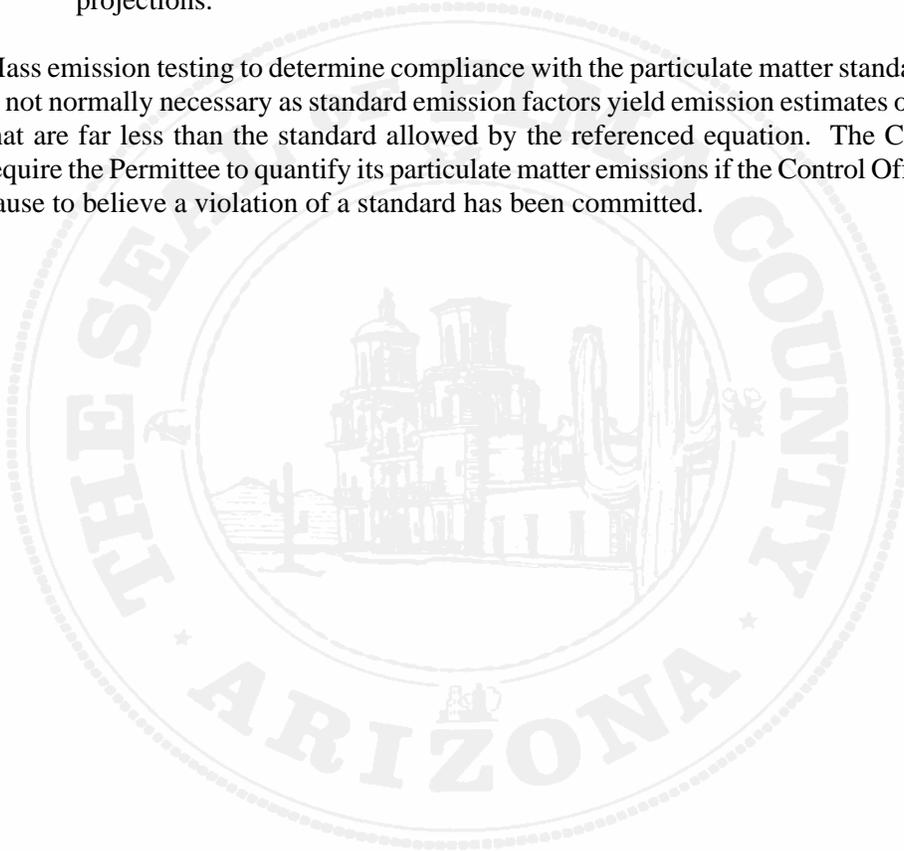
which has an initial startup date preceding the effective date; or

- b. Within 90 days of startup in the case of a new source that did not have an initial startup date preceding the effective date.
    - c. Initial testing was successfully completed before October 28, 1980.
  2. The Control Officer shall be notified at least 30 days prior to an emission test so that he may at his option observe the test.
  3. The Permittee shall provide emission testing facilities as follows:
    - a. Sampling ports adequate for test methods applicable to each source.
    - b. Safe sampling platform(s).
    - c. Safe access to sampling platform(s).
    - d. Utilities for sampling and testing equipment.
    - e. Any other facilities that the Administrator or Control Officer needs to safely and properly test a source.
  4. Samples shall be taken over such a period or periods as are necessary to accurately determine the maximum emissions that will occur in any 24-hour period. Where emissions depend upon the relative frequency of operation of different types of processes, operating hours, operating capacities, or other factors, the calculation of maximum 24-hour-period emissions will be based on that combination of factors which is likely to occur during the subject period and which result in the maximum emissions.
  5. All samples shall be analyzed and beryllium emissions shall be determined within 30 days after the source test. All determinations shall be reported to the Administrator and the Control Officer by a registered letter dispatched before the close of the next business day following such determination.
  7. Records of emission test results and other data needed to determine total emissions shall be retained at the source and made available, for inspection by the Administrator or the Control Officer, for a minimum of 2 years.
- B. Periodic Testing. [PCC 17.12.185.A.3]
  1. The Permittee shall test emissions from the source according to Method 104 of Appendix B to 40 CFR Part 61. The Permittee has been authorized by the Administrator to use an in-stack filter during the test. The emission test shall be performed at least annually. [PCC 17.12.185.A.3.b]
  2. The Permittee shall arrange for the annual test to be conducted by an independent company (i.e., a company not affiliated with Brush Ceramic Products Inc.). Laboratory analyses of the test results shall also be conducted by a certified laboratory not affiliated with Brush Ceramic Products Inc. [PCC 17.12.050.C]

3. The Permittee shall submit an initial test protocol to the Control Officer for approval at least 30 calendar days prior to the test. The approved initial test protocol will be valid for any subsequent tests during the duration of this current air quality operating permit. The Permittee will re-submit to the Control Officer for approval the test protocol if a modification is required. Only tests conducted in accordance with an approved protocol shall be recognized by the Control Officer.  
[PCC 17.12.050.B]
  4. The Control Officer shall be notified at least 30 days prior to an emission test so that he may, at his option, observe the test. [40 CFR 61.33(b)]
  5. The Permittee shall provide emission testing facilities as follows: [PCC 17.12.050.E]
    - a. Sampling ports adequate for test methods applicable to each source.
    - b. Safe sampling platform(s).
    - c. Safe access to sampling platform(s).
    - d. Utilities for sampling and testing equipment.
    - e. Any other facilities that the Control Officer needs to safely and properly test a source.
  6. Samples shall be taken over such a period or periods as are necessary to accurately determine the maximum emissions that will occur in any 24-hour period. Where emissions depend upon the relative frequency of operation of different types of processes, operating hours, operating capacities, or other factors, the calculation of maximum 24-hour-period emissions will be based on that combination of factors which is likely to occur during the subject period and which result in the maximum emissions. No changes in the operation shall be made, which would potentially increase emissions above that determined by the most recent source test, until a new emission level has been estimated by calculation and the results reported to the Control Officer.  
[PCC 17.12.050.C]
  7. All samples shall be analyzed and beryllium emissions shall be determined within 45 days after the source test. All determinations shall be reported to the Control Officer before the close of the next business day (the 46<sup>th</sup> day) following such determination. [PCC 17.12.050.C]
  8. Records of emission test results and other data needed to determine total emissions shall be retained at the source and made available, for inspection by the Control Officer, for a minimum of 5 years.
- C. The Control Officer shall require the Permittee to monitor, sample, or otherwise quantify the emissions of air pollution, which may reasonably be attributed to the Permittee if the Control Officer determines in writing that all of the following conditions are met: [PCC 17.20.010.B & D]
1. The actual or potential emissions of air pollution may adversely affect public health or the environment and;
  2. An adequate scientific basis for the monitoring, sampling, or quantification method exists,

and;

3. The monitoring, sampling, or quantification method is technically feasible for the subject contaminant and source, and;
  4. The monitoring, sampling, or quantification method is reasonably accurate, and;
  5. The cost of the method is reasonable in light of the use to be made of the data, and;
  6. Before requiring such monitoring, sampling, or other quantification, the Control Officer shall consider the relative cost and accuracy of any alternatives which may be reasonable under the circumstances such as emission factors, modeling, mass balance analyses, or emissions projections.
- D. Mass emission testing to determine compliance with the particulate matter standard in II.K of Part B is not normally necessary as standard emission factors yield emission estimates of particulate matter that are far less than the standard allowed by the referenced equation. The Control Officer may require the Permittee to quantify its particulate matter emissions if the Control Officer has reasonable cause to believe a violation of a standard has been committed. [PCC 17.20.010]



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**Tucson, Arizona 85706**  
**Permit Number 1571**

**PART B-I: CADMIUM-TIN PROCESSING SPECIFIC CONDITIONS**

**I. APPLICABILITY**

This Part contains specific conditions applicable to the stationary source and addresses the **Cadmium-Tin** machining process that is subject to 40 CFR Part 63 Subpart XXXXXX, National Emission Standards for Hazardous Air Pollutants – Area Source Standards for Nine Metal Fabrication and Finishing Source Categories.

**II. DEFINITIONS THAT APPLY TO THIS PART:**

- A. **Affected source.** As defined in the NESHAP is any source that uses materials that contain or have the potential to emit metal fabrication or finishing metal HAP (MFHAP), defined to be the compounds of cadmium, chromium, lead, manganese, and nickel, or any of these metals in the elemental form with the exception of lead. Materials that contain MFHAP are defined to be materials that contain greater than 0.1 percent for carcinogens, as defined by OSHA at 29 CFR 1910.1200(d)(4), and greater than 1.0 percent for noncarcinogens. For the MFHAP, this corresponds to materials that contain cadmium, chromium, lead, or nickel in amounts greater than or equal to 0.1 percent by weight (of the metal), and materials that contain manganese in amounts greater than or equal to 1.0 percent by weight (of the metal), as shown in formulation data provided by the manufacturer or supplier, such as the Material Safety Data Sheet for the material.
- B. **Machining** means dry metal turning, milling, drilling, boring, tapping, planing, broaching, sawing, cutting, shaving, shearing, threading, reaming, shaping, slotting, hobbing, and chamfering with machines. Shearing operations cut materials into a desired shape and size, while forming operations bend or conform materials into specific shapes. Cutting and shearing operations include punching, piercing, blanking, cutoff, parting, shearing and trimming. Forming operations include bending, forming, extruding, drawing, rolling, spinning, coining, and forging the metal. Processes specifically excluded are hand-held devices and any process employing fluids for lubrication or cooling.
- C. **Material containing MFHAP** means a material containing one or more MFHAP. Any material that contains cadmium, chromium, lead, or nickel in amounts greater than or equal to 0.1 percent by weight (as the metal), and contains manganese in amounts greater than or equal to 1.0 percent by weight (as the metal), as shown in formulation data provided by the manufacturer or supplier, such as the Material Safety Data Sheet for the material, is considered to be a material containing MFHAP.
- D. **Metal Fabrication and finishing HAP (MFHAP)** means any compound of the following metals: Cadmium, chromium, lead, manganese, or nickel, or any of these metals in the elemental form, with the exception of lead.
- E. **Metal fabrication and finishing source categories** are limited to the nine metal fabrication and finishing source categories with the activities described in 40 CFR Subpart XXXXXX, Table 1, “Description of Source Categories Affected by this Subpart.” Metal fabrication or finishing operations means dry abrasive blasting, machining, spray painting, or welding in any one of the nine metal fabrication and finishing area source categories listed in 40 CFR Subpart XXXXXX, Table 1, “Description of Source Categories Affected by this Subpart.”

### III. STANDARDS AND MANAGEMENT PRACTICES FOR MACHINING

- A. At all times, including periods of startup, shutdown and malfunction, the Permittee must operate and maintain the machining process, including associated air pollution control equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether acceptable operation and maintenance procedures are being used will be based on information available to the Control Officer which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.6(e) & PCC 17.12.185.A.2]  
**[Material Permit Condition]**
- B. The Permittee must implement management practices to minimize emissions of MFHAP as specified in III.B & C and of this part for each machining operation that uses materials that contain MFHAP, as defined in II.A above or has the potential to emit MFHAP. These requirements do not apply when machining operations are being performed that do not use any materials containing MFHAP and do not have the potential to emit MFHAP. [40 CFR 63.11516(b)]  
**[Federally Enforceable Requirement]**
- C. The Permittee must take measures necessary to minimize excess dust in the surrounding area to reduce MFHAP emissions, as practicable. [40 CFR 63.11516(b)(1)]  
**[Federally Enforceable Requirement]**
- D. The Permittee must operate all equipment associated with machining according to manufacturer's instructions. [40 CFR 63.11516(b)(2)]  
**[Federally Enforceable Requirement]**
1. If manufacturer's instructions are not available or cannot be obtained the Permittee shall develop and submit an Operations and Maintenance Plan (O&M Plan) for approval by the Control Officer within 60 days of the issuance of this permit. Any revisions to the (O&M Plan shall be submitted for approval to the Control Officer. [PCC 17.12.185.A.2]
- E. The Permittee shall submit to the Control Officer for approval, management practices implemented to minimize emissions of MFHAP from each machining operation that uses materials that contain MFHAP. The management practices shall be submitted within 60 days of the issuance of this revision. [PCC 17.12.185.A.2]

### IV. MONITORING & RECORDKEEPING REQUIREMENTS

- A. Fugitive Emissions Monitoring **[Federally Enforceable Requirements]**
1. *Visual determination of fugitive emissions, general.* Visual determination of fugitive emissions must be performed according to the procedures of EPA Method 22, of 40 CFR Part 60, Appendix A-7. The Permittee must conduct the EPA Method 22 test while the affected source is operating under normal conditions. The duration of each EPA Method 22 test must be at least 15 minutes, and visible emissions will be considered to be present if they are detected for more than six minutes of the fifteen minute period. [40 CFR 63.11517(a)]

2. *Visual determination of fugitive emissions, graduated schedule.* Visual determinations of fugitive emissions must be performed in accordance with IV.A.1 of this section and according to the schedule in IV.A.2.i through iv of this section.
  - i. *Daily Method 22 Testing.* Perform visual determination of fugitive emissions once per day, on each day the process is in operation, during operation of the process.
  - ii. *Weekly Method 22 Testing.* If no visible fugitive emissions are detected in consecutive daily EPA Method 22 tests, performed in accordance with IV.A.2.i of this section for 10 days of work day operation of the process, the Permittee may decrease the frequency of EPA Method 22 testing to once every five days of operation of the process (one calendar week). If visible fugitive emissions are detected during these tests, the Permittee must resume EPA Method 22 testing of that operation once per day during each day that the process is in operation, in accordance with IV.A.2.i of this section.
  - iii. *Monthly Method 22 Testing.* If no visible fugitive emissions are detected in four consecutive weekly EPA Method 22 tests performed in accordance with IV.A.2.ii of this section, the Permittee may decrease the frequency of EPA Method 22 testing to once per 21 days of operation of the process (one calendar month). If visible fugitive emissions are detected during these tests, the Permittee must resume weekly EPA Method 22 in accordance with IV.A.2.ii of this section.
  - iv. *Quarterly Method 22 Testing.* If no visible fugitive emissions are detected in three consecutive monthly EPA Method 22 tests performed in accordance with IV.A.2.iii of this section, the Permittee may decrease the frequency of EPA Method 22 testing to once per 60 days of operation of the process (3 calendar months). If visible fugitive emissions are detected during these tests, the Permittee must resume monthly EPA Method 22 in accordance with paragraph IV.A.2.iii of this section.

**B. Recordkeeping**

**[Federally Enforceable Requirements]**

1. *General compliance and applicability records.* The Permittee shall maintain information specified below for each affected source: [40 CFR 63.11519(c)(1)]
  - i. Each notification and report that was submitted to comply with this subpart, and the documentation supporting each notification and report. [40 CFR 63.11519(c)(1)(i)]
  - ii. Records of the applicability determinations as in 40 CFR 63.11514(b)(1) through (5), “Am I subject to this subpart,” listing equipment included in its affected source, as well as any changes to that and on what date they occurred, must be maintained for 5 years and be made available for the Control Officer’s review at any time. [40 CFR 63.11519(c)(1)(ii)]
2. *Visual determination of fugitive emissions records.* The Permittee shall maintain a record of the information specified in IV.B.2.i through iii of this section for each affected source which performs visual determination of fugitive emissions in accordance with IV.A (Fugitive Emissions Monitoring) [40 CFR 63.11519(c)(2)(i – iii)]

- i. The date and results of every visual determination of fugitive emissions;
  - ii. A description of any corrective action taken subsequent to the test; and
  - iii. The date and results of any follow-up visual determination of fugitive emissions performed after the corrective actions.
3. The Permittee shall maintain a record of the manufacturer's specifications for the control devices used to comply with the Standards and Management Practices in III of this Part. [40 CFR 63.11519(c)(4)]
  4. *Manufacturer's instructions.* If the Permittee operates any equipment according to manufacturer's instructions or an Operations and Maintenance Plan approved by the Control Officer, a record of these instructions shall be kept onsite readily available for the Control Officer's review. [40 CFR 63.11519(c)(13)]
  2. All records for this Part must be in a form suitable and readily available for expeditious review, according to 40 CFR 63.10(b)(1), "General Provisions." Where appropriate, the records may be maintained as electronic spreadsheets or as a database. [40 CFR 63.11519(c)(15)(i)]
  3. As specified in 40 CFR 63.10(b)(1), "General Provisions," the Permittee must keep each record for 5 years following the date of each occurrence, measurement, corrective action, report, or record. [40 CFR 63.11519(c)(15)(ii)]
  4. The Permittee must keep each record on-site for at least 2 years after the date of each occurrence, measurement, corrective action, report, or record according to 40 CFR 63.10(b)(1), "General Provisions." The Permittee may keep the records off-site for the remaining 3 years. [40 CFR 63.11519(c)(15)(iii)]

## V. REPORTING REQUIREMENTS

### [Federally Enforceable Requirements]

- A. *Annual certification and compliance reports.* The Permittee must prepare and submit annual certification and compliance reports for each affected source according to the requirements of V.A.1 – 3 of this section. [40 CFR 63.11519(b)(1)]
  1. *Dates.* The Permittee must prepare and submit each annual certification and compliance report according to the dates specified in V.A.1.i – iii of this section. Note that the information reported for each of the months in the reporting period will be based on the last 12 months of data prior to the date of each monthly calculation. (12-month rolling totals). [40 CFR 63.11519(b)(2)(i – iii)]
    - i. The first annual certification and compliance report must cover the first annual reporting period which begins the day after the compliance date and ends on December 31.
    - ii. Each subsequent annual certification and compliance report must cover the subsequent semiannual reporting period from January 1 through December 31.

- iii. Each annual certification and compliance report must be prepared and submitted no later than January 31 and kept in a readily-accessible location for the Control Officer's review. If an exceedance has occurred during the year, each annual certification and compliance report must be submitted along with the exceedance reports, and postmarked or delivered no later than January 31.
2. *General requirements.* The annual certification and compliance report must contain the information specified in V.A.2.i – iii of this section, and the information specified in V.A.3 of this section. [40 CFR 63.11519(b)(4)(i – iii)]
- (i) Company name and address;
  - (ii) Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report; and
  - (iii) Date of report and beginning and ending dates of the reporting period. The reporting period is the 12-month period ending on December 31. Note that the information reported for the 12 months in the reporting period will be based on the last 12 months of data prior to the date of each monthly calculation.
3. *Visual determination of fugitive emissions requirements.* The annual certification and compliance report must contain the information specified in V.A.3.i – iii of this section. [40 CFR 63.11519(b)(5)(i – iii)]
- i. The date of every visual determination of fugitive emissions which resulted in detection of visible emissions;
  - ii. A description of the corrective actions taken subsequent to the test; and
  - iii. The date and results of the follow-up visual determination of fugitive emissions performed after the corrective actions.

**Brush Ceramic Products Inc.**  
**6100 S. Tucson Blvd.**  
**Tucson, Arizona 85706**  
**Permit Number 1571**

**PART B-II: AQUA REGIA ACID CLEANING SPECIFIC CONDITIONS**

**I. APPLICABILITY**

This Part contains specific conditions applicable to the stationary source and addresses the Aqua Regia acid cleaning process which removes surface contamination, such as metal marks, from the fired beryllium oxide. The process is subject to applicable sections under Pima County Code (PCC) 17.16.430 – Standards of Performance for Unclassified Sources. **Note:** Not all sections under PCC 17.16.430 are applicable to the Aqua Regia acid cleaning process.

**II. EMISSION LIMITATIONS, STANDARDS AND OTHER REQUIREMENTS**

- A. The Permittee shall install, operate, and maintain the air pollution control equipment listed under the Aqua Regia Cleaning Process in Attachment D. [PCC 17.12.185.A.2]  
**[Material Permit Condition]**
- B. The Permittee must operate and maintain the machining process, including associated air pollution control equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether acceptable operation and maintenance procedures are being used will be based on information available to the Control Officer which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.. [PCC 17.12.185.A.2]
- B. The Permittee shall not emit gaseous or odorous materials from equipment, operations or premises under his control in such quantities or concentrations as to cause air pollution. [PCC 17.16.430.D]
- C. Materials including solvents or other volatile compounds, paints, acids, alkalies, pesticides, fertilizers and manure shall be processed, stored, used and transported in such a manner and by such means that they will not evaporate, leak, escape or be otherwise discharged into the ambient air so as to cause or contribute to air pollution. Where means are available to reduce effectively the contribution to air pollution from evaporation, leakage or discharge, the installation and use of such control methods, devices, or equipment shall be mandatory. [PCC 17.16.430.F]
- D. Where a stack, vent or other outlet is at such a level that fumes, gas, mist, odor, smoke, vapor or any combination thereof constituting air pollution are discharged to adjoining property, the control officer may require the installation of abatement equipment or the alteration of such stack, vent or other outlet by the owner or operator thereof to a degree that will adequately dilute, reduce or eliminate the discharge of air pollution to adjoining property. [PCC 17.16.430.G]
- E. The Permittee shall establish a schedule and procedures for inspection and maintenance of the acid cleaning process and associated equipment. This schedule shall be established within 90 days of the issuance of this revision and shall be kept onsite. **There is no requirement to submit this schedule and procedures to the Control Officer.** [PCC 17.12.185.A.2]

**III. MONITORING AND RECORDKEEPING STANDARDS**

[PCC 17.12.185.A.3 & 4]

- A. The Permittee shall inspect the acid cleaning process and associated system(s) according to established procedures for any leaks and to ensure that it is operating according to good engineering practice. A record of the inspection shall be maintained with details on the date the inspection was performed, the person conducting the inspection, results of the inspection and any corrective actions taken.

IV. REPORTING & TESTING REQUIREMENTS

[PCC 17.12.185.A.3 & 5]

There are no specific reporting requirements for the Aqua Regia Cleaning Station. Refer to XII & XVI of Part A for general reporting & testing requirements.



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**ATTACHMENT C: APPLICABLE REGULATIONS**

**REGULATIONS SPECIFICALLY IDENTIFIED AS APPLICABLE**

Compliance with the terms contained in this permit shall be deemed compliance with the following federally applicable requirements in effect on the date of permit issuance.

Code of Federal Regulations:

- 40 CFR Part 61, Subpart A: General Provisions
- 40 CFR Part 61, Subpart C: National Emission Standard for Beryllium
- 40 CFR Part 63, Subpart XXXXXX: National Emission Standards for Hazardous Air Pollutants – Area Source Standards for Nine Metal Fabrication and Finishing Source Categories.

Pima County State Implementation Plan:

- Rule 316: Particulate Materials
- Rule 343: Visibility Limiting Standard
- Rule 321: Emission-Discharge Opacity Limiting Standards
- Rule 332: Emissions-Discharge Mass Limiting Standard

Compliance with the terms contained in this permit shall be deemed compliance with the following non-federally applicable requirements in effect on the date of permit issuance.

Pima County Code (PCC) Title 17, Chapter 17.16:

- 17.16.050 Visibility Limiting Standard
- 17.16.100 Particulate Materials
- 17.16.130 Applicability
- 17.16.165 Standards of Performance for Fossil Fuel-Fired Industrial and Commercial Equipment
- 17.16.400 Organic Solvents and Other Organic Materials
- 17.16.430.F & G Standards of Performance for Unclassified Sources
- 17.20.010 Source Sampling, Monitoring, and Testing

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**ATTACHMENT D: EQUIPMENT LIST**

Area	Description	Make	Serial Number	Date of Manufacture	Type	Capacity
<b>Air Pollution Control Equipment</b>						
37	Farr dust collector system -Fan Cartridge filter housing -Cartridge filter Final filter housing -Primary filter -Secondary filter -final filter)	Brod & McClung – Pace Co. Farr APC Farr APC or equivalent Farr APC Farr APC or equivalent Farr APC or equivalent Farr APC or equivalent	84-48116-01 84DC0915 N/A 5024 (BCP part no.) N/A N/A N/A	1984 1984 N/A 1984 N/A N/A N/A	Electric N/A 95.95% N/A 30% 95% HEPA	15,000 CFM
37	Farr dust collector system Fan Cartridge filter housing (east) Cartridge filter housing (west) Cartridge filter Final filter housing Secondary filter Final filter	Brod & McClung – Pace Co. Farr APC Farr APC Farr APC or equivalent Farr APC Farr APC or equivalent Farr APC or equivalent	80-37946-01 80-02 81DC0194 N/A 800018 N/A N/A	1980 1980 1980 N/A 1980 N/A N/A	Electric N/A N/A 95.95% N/A 30% HEPA	40,000 CFM
37	Torit dust collector system Fan Primary filter housing Wire mesh screen Mist stop filters Final filter housing	New York Blower Co. Donaldson Torit Airsan Corp. or equivalent Purapak or equivalent Donaldson Torit Farr APC or equivalent	M12245100 5105 (BCP part no.) N/A N/A 5099 (BCP part no.) N/A	1995 1985 N/A N/A 1995 N/A	Electric N/A N/A 95% N/A 95%	7,000 CFM

Area	Description	Make	Serial Number	Date of Manufacture	Type	Capacity
	Prefilter Final filter	Farr APC or equivalent	N/A	N/A	HEPA	
37	EF1 dust collector system Fan Filter housing Prefilter Rigaflo filter Prefilter Final filter	Loren Cook Co. Flanders / CSC Corp. Farr APC or equivalent Farr APC or equivalent Farr APC or equivalent Farr APC or Equivalent	180 CIC BG1-2H2W-2H2W- 2GGF-304-D1 N/A N/A N/A N/A	2001 2001 N/A N/A N/A N/A	Electric N/A 30% 95% N/A 30% HEPA	6,500 CFM
<b>Natural Gas Equipment</b>						
	Bryan Steam Boiler	Bryan Steam Corp.	58116	1983	Nat. Gas	1,500,000 Btu/hr.
	Ajax Boiler	Ajax Water Heating	89-41161	1989	Nat. Gas	3,000,000 Btu/hr

Description	Make/ Model	Serial Number	Date of Manufacture	Fuel Type	Capacity
<b>Cadmium-Tin Processing Equipment</b>					
Blender	WAB/ T2F	971161			2 liters
Vent Hood	Custom	4053			
Lathe	ACRA/ ATL1660TE	16606101472	2005		16" x 60"
JSOPRESS	NATLFORGE/ S1A043301022	317	1987		33 Kpsi

Description	Make/ Model	Serial Number	Date of Manufacture	Fuel Type	Date of Installation
<b>Aqua Regia Cleaning Station</b>					
Wet Bench	MEI, LLC	7974-001	12/2/09	N/A	1/31/10
Scrubber	TRI-MER/ V/F-018-060	TMC-024125	October 09	N/A	1/31/10

