

## STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1672-AR-5 AFIN: 63-00164

1. PERMITTING AUTHORITY:

Arkansas Department of Environmental Quality  
5301 Northshore Drive  
North Little Rock, Arkansas 72118-5317

2. APPLICANT:

CoorsTek Arkansas Operations - Boone Road Facility  
3315 Boone Road  
Benton, Arkansas 72015

3. PERMIT WRITER:

Alexander Sudibjo

4. PROCESS DESCRIPTION AND NAICS CODE:

NAICS Description: Porcelain Electrical Supply Manufacturing  
NAICS Code: 327113

5. SUBMITTALS:

1/3/2012

6. REVIEWER'S NOTES:

CoorsTek Arkansas Operations (CoorsTek – Boone Road) owns and operates a high technology custom equipment manufacturing facility located at 3315 Boone Road, Benton, Saline County, AR 72015. With this de minimis modification, the facility is requesting the addition of:

1. One silicon carbide pusher furnace with afterburner, three additional electric period furnace cure ovens, four additional silicon carbide furnaces, and an electric drying oven to SN-08.
2. Two additional silicon carbide formulations, SA and SP.
3. Replacement of dust collector #11 in the insignificant activities with a new Donaldson dust collector.

The facility's permitted emissions are increasing by 0.1 tpy, 0.1 tpy, 3.8 tpy, 0.2 tpy, and 0.2 tpy for PM/PM<sub>10</sub>, SO<sub>2</sub>, VOC, CO, and NO<sub>x</sub> respectively.

7. COMPLIANCE STATUS:

As of January 3, 2012, there are currently no compliance issues with the facility.

8. PSD APPLICABILITY:

a. Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? N

b. Is the facility categorized as a major source for PSD? N  
*Single pollutant ≥ 100 tpy and on the list of 28 or single pollutant ≥ 250 tpy and not on list?*

If yes, explain why this permit modification is not PSD?

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
None		

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. MODELING:

Criteria Pollutants

Examination of the source type, location, plot plan, land use, emission parameters, and other available information indicate that modeling is not warranted at this time.

Non-Criteria Pollutants:

1<sup>st</sup> Tier Screening (PAER)

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The Department has deemed the PAER to be the product, in lb/hr, of 0.11 and the Threshold Limit Value (mg/m<sup>3</sup>), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV (mg/m <sup>3</sup> )	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Ammonia	17.41	1.91	0.01	Yes

12. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01	Stack test, dated 10/14-18/1996 at CO facility	<u>lb/MMscf</u> 18 PM/PM <sub>10</sub> 31 SO <sub>2</sub> 263 VOC 735 CO 232 NO <sub>x</sub>	None	NA	Periodic Kiln
03	AP-42 Table 1.4-1 1.4-2	<u>lb/MMscf</u> 7.6 PM/PM <sub>10</sub> 0.6 SO <sub>2</sub> 5.5 VOC 84 CO 100 NO <sub>x</sub> 0.1% ammonia evaporative emission factor	None	NA	natural gas and trace amounts of ammonia evaporation
04, 05, 06, & 07	Stack test	<u>lb/MMscf</u> 79 PM/PM <sub>10</sub> 148 SO <sub>2</sub> 370 VOC 239 CO 152 NO <sub>x</sub>	None	NA	Continuous Kilns
08	Mass Balance	Formulas & %s vary AP-42 for Natural Gas	None	NA	8 Electric Tunnel Kilns, Natural Gas for Pusher Furnace Afterburner
09	Mass Balance & MSDS	5% VOC	None	NA	Soap

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
None				

14. MONITORING OR CEMS

The permittee must monitor the following parameters with CEMS or other monitoring equipment (temperature, pressure differential, etc.)

SN	Parameter or Pollutant to be Monitored	Method (CEM, Pressure Gauge, etc.)	Frequency	Report (Y/N)
None				

15. RECORDKEEPING REQUIREMENTS:

The following are items (such as throughput, fuel usage, VOC content, etc.) that must be tracked and recorded.

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
08	Silicon Carbide SC2 (Aquadag) Annual Throughput	120,000 lb/yr	Monthly	N
08	Silicon Carbide SC30 Annual Throughput	300,000 lb/yr	Monthly	N
08	Boron carbide Annual Throughput	300,000 lb/yr	Monthly	N
08	Silicon Carbide SA Annual Throughput	96,000 lb/yr	Monthly	N
08	Silicon Carbide SP Annual Throughput	24,000 lb/yr	Monthly	N
08	Silicon Carbide SC2 (Aquadag) VOC Content	7% VOC organic binder	On-going	N
08	Silicon Carbide SC30 VOC Content	7% VOC organic binder	On-going	N
08	Boron carbide VOC Content	3% VOC organic binder	On-going	N
08	Silicon Carbide SA VOC Content	6% VOC organic binder	On-going	N
08	Silicon Carbide SP VOC Content	8% VOC organic binder	On-going	N
09	Soap	37,950 lb/yr	Monthly	N
09	Soap VOC Content	5% VOC	On-going	N

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16. OPACITY:

SN	Opacity	Justification for Limit	Compliance Mechanism
01, 03, 04, 05, 06, 07, 08	5%	§18.501	Annual Inspection

17. DELETED CONDITIONS:

Former SC	Justification for removal
	None

18. GROUP A INSIGNIFICANT ACTIVITIES

Source Name	Group A Category	Emissions (tpy)						
		PM/ PM <sub>10</sub>	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs	
							Single	Total
Alumina Lap & Polish Alumina Shake & Dye Alumina Grinding Silicon Lap & Polish Solvent Cleaner Foam Welding Repair Housekeeping Baghouses, 6	A-13	0.1	---	0.1	---	---	---	---
Lab kiln, electric, not in use	A-5	---	---	---	---	---	---	---

19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

List all active permits voided/superseded/subsumed by the issuance of this permit.

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1672-AR-4

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20. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.



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Karen Cerney, P.E.

**APPENDIX A – EMISSION CHANGES AND FEE CALCULATION**

## Fee Calculation for Minor Source

Revised 08-30-11

Facility Name: CoorsTek Arkansas  
 Operations - Boone Road Facility  
 Permit Number: 1672-AR-5  
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			Old Permit	New Permit
\$/ton factor	22.65	Permit Predominant Air Contaminant	42.7	46.5
Minimum Fee \$	400	Net Predominant Air Contaminant Increase	3.8	
Minimum Initial Fee \$	500	Permit Fee \$	400	
Check if Administrative Amendment	<input type="checkbox"/>	Annual Chargeable Emissions (tpy)	46.5	

Pollutant (tpy)	Old Permit	New Permit	Change
PM	4.6	4.7	0.1
PM <sub>10</sub>	4.6	4.7	0.1
SO <sub>2</sub>	8.4	8.5	0.1
VOC	42.7	46.5	3.8
CO	21.8	22	0.2
NO <sub>x</sub>	12.2	12.4	0.2
Ammonia	0.01	0.01	0