

TABLE OF CONTENTS

	<u>PAGE</u>
1.0 SOURCE IDENTIFICATION	4
1.1 Source	
1.2 Owner/Parent Company	
1.3 Operator	
1.4 General Source Description	
2.0 LIST OF ABBREVIATIONS/ACRONYMS USED IN THIS PERMIT	5
3.0 INSIGNIFICANT ACTIVITIES	7
3.1 Identification of Insignificant Activities	
3.2 Compliance with Applicable Requirements	
3.3 Addition of Insignificant Activities	
4.0 SIGNIFICANT EMISSION UNITS AT THIS SOURCE	9
5.0 OVERALL SOURCE CONDITIONS	11
5.1 Source Description	
5.2 Applicable Regulations	
5.3 Non-Applicability of Regulations of Concern	
5.4 Source-Wide Operational and Production Limits and Work Practices	
5.5 Source-Wide Emission Limitations	
5.6 General Recordkeeping Requirements	
5.7 General Reporting Requirements	
5.8 General Operational Flexibility/Anticipated Operating Scenarios	
5.9 General Compliance Procedures	
6.0 NOT APPLICABLE TO THIS PERMIT	18
7.0 UNIT SPECIFIC CONDITIONS	19
7.1 Unit: Silicon Carbide Furnaces Control: Mist Eliminator, Sulferox® System & Afterburner	
7.2 Unit: Product Processing and Bagging Control: Filters	
8.0 GENERAL PERMIT CONDITIONS	42
8.1 Permit Shield	
8.2 Applicability of Title IV Requirements	
8.3 Emissions Trading Programs	
8.4 Operational Flexibility/Anticipated Operating Scenarios	
8.5 Testing Procedures	
8.6 Reporting Requirements	
8.7 Obligation to Comply with Title I Requirements	

9.0 STANDARD PERMIT CONDITIONS

47

- 9.1 Effect of Permit
- 9.2 General Obligations of Permittee
- 9.3 Obligation to Allow Illinois EPA Surveillance
- 9.4 Obligation to Comply with Other Requirements
- 9.5 Liability
- 9.6 Recordkeeping
- 9.7 Annual Emissions Report
- 9.8 Requirements for Compliance Certification
- 9.9 Certification
- 9.10 Defense to Enforcement Actions
- 9.11 Permanent Shutdown
- 9.12 Reopening and Reissuing Permit for Cause
- 9.13 Severability Clause
- 9.14 Permit Expiration and Renewal

10.0 ATTACHMENTS

- 10.1 Attachment 1 - Allowable Emissions of Particulate Matter 1-1
- 10.2 Attachment 2 - Emissions of Pollutants Other Than SO₂ 2-1
- 10.3 Attachment 3 - Example Certification by a Responsible
Official 3-1
- 10.4 Attachment 4 - Guidance on Revising This Permit 4-1
- 10.5 Attachment 5 - Form 199-CAAPP, Application For
Construction Permit (For CAAPP Sources Only) 5-1
- 10.6 Attachment 6 - Guidance on Renewing This Permit 6-1

1.0 SOURCE IDENTIFICATION

1.1 Source

Exolon-ESK Company
R.R. 1, Box 200a - ESK Road (875E)
Hennepin, Illinois 61327
815/925-7302

I.D. No.: 155801AAC
Standard Industrial Classification: 3291, Abrasive Products
Manufacturing

1.2 Owner/Parent Company

Exolon-ESK Company
1000 East Niagara Street
Tonawanda, New York 14150

1.3 Operator

Exolon-ESK Company
R.R. 1, Box 200a - ESK Road (875E)
Hennepin, Illinois 61327

Armand Ladage
815/925-7301 Ext. 220

1.4 General Source Description

The Exolon-ESK Company is located on R.R. 1, ESK Road, in Hennepin, Putnam County. The source manufactures silicon carbide in electric furnaces. The off-gases from the process are a complex mixture. Hydrogen sulfide is removed by a process called Sulferox® system. Other gases such as carbon monoxide, carbonyl sulfide and hydrogen are burned in an afterburner. The product is a solid material and crushing, screening, and bagging it results in particulate matter emissions.

2.0 LIST OF ABBREVIATIONS/ACRONYMS USED IN THIS PERMIT

Act	Illinois Environmental Protection Act [415 ILCS 5/1 et seq.]
AP-42	Compilation of Air Pollutant Emission Factors, Volume 1, Stationary Point and Other Sources (and Supplements A through F), USEPA, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711
BACT	Best Available Control Technology
Btu	British thermal unit
CAA	Clean Air Act [42 U.S.C. Section 7401 et seq.]
CAAPP	Clean Air Act Permit Program
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
COS	Carbonyl Sulfide
CS ₂	Carbon Disulfide
ft	foot
ft ³	cubic foot
H ₂	Hydrogen
H ₂ S	Hydrogen Sulfide
HAP	Hazardous Air Pollutant
hr	hour
IAC	Illinois Administrative Code
I.D. No.	Identification Number of Source, assigned by Illinois EPA
ILCS	Illinois Compiled Statutes
Illinois EPA	Illinois Environmental Protection Agency
Kg	kilogram
kW	kilowatts
lb	pound
Mg	Megagram
mmBtu	Million British thermal units
mo	month
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO _x	Nitrogen Oxides
NSPS	New Source Performance Standards
PM	Particulate Matter
PM ₁₀	Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 microns as measured by applicable test or monitoring methods
ppm	Parts per million
PSD	Prevention of Significant Deterioration
RMP	Risk Management Plan
SO ₂	Sulfur Dioxide
T	ton
T1	Title I - identifies Title I conditions that have been carried over from an existing permit
T1N	Title I New - identifies Title I conditions that are being established in this permit

T1R	Title I Revised - identifies Title I conditions that have been carried over from an existing permit and subsequently revised in this permit
TRS	Total Reduced Sulfur
USEPA	United States Environmental Protection Agency
VOM	Volatile Organic Material
wt.	weight
yr	year

3.0 INSIGNIFICANT ACTIVITIES

3.1 Identification of Insignificant Activities

The following activities at the source constitute insignificant activities as specified in 35 IAC 201.210:

- 3.1.1 Activities determined by the Illinois EPA to be insignificant activities, pursuant to 35 IAC 201.210(a)(1) and 201.211, as follows:

None

- 3.1.2 Activities that are insignificant activities based upon maximum emissions, pursuant to 35 IAC 201.210(a)(2) or (a)(3), as follows:

None

- 3.1.3 Activities that are insignificant activities based upon their type or character, pursuant to 35 IAC 201.210(a)(4) through (18), as follows:

Direct combustion units designed and used for comfort heating purposes and fuel combustion emission units as follows: (A) Units with a rated heat input capacity of less than 2.5 mmBtu/hr that fire only natural gas, propane, or liquefied petroleum gas; (B) Units with a rated heat input capacity of less than 1.0 mmBtu/hr that fire only oil or oil in combination with only natural gas, propane, or liquefied petroleum gas; and (C) Units with a rated heat input capacity of less than 200,000 Btu/hr which never burn refuse, or treated or chemically contaminated wood [35 IAC 201.210(a)(4)].

Storage tanks of any size containing virgin or re-refined distillate oil, hydrocarbon condensate from natural gas pipeline or storage systems, lubricating oil, or residual fuel oils [35 IAC 201.210(a)(12)].

Gas turbines and stationary reciprocating internal combustion engines of between 112 kW and 1,118 kW (150 and 1,500 horsepower) power output that are emergency or standby units [35 IAC 201.210(a)(16)].

- 3.1.4 Activities that are considered insignificant activities pursuant to 35 IAC 201.210(b).

3.2 Compliance with Applicable Requirements

Insignificant activities are subject to applicable requirements notwithstanding status as insignificant activities. In particular, in addition to regulations of general applicability,

such as 35 IAC 212.301 and 212.123 (Condition 5.2.2), the Permittee shall comply with the following requirements, as applicable:

- 3.2.1 For each cold cleaning degreaser, the Permittee shall comply with the applicable equipment and operating requirements of 35 IAC 215.182, 218.182, or 219.182.
- 3.2.2 For each particulate matter process emission unit, the Permittee shall comply with the applicable particulate matter emission limit of 35 IAC 212.321 or 212.322. For example, the particulate matter emissions from a process emission unit shall not exceed 0.55 pounds per hour if the emission unit's process weight rate is 100 pounds per hour or less, pursuant to 35 IAC 266.110.
- 3.2.3 For each organic material emission unit that uses organic material, e.g., a mixer or printing line, the Permittee shall comply with the applicable VOM emission limit of 35 IAC 215.301, 218.301, or 219.301, which requires that organic material emissions not exceed 8.0 pounds per hour or do not qualify as photochemically reactive material as defined in 35 IAC 211.4690.

3.3 Addition of Insignificant Activities

- 3.3.1 The Permittee is not required to notify the Illinois EPA of additional insignificant activities present at the source of a type that is identified in Condition 3.1, until the renewal application for this permit is submitted, pursuant to 35 IAC 201.212(a).
- 3.3.2 The Permittee must notify the Illinois EPA of any proposed addition of a new insignificant activity of a type addressed by 35 IAC 201.210(a) and 201.211 other than those identified in Condition 3.1, pursuant to Section 39.5(12)(b) of the Act.
- 3.3.3 The Permittee is not required to notify the Illinois EPA of additional insignificant activities present at the source of a type identified in 35 IAC 201.210(b).

4.0 SIGNIFICANT EMISSION UNITS AT THIS SOURCE

Emission Unit	Description		Date Constructed	Emission Control Equipment
1	Silicon Carbide Furnace Groups Group 1 (P-F-1 through 4) Group 2 (P-F-5 through 8) Group 3 (P-F-9 through 12) Group 4 (P-F-13 through 16)		1978 1978 1978 1989	Mist Eliminator (C-007), Sulferox® System (C-008), Afterburner (C-001, 33 meters) (Secondary Afterburners, 16 meters each, C-009 for Group 1 Furnaces C-010 for Group 2 Furnaces, and C-011 for Group 3 Furnaces)
2	Solution Heater (Firing Rate: 2.5 mmBtu/Hour)		2001	None
Broad Description				
Emission Unit	Permittee's Unit No.	Specific Equipment	Date Constructed ^a	
3	Raw and Reused Material Processing			None
	P-001	Screeener/Raw Coke		
	P-002	Hammermill/Raw Coke		
	P-003	Weigh Hopper/Coke & Sand		
	P-004	Pugmill/Mixing Coke & Sand		
	P-005	Screeener/Graphite/Rock Mix		
	P-006	Screeener/Rock Mix		
4	Raw Product Processing			C-002, Dust Collector No. 1 (APCW) ^b
	P-007	Conveyor/Feed To Crusher		
	P-008	Jaw Crusher		✓
	P-009	Conveyor/Crusher to Screeener		
	P-010	Feeder		✓
	P-011	Vibratory Feeder		
	P-012	Jaw Crusher		✓
	P-013	Conveyor/Crusher to Elevator		✓
	P-014	Bucket Elevator		✓
	P-015	Screeener/Oversize to P-016		✓
	P-016	Cone Crusher		✓
	P-017	Conveyor		✓
	P-018	Conveyor		✓
	P-019	Conveyor		✓

Emission Unit	Permittee's Unit No.	Specific Equipment	Date Constructed ^a	
4 Cont.	Raw Product Processing			C-001, Dust Collector No. 1 (APCW)
	P-020	Wet Bin		
	P-021	Feeder		
	P-022	Conveyor/To Dryer P-023		
5	Product Drying			
	P-023	Rotary Dryer (Maximum Firing Rate: 19.1 mmBtu/hr)		C-003, Dust Collector No. 3 (APCH)
6	Finished Product Processing			C-004, Dust Collector No. 2 (APCE)
	P-024	Bucket Elevator		✓
	P-025	Conveyors		✓
	P-026	Bulk Storage Silo (Crystalline)		✓
	P-027	Bulk Storage Silo (Metallurgical)		✓
	P-028	Bulk Storage Silo (Metallurgical)		✓
7	Finished Bagged Product Processing (Old Bagging System)			C-006, Dust Collector No. 4 (APCO)
	P-029	Conveyor		✓
	P-030	Screener		✓
	P-031	Surge Hopper		✓
	P-032	Old Bagging System		✓
8	Finished Bagged Product Processing			C-005, Cartridge Dust Collector No. 5 (APCN)
	P-033	Conveyor		✓
	P-034	Screener		✓
	P-035	Silo		✓
	P-036	New Bagging System		✓
9	Fugitive Particulate Matter		Treatment as Necessary	

^a For Units 3 to 8, all were constructed in 1978 except new bagging system which was constructed in 1993.

^b The control equipment is named in the broad description line and a check mark on the specific equipment line indicates that equipment is vented to the control equipment.

5.0 OVERALL SOURCE CONDITIONS

5.1 Source Description

- 5.1.1 This permit is issued based on the source requiring a CAAPP permit as a major source of NO_x, PM, SO₂, VOM and HAP emissions.

5.2 Applicable Regulations

- 5.2.1 Specific emission units at this source are subject to particular regulations as set forth in Section 7 (Unit-Specific Conditions) of this permit.
- 5.2.2 In addition, emission units at this source are subject to the following regulations of general applicability:
 - a. No person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally overhead at a point beyond the property line of the source unless the wind speed is greater than 40.2 kilometers per hour (25 miles per hour), pursuant to 35 IAC 212.301 and 212.314.

The Permittee shall follow the requirements described in Condition 7.2.5 which concerns fugitive particulate matter.

- b. No person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 IAC 212.122, pursuant to 35 IAC 212.123(a), except as allowed by 35 IAC 212.123(b) and 212.124.
- 5.2.3 Ozone Depleting Substances

The Permittee shall comply with the standards for recycling and emissions reduction of ozone depleting substances pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners in Subpart B of 40 CFR Part 82:

- a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.
- b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

- c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

5.2.4 Risk Management Plan

Should this stationary source, as defined in 40 CFR Section 68.3, become subject to the Accidental Release Prevention regulations in 40 CFR Part 68, then the owner or operator shall submit [40 CFR 68.215(a)(2)(i) and (ii)]:

- a. A compliance schedule for meeting the requirements of 40 CFR Part 68 by the date provided in 40 CFR 68.10(a); or
- b. A certification statement that the source is in compliance with all requirements of 40 CFR Part 68, including the registration and submission of the Risk Management Plan (RMP), as part of the annual compliance certification required by 40 CFR Part 70 or 71.

- 5.2.5 a. Should this stationary source become subject to a regulation under 40 CFR Parts 60, 61, or 63, or 35 IAC after the date issued of this permit, then the owner or operator shall, in accordance with the applicable regulation(s), comply with the applicable requirements by the date(s) specified and shall certify compliance with the applicable requirements of such regulation(s) as part of the annual compliance certification, as required by 40 CFR Part 70 or 71.
- b. No later than upon the submittal for renewal of this permit, the owner or operator shall submit, as part of an application, the necessary information to address either the non-applicability of, or demonstrate compliance with all applicable requirements of any potentially applicable regulation which was promulgated after the date issued of this permit.

5.2.6 Episode Action Plan

- a. If the source is required to have an episode action plan pursuant to 35 IAC 244.142, the Permittee shall maintain at the source and have on file with the Illinois EPA a written episode action plan (plan) for reducing the levels of emissions during yellow alerts, red alerts, and emergencies, consistent with

safe operating procedures. The plan shall contain the information specified in 35 IAC 244.144.

- b. The Permittee shall immediately implement the appropriate steps described in this plan should an air pollution alert or emergency be declared.
- c. If a change occurs at the source which requires a revision of the plan (e.g., operational change, change in the source contact person), a copy of the revised plan shall be submitted to the Illinois EPA for review within 30 days of the change. Such plans shall be further revised if disapproved by the Illinois EPA.
- d. For sources required to have a plan pursuant to 35 IAC 244.142, a copy of the original plan and any subsequent revisions shall be sent to:
 - i. Illinois EPA, Compliance Section; and
 - ii. For sources located in Cook County and outside of the city of Chicago: Cook County Department of Environmental Control; or
 - iii. For sources located within the city of Chicago: Chicago Department of Environmental Control.

5.2.7 CAM Plan

This stationary source has a pollutant-specific emissions unit that is subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources. The source has submitted a CAM plan for the unit that underwent a major modification since the original application was submitted. The submitted CAM plan was only for the emission unit that was modified. In addition, the source must submit a CAM plan for each affected pollutant-specific emissions unit for which a plan has not previously been submitted upon application for renewal of the initial CAAPP permit, or upon a significant modification to the CAAPP permit for the construction or modification of a large pollutant-specific emissions unit which has the potential post-control device emissions of the applicable regulated air pollutant that equals or exceeds major source threshold levels.

5.3 Non-Applicability of Regulations of Concern

None

5.4 Source-Wide Operational and Production Limits and Work Practices

In addition to the source-wide requirements in the Standard Permit Conditions in Section 9, the Permittee shall fulfill the following source-wide operational and production limitations and/or work practice requirements:

None

5.5 Source-Wide Emission Limitations

5.5.1 Permitted Emissions for Fees

The annual emissions from the source, not considering insignificant activities as addressed by Section 3.0 of this permit, shall not exceed the following limitations. The overall source emissions shall be determined by adding emissions from all emission units. Compliance with these limits shall be determined on a calendar year basis. These limitations (Condition 5.5.1) are set for the purpose of establishing fees and are not federally enforceable.

Permitted Emissions of Regulated Pollutants

Pollutant	Tons/Year
Volatile Organic Material (VOM)	35.2
Sulfur Dioxide (SO ₂)	2,150.0
Particulate Matter (PM)	330.2
Nitrogen Oxides (NO _x)	160.3
TRS, not included in VOM or PM	39.8
Total	2,715.5

5.5.2 Emissions of Hazardous Air Pollutants

Source-wide emission limitations for HAPs as listed in Section 112(b) of the CAA are not set. This source is considered to be a major source of HAPs.

5.5.3 Other Source-Wide Emission Limitations

The annual emissions from the source excluding the new bagging system, which was constructed after the limit was established, shall not exceed the following limitations:

Pollutant	Emissions (Tons/Year)	Underlying Rules
PM	23.3	40 CFR 52.21

The limits on PM are limitations established in Permits 79040002 and 95060068, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These

limits ensure that the construction and/or modification addressed in the aforementioned permit does not constitute a new major source or major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21. [T1].

This limit includes PM emissions from the furnaces (Section 7.1) and the raw material and product processing and shipping (Section 7.2) but does not include fugitive emissions from roads and storage piles.

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

Other source-wide emission limitations are not set for this source pursuant to either the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21, Illinois EPA rules for Major Stationary Sources Construction and Modification, 35 IAC Part 203, or Section 502(b)(10) of the CAA. However, there may be unit specific emission limitations set forth in Section 7 of this permit pursuant to these rules.

5.6 General Recordkeeping Requirements

5.6.1 Emission Records

The Permittee shall maintain records of the following items for the source to demonstrate compliance with Condition 5.5.1, pursuant to Section 39.5(7)(b) of the Act:

Total annual emissions on a calendar year basis for the emission units covered by Section 7 (Unit Specific Conditions) of this permit.

5.6.2 General Records for Process PM Emissions

- a. PM emissions from furnace groups (lb/mo);
- b. PM emissions from raw material and product processing and shipping excluding new bagging system (lb/mo);
- c. PM emissions from new bagging system (lb/mo);
- d. Total PM from a and b above so that compliance with Condition 5.5.3 may be determined; and
- e. These records shall include the current month plus the preceding 11 months.

5.6.3 Records for PM Emissions

The records required by Condition 7.2.9 shall be sufficient to also verify compliance with Condition 5.5.3.

5.6.4 Records for VOM and HAP Emissions

The Permittee shall maintain records of the following items for the furnaces to quantify annual HAP emissions:

- a. CS₂ emissions (lb/mo);
- b. COS emissions (lb/mo);
- c. Although H₂S is not a HAP, records shall also be kept for those emissions as a PSD regulated pollutant (lb/mo); and
- d. These records shall include the current month plus the preceding 11 months.

5.6.5 Records for Operating Scenarios

N/A

5.6.6 Retention and Availability of Records

- a. All records and logs required by this permit shall be retained for at least five years from the date of entry (unless a longer retention period is specified by the particular recordkeeping provision herein), shall be kept at a location at the source that is readily accessible to the Illinois EPA or USEPA, and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request.
- b. The Permittee shall retrieve and print, on paper during normal source office hours, any records retained in an electronic format (e.g., computer) in response to an Illinois EPA or USEPA request for records during the course of a source inspection.

5.7 General Reporting Requirements

5.7.1 General Source-Wide Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of the source with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.

5.7.2 Annual Emissions Report

The annual emissions report required pursuant to Condition 9.7 shall contain emissions information for the previous calendar year.

5.7.3 Annual Reporting of HAP Emissions

The Permittee shall submit an annual report to the Illinois EPA, Compliance Section, on HAP emissions from the source. This report shall be submitted with the Annual Emissions Report (Condition 9.7).

5.8 General Operational Flexibility/Anticipated Operating Scenarios

N/A

5.9 General Compliance Procedures

5.9.1 General Procedures for Calculating Emissions

Compliance with the source-wide emission limits specified in Condition 5.5 shall be based on the recordkeeping and reporting requirements of Conditions 5.6 and 5.7, and compliance procedures in Section 7 (Unit Specific Conditions) of this permit.

6.0 NOT APPLICABLE TO THIS PERMIT

7.0 UNIT SPECIFIC CONDITIONS

7.1 Unit: Silicon Carbide Furnaces
Control: Mist Eliminator, Sulferox® System and Primary 33 Meter Afterburner or Secondary 16 Meter Afterburners

7.1.1 Description

Silicon carbide is produced by the reaction of petroleum coke and sand (silicon dioxide). The heat for the process is provided by an electric furnace.

There are actually four furnace groups with each group having four furnace positions. Only one furnace in each group is in the active stage with the electric furnace operating (heating stage). The other three positions have the raw materials being prepared or the final product being cooled down or being removed for further processing.

Since high heat is necessary for the reaction to proceed, when the control equipment has a malfunction the electric heat can be reduced significantly. This reduces pollution generation but does not stop it because of the heat already in the furnace. The heat to the furnaces is also reduced during peak power demand. The electric heat is not completely shut off or the plastic tarp would come to rest on the hot pile and have a hole burned in it and thus would not contain the gases. Conditions in this permit allow the electricity to be reduced to a level that maintains tarp integrity.

The process is contained in a plastic tarp with the off-gases sent to various pollution control devices. A small fraction of the gases bypass the Sulferox® system. A mist eliminator removes some of the PM. The off-gases include carbon monoxide (CO), hydrogen (H₂), carbon disulfide (CS₂), carbonyl sulfide (COS) and hydrogen sulfide (H₂S). The hydrogen sulfide is converted to sulfur in a system called Sulferox®. The other gases pass through the Sulferox® system to an afterburner where the sulfur compounds are converted to SO₂ and other compounds to water or CO₂. If the Sulferox® system is not operating the H₂S is also combusted in the afterburner.

There is one afterburner that can combust the gases from the four operating furnaces, whether or not the gases have first gone through the Sulferox® system. This afterburner vents to a tall stack, 33 meters in height.

If the single afterburner is not operating, the process gases are vented to one of the three secondary afterburners with shorter (16 meter) stacks. When using the secondary afterburners the gases do not pass through the Sulferox® system.

7.1.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
1	Silicon Carbide Furnace Groups Group 1 (P-F-1 through 4) Group 2 (P-F-5 through 8) Group 3 (P-F-9 through 12) Group 4 (P-F-13 through 16)	Mist Eliminator (C-007), Sulferox® System (C-008), Afterburner (C-001, 33 meters) [Secondary Afterburners, 16 meters each, C-009 for Group 1 Furnaces C-010 for Group 2 Furnaces, and C-011 for Group 3 Furnaces)
2	Solution Heater (Firing Rate: 2.5 mmBtu/Hour)	None

7.1.3 Applicability Provisions and Applicable Regulations

- a. The "affected silicon carbide furnace groups" for the purpose of these unit-specific conditions, are furnaces for producing silicon carbide using electric heat with only one furnace in a group actively being heated at any time. The groups are described in Condition 7.1.2.
- b. Each affected furnace group is subject to the emission limits identified in Condition 5.2.2.
- c. The affected silicon carbide furnaces are subject to 35 IAC 212.321. This rule limits PM emissions from emission units constructed after April 14, 1972. This rule is written out in Attachment 1.
- d. Each affected furnace group is subject to 35 IAC 214.301. This rule states that no person shall cause or allow the emissions of SO₂ into the atmosphere from any process emission unit to exceed 2,000 ppm. The exception listed in Section 214.382(a) does not apply because the affected furnaces are not a petroleum or petrochemical process.
- e. Each affected furnace group is subject to 35 IAC 215.301. This rule states that emissions of organic material shall not exceed 8 lb/hr if the organic material is photochemically reactive pursuant to the definition in 35 IAC 211.4690 or there is an odor nuisance. An alternative standard in Section 215.302 allows the missions to be controlled by 85% by a flame or thermal incinerator (i.e., afterburner).

Although the organic materials in the furnace vents are not photochemically reactive, the emissions are controlled by greater than 85% by the afterburner(s).

f. Malfunction and Breakdown Provisions

In the event of a malfunction or breakdown of the Sulferox® system or the primary 33 meter afterburner, the Permittee is authorized to continue operation of the furnace groups in violation of the applicable requirement of 35 IAC 212.321, as necessary to prevent risk of injury to personnel or severe damage to equipment. This authorization is subject to the following requirements:

- i. The Permittee shall repair the damaged feature(s) of the Sulferox® system or afterburner or remove the fourth furnace from operating service as soon as practicable. The operating level of the silicon carbide furnaces shall be reduced as soon as practicable to 3 furnaces during outage of the sulfur removal system related to malfunction. If a fourth furnace cannot be completely shutdown due to the potential loss of pressure from process generated gases and subsequent collapse of the plastic tarp enclosing the process, then the electricity to the fourth furnace shall be maintained at a level reasonably necessary to maintain tarp integrity.
- ii. The Sulferox® System shall be maintained with spares for critical pumps, air blowers, reliable operating instrumentation, and other features, which might reasonably be used to minimize the frequency and duration of malfunctions.
- iii. For purposes of this provision, the definition of "malfunction" at 40 CFR 60.2 shall apply.
- iv. The Permittee shall fulfill the applicable recordkeeping and reporting requirements of Conditions 7.1.9(f) and 7.1.10(a-c).

g. Startup, Shutdown, Maintenance and Malfunction Provisions

The Permittee is authorized to operate an affected furnace groups in violation of the applicable limit of 35 IAC 212.321 during startup, shutdown, maintenance and malfunction pursuant to 35 IAC 201.262, as the Permittee has affirmatively

demonstrated that all reasonable efforts have been made to minimize startup emissions, duration of individual starts, and frequency of startups. This authorization is subject to the following:

- i. This authorization only extends for a period of 21 days (504 hours) per year based on a running total of monthly data.
- ii. The Permittee shall take the following measures to minimize startup, shutdown, maintenance and malfunctions emissions, the duration of startups, shutdowns, maintenance and malfunctions and minimize the frequency of startups, shutdowns, maintenance and malfunctions:
 - A. The operating level of the silicon carbide furnaces shall be reduced as soon as practicable to 3 furnaces during outage of the sulfur removal system related to malfunction. If a fourth furnace cannot be completely shutdown due to the potential loss of pressure from process generated gases and subsequent collapse of the plastic tarp enclosing the process, then the electricity to the fourth furnace shall be maintained at a level reasonably necessary to maintain tarp integrity.
 - B. The Sulferox® System shall be maintained with spares for critical pumps, air blowers, reliable operating instrumentation, and other features, which might reasonably be used to minimize the frequency and duration of malfunctions.
 - C. For purposes of this provision, the definition of "malfunction" at 40 CFR 60.2 shall apply.
 - D. "Maintenance" means the carrying out of activities to keep equipment in proper operating condition, including inspection, adjustment, lubrication, cleaning, and repair and replacement of components. Maintenance may occur while equipment is operational or may require turndown or shutdown of equipment, which can be coordinated with equipment turndown or shutdown for other reasons.

iii. The Permittee shall fulfill the applicable recordkeeping requirements of Condition 7.1.9(a).

h. Note that if there is a breakdown of the main afterburner and the off-gases are vented directly to the shorter secondary afterburners, that is a malfunction/breakdown situation because the Sulferox® system is bypassed. These times must be included in the 504 hours per year allowed pursuant to Condition 7.1.3(d)(i).

7.1.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected silicon carbide furnaces not being subject to the New Source Performance Standards (NSPS) for SOCOMI Reactor, 40 CFR Part 60, Subpart RRR, because the affected furnaces, which are reactors, do not produce a product listed in §60.707.
- b. This permit is issued based on the affected silicon carbide furnaces not being subject to 35 IAC 216.121 or 217.121, because the affected furnaces are not fuel combustion emission units.

7.1.5 Control Requirements and Work Practices

- a. The off-gas from the silicon carbide furnaces shall be collected and oxidized by a flare or other combustion device prior to discharge to the atmosphere to convert hydrogen sulfide and other sulfur compounds in the off-gas to sulfur dioxide, water and carbon dioxide and the carbon monoxide in the off-gas to carbon dioxide.
- b. The silicon carbide furnaces shall be equipped with an enhanced sulfur removal system, including associated heater, to process the off-gas to remove hydrogen sulfide prior to oxidation.
- c. The hydrogen sulfide content of the off-gas prior to combustion shall not exceed 500 ppm. Note that Condition 7.1.3(d) allows exceptions to this requirement during periods of startup, shutdown, maintenance and malfunction.
- d. The enhanced sulfur removal system shall be constructed in conformance with good air pollution practice to minimize emissions, consistent with the objective of evaluating the effect of the heater, including the following:

- i. The Permittee shall maintain a written evaluation plan for the performance of the enhanced Sulferox® System.
 - ii. The Sulferox® System shall be maintained with spares for critical pumps, air blowers, reliable operating instrumentation, and other features, which might reasonably be used to minimize the frequency and duration of malfunctions.
- e.
- i. A mist eliminator or other pretreatment system shall be operated to remove particulate matter from the off-gas prior to entering the sulfur removal system.
 - ii.
 - A. There shall be no visible emissions of particulate matter from any building or operation at the source.
 - B. Emissions of particulate matter from all stacks on material handling and processing equipment shall not exceed 0.015 grains per dry standard cubic feet.
 - C. Finished products of the silicon carbide operation shall only be moved in trucks or railroad cars that are covered or enclosed.
- f. Practices shall be carried out to minimize and ameliorate failures in the plastic tarp covering the furnace that will result in release of fugitive emission from the operation of the furnace, including the following:
- i. The Permittee shall adequately install the plastic tarp covering the furnace before startup;
 - ii. The Permittee shall visually inspect the plastic tarp during the heating period of the furnace, at least once per shift;
 - iii. The Permittee shall promptly cool the furnace after the plastic tarp is taken off, either as a result of completion of the furnace cycle or failure of the tarp.
- g. At all times, including periods of startup, shutdown, maintenance and malfunction, the silicon carbide furnaces and associated control system shall be maintained and operated in a manner consistent with good air pollution control practice for minimizing

emissions of sulfur dioxide, consistent with other provisions of this permit.

Conditions 7.1.5(a) through (g) address Best Available Control Technology, as required by Section 165 of the Clean Air Act.

7.1.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected silicon carbide furnaces are subject to the following:

- a. The emissions of sulfur dioxides (SO₂) from silicon carbide furnaces shall not exceed the following limits:
 - i. Uncontrolled SO₂ emissions shall not exceed 2,400 lb/hr, based on 100 percent conversion of sulfur containing compounds in the off-gas stream to SO₂. Compliance with this limit shall be determined, when the sulfur removal system is not operating, on a 3-hour block average basis as measured by a continuous emission monitoring system installed on the afterburner discharge.
 - ii. Controlled SO₂ emissions shall not exceed 760 lb/hr when the sulfur removal system is operating. Compliance with this limit shall be determined on a 3-hour block average basis as measured by a continuous emission monitoring system installed on the afterburner discharge.
 - iii. Annual emissions including outage of the control equipment shall not exceed 2,150 tons/yr. This limit is based on operation without the sulfur removal system at 2,400 lbs/hr for 504 hours in a year as allowed by this permit and the remaining hours with the sulfur removal system removing the hydrogen sulfide down to 500 ppm. Compliance with this limit shall be determined from a running total of 365 days of data.
- b. Total other pollutant emissions from the silicon carbide furnaces shall comply with limits as follows:
 - i. Emissions of carbon monoxide shall be less than 75.0 pounds/hour or below detectible levels.

- ii. Emissions of reduced sulfur compounds, including hydrogen sulfide (H₂S) shall be less than 11.0 pounds/hour or below detectible levels and 39.8 ton/yr.
 - iii. Emissions of nitrogen oxides shall be less than 36.0 pounds/hour.
 - iv. Emissions of particulate matter shall not exceed 22.5 pound/hour, and 23.3 ton/yr.
- c. Emissions of nitrogen oxides from the heater shall not exceed 0.3 lb/hour and 1.3 tons/year.
- d. These limits are based on maximum operating rate.
- e. Compliance with annual limits unless otherwise specified shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1].
- f. The above limitations (a - c) were established in Permit 95060068, pursuant to 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits ensure that the construction and/or modification addressed in the aforementioned permit meet the requirements for a major modification pursuant to Title I of the CAA, specifically the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21 [T1].

7.1.7 Testing Requirements

- a. Upon request by the Illinois EPA, the following tests shall be conducted on the Sulferox® system: The hydrogen sulfide, carbonyl sulfide and carbon disulfide concentrations and mass flow rates in the off-gas before and after the sulfur removal system, taking into consideration any gas that bypasses the sulfur removal system, and concentration and mass flow rate of sulfur dioxide from the afterburner.
- b. The tests shall be conducted by an approved testing service, during conditions which are representative of maximum emissions from the silicon carbide furnaces.
- c. The following methods and procedures shall be used to the extent practicable for testing of emissions: Refer to 40 CFR 60, Appendix A for USEPA test methods.

Location of Sample Points	USEPA Method 1
Gas Flow and Velocity	USEPA Method 2
Hydrogen Sulfide, Carbonyl Sulfide and Carbon Disulfide	USEPA Method 15

To the extent that a different method is deemed necessary, the Permittee shall submit a description of the test method to the Illinois EPA for approval prior to using such test method.

- d. The Permittee shall submit a written test plan to the Illinois EPA for review and comment if a significant change in the procedures for this testing is planned from the procedures followed in previous testing. This plan shall be submitted at least 30 days prior to the actual date of testing and include the following information as a minimum:
- i. The person(s) who will be performing sampling and analysis and their experience with similar tests.
 - ii. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions and the means by which the operating parameters for the furnace and the heater modifying the sulfur removal system will be determined.
 - iii. The specific determinations of emissions and operation, which are intended to be made, including sampling and monitoring locations.
 - iv. The test method(s), which will be used, with the specific analysis method, if the method can be used with different analysis methods.
 - v. Any minor change in standard methodology proposed to accommodate the specific circumstances of testing, with justification.
- e. The Permittee shall notify the Illinois EPA prior to conducting these measurements to enable the Illinois EPA to observe testing. Notification for the expected date of testing shall be submitted a minimum of 30 days prior to the expected date. Notification of the actual date and expected time of testing shall be submitted a minimum of 5 working days prior to the actual date of the test. The Illinois EPA may accept shorter advance notice if it does not interfere with the Illinois EPA's ability to observe testing.

- f. Copies of the Final Report(s) for these tests shall be submitted to the Illinois EPA within 30 days after the test results are compiled and finalized. These reports shall include as a minimum:
 - i. A summary of results
 - ii. General information
 - iii. Description of test method(s), including description of sampling points, sampling train, analysis equipment, and test schedule
 - iv. Detailed description of the test conditions, including:
 - A. Process information, i.e., mode(s) of operation, process rate, e.g. number of furnace groups operating, bypass value reading,
 - B. Control equipment information, i.e., equipment condition and operating parameters during testing, and
 - C. A discussion of any preparatory actions taken, i.e., inspections, maintenance and repair.
 - D. SO₂ concentration measured by monitoring.
 - v. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration.
 - vi. Conclusions.
- g. Submittals of information shall be made as follows:
 - i. Submittal of Test Plan - one copy to The Compliance Unit.
 - ii. Notice of Test - one copy to the Compliance Unit and one copy to the Regional Office.
 - iii. Final Report - one full copy to the Compliance Unit and one summary of results copy to the Regional Office, and one copy to Permit Section.
- h. In addition, the Illinois EPA may upon reasonable request require that emission tests be conducted for PM and VOM emissions from affected furnaces and/or

control equipment. The procedures of Condition 7.1.7(b) through (g) shall be followed except the appropriate test methods for PM and VOM shall be used.

7.1.8 Monitoring Requirements

- a. The Permittee shall maintain and operate instruments for the operating parameters of the sulfur removal system, including the temperature of the Sulferox® solution.
- b. The Permittee shall maintain and operate a continuous emission monitoring system (CEMS) on the exhaust of the off-gas oxidation system (i.e. primary afterburner) for emission of SO₂ to the atmosphere from the silicon carbide furnaces. This system must continue to meet the specifications in the CAM plan submitted as part of the revised application. This includes operation of equipment necessary so that the measured SO₂ concentration may be converted to a mass emission rate, i.e. lb/hr.

7.1.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected silicon carbide furnaces to demonstrate compliance with Conditions 5.5.1, 7.1.3, 7.1.5 and 7.1.6, pursuant to Section 39.5(7)(b) of the Act:

- a. Records, on hour-by-hour basis, of the number of furnaces operating (generating off-gas or for the fourth furnace group the reduced electric usage needed to maintain tarp integrity) and the status of the sulfur removal and oxidation systems including estimated percent of off-gas that bypasses the Sulferox® system.
- b. Records of the measurements and monitoring conducted pursuant to Condition 7.1.8.
- c. The following records shall be kept on at least a monthly basis:
 - i. Use of petroleum coke (ton), with sulfur content of each shipment to the site (average wt. %).
 - ii. Silicon carbide production (ton).
 - iii. Sulfur compounds generated in off-gas based upon emission factors developed from emissions testing (ton sulfur equivalent).

- iv. Sulfur recovered by Sulferox® sulfur removal system (ton/mo).
 - v. Sulfur dioxide, total reduced sulfur, CO and NO_x emissions (ton/mo). If the primary 33 ft afterburner is not operating and thus the CEMS unit is bypassed, or the CEMS unit is itself not operating, SO₂ and other emissions from the secondary afterburners may be estimated based upon operating rates (e.g. electric load to each furnace group) and past emission rates under similar operating conditions with the CEMS in operation.
 - vi. Duration of furnace operation without the sulfur removal system (total hours and hours during startup, shutdown, maintenance or malfunction respectively) and without the primary afterburner system (total hours).
 - vii. As noted in Condition 7.1.6(e) compliance with annual limits is based on a running 12 month total except SO₂, which is based on a running 365 day total. Records shall be sufficient to determine compliance with these requirements.
- d. The following recordkeeping related to capture of emissions:
- i. Written procedure for the operation of the plastic tarp enclosing the furnace, which describes proper installation, operation and removal procedures and any other practice to reduce the failure of the plastic tarp and fugitive emission.
 - ii. Logs of operating time for the capture system (i.e. bypass directly to primary afterburner with a special note if bypassed to the shorter secondary afterburners), pretreatment and sulfur removal systems, and monitoring equipment.
 - iii. Log of visual inspection of the plastic tarp enclosing the furnace, recorded at least once per shift during operation.
 - iv. Log of failures of the plastic tarp enclosing the furnace, including date and time, description of failure, duration, corrective action taken.

- e. Maintenance logs for the capture system, pretreatment and sulfur removal system, detailing all routine and non-routine maintenance performed, including dates and duration of any outages.
- f. Records for malfunctions and breakdowns of the Sulferox® system or routine maintenance in which it is bypassed or maintenance on the primary afterburner which necessitates bypassing of the Sulferox® system.

The Permittee shall maintain records, pursuant to 35 IAC 201.263, of continued operation of the silicon carbide furnaces subject to 35 IAC 212 Subpart L and Condition 7.1.5 during malfunctions and breakdown of the control features of the Sulferox® system, which as a minimum, shall include:

- i. Date and duration of malfunction or breakdown or maintenance;
- ii. A detailed explanation of the malfunction or breakdown or maintenance;
- iii. An explanation why the damaged feature(s) could not be immediately repaired or the fourth furnace system removed from service without risk of injury to personnel or severe damage to equipment;
- iv. The measures used to reduce the quantity of emissions and the duration of the event;
- v. The steps taken to prevent similar malfunctions or breakdowns or reduce their frequency and severity; and
- vi. The amount of release above typical emissions during malfunction/breakdown.
- vii. A running 12-month log of times the Sulferox® system was bypassed for malfunction and breakdown or repair purposes.

7.1.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of the affected silicon carbide furnaces with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

- a. Hours for malfunction, breakdown and repair exceed the 504 hours per running 12-month period allowed by Condition 7.1.3(d)(i).
- b. The fourth furnace group operating level has not been reduced as soon as practicable after a malfunction, breakdown or planned repair to a level necessary to maintain tarp integrity.
- c. Reporting of Malfunctions and Breakdowns and Routine Major Maintenance for the Sulferox® System

The Permittee shall provide the following notification and reports to the Illinois EPA, Compliance Section and Regional Field Office.

- i. Notice of routine major maintenance shall be submitted to the Illinois EPA 10 days before the start of such maintenance, or as soon as practicable if 10 days notice cannot be provided. Such notice shall provide a description, explanation, and schedule for the intended maintenance activities.
 - ii. Notice of malfunctions which are longer than one hour in duration shall be submitted to the Illinois EPA as soon as practicable but not more than 10 days after the start of malfunction. Such notice shall provide the date, time, duration, description, and explanation of the malfunction.
 - iii. Notice of plastic tarp failures and other malfunctions that are longer than one hour in duration shall be submitted to the Illinois EPA as soon as practicable but not more than 10 days after the start of malfunction. Such notice shall provide the date, time, duration, description, and explanation of the malfunction.
- d. Exceedance of the limits in Condition 7.1.6.
 - e. The Permittee shall continue to submit a report every three years with the annual report that summarizes the causes of outage of the sulfur removal system and the nature of the associated outages and evaluates operational or physical changes, such as installation of parallel equipment, that could be implemented to significantly reduce the duration and severity of outages.

7.1.11 Operational Flexibility/Anticipated Operating Scenarios

The Permittee is authorized to make the following physical or operational change with respect to the affected silicon carbide furnaces without prior notification to the Illinois EPA or revision of this permit. This condition does not affect the Permittee's obligation to properly obtain a construction permit in a timely manner for any activity constituting construction or modification of the source, as defined in 35 IAC 201.102:

Changes in suppliers of petroleum coke provided that Conditions 5.5.1, 7.1.3 and 7.1.6 are met.

7.1.12 Compliance Procedures

- a. Compliance with Conditions 7.1.3, 7.1.5 and 7.1.6 is assured by operation of the mist eliminator, Sulferox® system, and afterburner in normal operating condition.
- b. SO₂ emissions shall be calculated with the CEMS on the afterburner discharge.
- c. Other emissions shall be calculated from emission factors developed during emission testing. See Attachment 2.

7.2 Unit: Raw Material and Product Processing and Shipping
Control: Filters (Dust Collectors)

7.2.1 Description

This section primarily involves PM emitting processes during handling of raw materials and the final product, which is a solid material.

The raw materials (petroleum coke and sand) are first screened, the oversize is milled, and then screened again. It is also weighed.

The final product must be dried, crushed and sized by use of screeners, and prepared by shipping, usually in bags. Numerous conveyors and elevators are used in these process steps, with most emission points controlled by dust collectors.

7.2.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Broad Description ^a		Emission Control Equipment
	Permittee's Unit No.	Specific Equipment	
3	Raw and Reused Material Processing		None
	P-001	Screeener/Raw Coke	
	P-002	Hammermill/Raw Coke	
	P-003	Weigh Hopper/Coke & Sand	
	P-004	Pugmill/Mixing Coke & Sand	
	P-005	Screeener/Graphite/Rock Mix	
	P-006	Screeener/Rock Mix	
4	Raw Product Processing		C-002, Dust Collector No. 1 (APCW)
	P-007	Conveyor/Feed To Crusher	
	P-008	Jaw Crusher	✓
	P-009	Conveyor/Crusher to Screeener	
	P-010	Feeder	✓
	P-011	Vibratory Feeder	
	P-012	Jaw Crusher	✓
	P-013	Conveyor/Crusher to Elevator	✓
	P-014	Bucket Elevator	✓
	P-015	Screeener/Oversize to P-016	✓
	P-016	Cone Crusher	✓
	P-017	Conveyor	✓
	P-018	Conveyor	✓
	P-019	Conveyor	✓
	P-020	Wet Bin	

Emission Unit	Broad Description ^a		Emission Control Equipment
	Permittee's Unit No.	Specific Equipment	
4 Cont.	Raw Product Processing		C-001, Dust Collector No. 1 (APCW)
	P-021 P-022	Feeder Conveyor/To Dryer P-023	
5	Product Drying		
	P-023	Rotary Dryer (Maximum Firing Rate: 19.1 mmBtu/hr)	C-003, Dust Collector No. 3 (APCH)
6	Finished Product Processing		C-004, Dust Collector No. 2 (APCE)
	P-024 P-025 P-026	Bucket Elevator Conveyors Bulk Storage Silo (Crystalline)	✓ ✓ ✓
	P-027 P-028	Bulk Storage Silo (Metallurgical) Bulk Storage Silo (Metallurgical)	✓ ✓
7	Finished Bagged Product Processing (Old Bagging System)		C-006, Dust Collector No. 4 (APCO)
	P-029 P-030 P-031 P-032	Conveyor Screener Surge Hopper Old Bagging System	✓ ✓ ✓ ✓
8	Finished Bagged Product Processing		C-005, Cartridge Dust Collector No. 5 (APCN)
	P-033 P-034 P-035 P-036	Conveyor Screener Silo New Bagging System	✓ ✓ ✓ ✓
9	Fugitive Particulate Matter		Treatment as Necessary

^a The control equipment is named in the broad description line and a check mark on the specific equipment line indicates that equipment is vented to the control equipment.

7.2.3 Applicability Provisions and Applicable Regulations

a. The "affected raw material and product processing operations" for the purpose of these unit-specific conditions, are processes in which solid materials

are conveyed, screened, crushed, bagged, etc. These operations are identified in Condition 7.2.2.

- b. Each affected operation is subject to the emission limits identified in Condition 5.2.2.
- c. Each affected operation is subject to 35 IAC 212.321. This rule is written out in Attachment 1.

7.2.4 Non-Applicability of Regulations of Concern

- a. This permit is issued based on the affected silicon carbide manufacturing process not being subject to the New Source Performance Standards (NSPS) for nonmetallic mineral processing plants, 40 CFR Part 60, Subpart 000, because the list of affected minerals in § 60.671 does not include silicon carbide.
- b. This permit is issued based on the affected silicon carbide manufacturing process not being subject to the New Source Performance Standards (NSPS) for calciners and dryers in mineral industries, 40 CFR Part 60, Subpart UUU, because the list of affected minerals in § 60.731 does not include silicon carbide.
- c. This permit is issued based on the affected raw material and product processing and shipping operations not being subject to 40 CFR Part 64, Compliance Assurance Monitoring (CAM) for Major Stationary Sources, because the affected operations does not use an add-on control device to achieve compliance with an emission limitation or standard and/or does not have potential pre-control device emissions of the applicable regulated air pollutant that equals or exceeds major source threshold levels.

7.2.5 Control Requirements and Work Practices

- a. Condition 7.1.5(e)(ii) more closely relates to equipment covered in this section of the permit but was included in Section 7.1 so that all BACT conditions would be grouped.
- b.
 - i. Open storage piles, roadways, parking facilities and other points of potential fugitive particulate matter emissions at the source shall be maintained and treated to significantly control such emissions.
 - ii. The Permittee shall follow the written operating program submitted with this application describing the points of potential

fugitive particulate matter emissions and the practices used to reduce such emissions.

- c. The Permittee shall follow good operating practice for the dust collectors, including periodic inspections, routine maintenance, and prompt repair of defects including replacement of bags when one is broken.

7.2.6 Emission Limitations

In addition to Condition 5.2.2 and the source wide emission limitations in Condition 5.5, the affected emission unit(s) are subject to the following:

- a. Emissions from the affected new bagging system (Unit 8) shall not exceed the following limits:

Silicon Carbide Bagger (Tons/Month)	PM Emissions (Lb/Month)	(Tons/Year)
2,200	1,800	9.95

These limits are based on maximum rate and 2,080 hr/yr of operation.

Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total) [T1R].

The above limitations contain revisions to previously issued Permit 93060056. The source has requested that the Illinois EPA establish conditions in this permit that allow various refinements from the conditions of this aforementioned permit, consistent with the information provided in the CAAPP application. The source has requested these revisions and has addressed the applicability and compliance of Title I of the CAA, specifically 35 IAC Part 203, Major Stationary Sources Construction and Modification and/or 40 CFR 52.21, Prevention of Significant Deterioration (PSD). These limits continue to ensure that the construction and/or modification addressed in this permit does not constitute a new major source or major modification pursuant to these rules. These limits are the primary enforcement mechanism for the equipment and activities permitted in this permit and the information in the CAAPP application contains the most current and accurate information for the source. Specifically, the construction permit included hourly limits on process rate and PM emission rate and these

have been converted to monthly values for ease of recordkeeping [T1R].

- b. Condition 5.6.2 has a source-wide emission limit that includes emission units covered by this section.

7.2.7 Testing Requirements

- a. Upon request, PM emissions from any of the emission units listed in Condition 7.2.2 shall be tested to determined compliance with 35 IAC 212.321.
- b. Pursuant to 35 IAC 212.110 and Section 39.5(7)(b) of the Act, testing for PM emissions shall be performed as follows:
 - i. Measurement of particulate matter emissions from stationary emission units subject to 35 IAC Part 212 shall be conducted in accordance with 40 CFR Part 60, Appendix A, Methods 5, 5A, 5D, or 5E [35 IAC 212.110(a)].
 - ii. The volumetric flow rate and gas velocity shall be determined in accordance with 40 CFR Part 60, Appendix A, Methods 1, 1A, 2, 2A, 2C, WD, 3, and 4 [35 IAC 212.110(b)].
 - iii. Upon a written notification by the Illinois EPA, the owner or operator of a particulate matter emission unit subject to 35 IAC Part 212 shall conduct the applicable testing for particulate matter emissions, opacity, or visible emissions at such person's own expense, to demonstrate compliance. Such test results shall be submitted to the Illinois EPA within thirty (30) days after conducting the test unless an alternative time for submittal is agreed to by the Illinois EPA [35 IAC 212.110(c)].
 - iv. A person planning to conduct testing for particulate matter emissions to demonstrate compliance shall give written notice to the Illinois EPA of that intent. Such notification shall be given at least thirty (30) days prior to the initiation of the test unless a shorter period is agreed to by the Illinois EPA. Such notification shall state the specific test methods from Condition 7.2.7 (see also 35 IAC 212.110) that will be used [35 IAC 212.110(d)].
- c. Upon reasonable request by the Illinois EPA, pursuant to Section 39.5(7)(d) of the Act, measurements of

opacity shall be conducted in accordance with Method 9, 40 CFR Part 60, Appendix A, and 35 IAC 212.109, so as to demonstrate compliance with the emission limits in Condition 7.1.3(b).

7.2.8 Monitoring Requirements

The vents from each of the dust collectors shall be observed for visible emissions weekly.

7.2.9 Recordkeeping Requirements

In addition to the records required by Condition 5.6, the Permittee shall maintain records of the following items for the affected raw material and product processing and shipping operations to demonstrate compliance with Conditions 5.5.1, 5.5.3, 7.2.6 and 7.2.8, pursuant to Section 39.5(7)(b) of the Act:

- a. Pursuant to 35 IAC 212.110(e) and Section 39.5(7)(e) of the Act, the owner or operator of an emission unit subject to 35 IAC Part 212 shall retain records of all tests which are performed. These records shall be retained for at least five (5) years after the date a test is performed and shall include the following:
 - i. The date, place and time of sampling or measurements;
 - ii. The date(s) analyses were performed;
 - iii. The company or entity that performed the analyses;
 - iv. The analytical techniques or methods used;
 - v. The results of such analyses; and
 - vi. The operating conditions as existing at the time of sampling or measurement, and the operating rate so that the allowable may be determined.
- b. Records addressing use of good operating practices for the dust collectors:
 - i. Records for periodic inspection of the dust collectors with date, individual performing the inspection, and nature of inspection; and
 - ii. Records for prompt repair of defects, with identification and description of defect,

effect on emissions, date identified, date repaired, and nature of repair.

- c. Silicon carbide throughput, tons/month and tons/year;
- d. The aggregate monthly and annual PM emissions from the affected silicon carbide handling processes based on the throughput and the emission factors and procedures specified in Condition 7.2.12, with supporting calculations;
- e. PM emissions from the new bagging system (lb/mo and tons/yr); and
- f. Visible emissions reading from dust collectors (weekly).

7.2.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA, Compliance Section, of deviations of an affected raw material and product processing and shipping operation with the permit requirements as follows, pursuant to Section 39.5(7)(f)(ii) of the Act. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

- a. Continued operation of an affected silicon carbide handling process with a defect in a dust collector that may result in emissions of particulate matter in excess of limits in Conditions 7.2.3(b) or (c) within 30 days of such an occurrence.
- b. Emissions of PM from the affected silicon carbide handling processes in excess of the limits specified in Condition 7.2.6 within 30 days of such an occurrence.

7.2.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

7.2.12 Compliance Procedures

Compliance with the emission limits shall be based on the recordkeeping requirements in Condition 7.2.9 and the emission factors and formulas listed below:

- a. Compliance with Conditions 7.2.3(b) and (c) is assumed to be achieved by proper operation of the dust collectors, as addressed by Conditions 7.2.5 and 7.2.9(b).

- b. To determine compliance with Conditions 5.5.1 and 7.2.6, PM emissions from the affected silicon carbide handling processes shall be calculated based on the following emission factors:

For crushing or screening operations the emission factors in AP-42 Table 11.19.2-2 (crushed stone processing) may be used. The current version is dated January 1995, but if updated the newer version may be used.

- c. Although the dryer uses direct heat, the emission factors for NO_x and CO found in AP-42 (Table 1.4-1, September 1998) for fuel combustion emission units are the best available. These factors are 100 and 84 lb/10⁶ ft³ of fuel gas, respectively. If AP-42 is updated, the newer version may be used.

Emissions (lb) = natural gas consumed (10⁶ ft³) multiplied by the appropriate emission factor.

- d. Emissions from paved roads shall be calculated using the procedures in AP-42, Section 13.2.1, Paved Roads. The current version is dated October 1997, but if updated the newer version may be used.
- e. Emissions from unpaved roads shall be calculated using the procedures in AP-42, Section 13.2.2, Unpaved Roads. The current version is dated September 1998, but if updated the newer version may be used.
- f. Emissions from storage piles shall be calculated using the procedures in AP-42, Section 13.2.4, Aggregate Handling and Storage Piles. The current version is dated January 1995, but if updated the newer version may be used.

8.0 GENERAL PERMIT CONDITIONS

8.1 Permit Shield

Pursuant to Section 39.5(7)(j) of the Act, the Permittee has requested and has been granted a permit shield. This permit shield provides that compliance with the conditions of this permit shall be deemed compliance with applicable requirements which were applicable as of the date the proposed permit for this source was issued, provided that either the applicable requirements are specifically identified within this permit, or the Illinois EPA, in acting on this permit application, has determined that other requirements specifically identified are not applicable to this source and this determination (or a concise summary thereof) is included in this permit.

This permit shield does not extend to applicable requirements which are promulgated after **April 4, 2002** (the date of issuance of the draft permit) unless this permit has been modified to reflect such new requirements.

8.2 Applicability of Title IV Requirements (Acid Deposition Control)

This source is not an affected source under Title IV of the CAA and is not subject to requirements pursuant to Title IV of the CAA.

8.3 Emissions Trading Programs

No permit revision shall be required for increases in emissions allowed under any USEPA approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for elsewhere in this permit and that are authorized by the applicable requirement [Section 39.5(7)(o)(vii) of the Act].

As of the date of issuance of this permit, there are no such economic incentive, marketable permit or emission trading programs that have been approved by USEPA.

8.4 Operational Flexibility/Anticipated Operating Scenarios

8.4.1 Changes Specifically Addressed by Permit

Physical or operational changes specifically addressed by the Conditions of this permit that have been identified as not requiring Illinois EPA notification may be implemented without prior notice to the Illinois EPA.

8.4.2 Changes Requiring Prior Notification

The Permittee is authorized to make physical or operational changes that contravene express permit terms without applying for or obtaining an amendment to this

permit, provided that [Section 39.5(12)(a)(i) of the Act]:

- a. The changes do not violate applicable requirements;
- b. The changes do not contravene federally enforceable permit terms or conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements;
- c. The changes do not constitute a modification under Title I of the CAA;
- d. Emissions will not exceed the emissions allowed under this permit following implementation of the physical or operational change; and
- e. The Permittee provides written notice to the Illinois EPA, Division of Air Pollution Control, Permit Section, at least 7 days before commencement of the change. This notice shall:
 - i. Describe the physical or operational change;
 - ii. Identify the schedule for implementing the physical or operational change;
 - iii. Provide a statement of whether or not any New Source Performance Standard (NSPS) is applicable to the physical or operational change and the reason why the NSPS does or does not apply;
 - iv. Provide emission calculations which demonstrate that the physical or operational change will not result in a modification; and
 - v. Provide a certification that the physical or operational change will not result in emissions greater than authorized under the Conditions of this permit.

8.5 Testing Procedures

Tests conducted to measure composition of materials, efficiency of pollution control devices, emissions from process or control equipment, or other parameters shall be conducted using standard test methods. Documentation of the test date, conditions, methodologies, calculations, and test results shall be retained pursuant to the recordkeeping procedures of this permit. Reports of any tests conducted as required by this permit or as the result of a request by the Illinois EPA shall be submitted as specified in Condition 8.6.

8.6 Reporting Requirements

8.6.1 Monitoring Reports

If monitoring is required by any applicable requirements or conditions of this permit, a report summarizing the required monitoring results, as specified in the conditions of this permit, shall be submitted to the Air Compliance Section of the Illinois EPA every six months as follows [Section 39.5(7)(f) of the Act]:

<u>Monitoring Period^a</u>	<u>Report Due Date^a</u>
January - June	September 1
July - December	March 1

^A If a Consent Decree requires more frequent monitoring, that requirement shall be met. Information reported in a Consent Decree requirement need not be duplicated but instead referenced. If the consent decree is withdrawn, the above requirements resume.

All instances of deviations from permit requirements must be clearly identified in such reports. All such reports shall be certified in accordance with Condition 9.9.

8.6.2 Test Notifications

Unless otherwise specified elsewhere in this permit, a written test plan for any test required by this permit shall be submitted to the Illinois EPA for review at least 60 days prior to the testing pursuant to Section 39.5(7)(a) of the Act. The notification shall include at a minimum:

- a. The name and identification of the affected unit(s);
- b. The person(s) who will be performing sampling and analysis and their experience with similar tests;
- c. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions and the means by which the operating parameters for the source and any control equipment will be determined;
- d. The specific determination of emissions and operation which are intended to be made, including sampling and monitoring locations;

- e. The test method(s) which will be used, with the specific analysis method, if the method can be used with different analysis methods;
- f. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justification; and
- g. Any proposed use of an alternative test method, with detailed justification.

8.6.3 Test Reports

Unless otherwise specified elsewhere in this permit, the results of any test required by this permit shall be submitted to the Illinois EPA within 60 days of completion of the testing. The test report shall include at a minimum [Section 39.5(7)(e)(i) of the Act]:

- a. The name and identification of the affected unit(s);
- b. The date and time of the sampling or measurements;
- c. The date any analyses were performed;
- d. The name of the company that performed the tests and/or analyses;
- e. The test and analytical methodologies used;
- f. The results of the tests including raw data, and/or analyses including sample calculations;
- g. The operating conditions at the time of the sampling or measurements; and
- h. The name of any relevant observers present including the testing company's representatives, any Illinois EPA or USEPA representatives, and the representatives of the source.

8.6.4 Reporting Addresses

- a. The following addresses should be utilized for the submittal of reports, notifications, and renewals:
 - i. Illinois EPA - Air Compliance Section

Illinois Environmental Protection Agency
Bureau of Air
Compliance Section (MC 40)
P.O. Box 19276
Springfield, Illinois 62794-9276

ii. Illinois EPA - Air Regional Field Office

Illinois Environmental Protection Agency
Division of Air Pollution Control
5415 North University
Peoria, Illinois 61614

iii. Illinois EPA - Air Permit Section

Illinois Environmental Protection Agency
Division of Air Pollution Control
Permit Section (MC 11)
P.O. Box 19506
Springfield, Illinois 62794-9506

iv. USEPA Region 5 - Air Branch

USEPA (AE - 17J)
Air & Radiation Division
77 West Jackson Boulevard
Chicago, Illinois 60604

- b. Unless otherwise specified in the particular provision of this permit, reports shall be sent to the Illinois EPA - Air Compliance Section with a copy sent to the Illinois EPA - Air Regional Field Office.

8.7 Obligation to Comply with Title I Requirements

Any term, condition, or requirement identified in this permit by T1, T1R, or T1N is established or revised pursuant to 35 IAC Part 203 or 40 CFR 52.21 ("Title I provisions") and incorporated into this permit pursuant to both Section 39.5 and Title I provisions. Notwithstanding the expiration date on the first page of this permit, the Title I conditions remain in effect pursuant to Title I provisions until the Illinois EPA deletes or revises them in accordance with Title I procedures.

9.0 STANDARD PERMIT CONDITIONS

9.1 Effect of Permit

9.1.1 The issuance of this permit does not release the Permittee from compliance with State and Federal regulations which are part of the Illinois State Implementation Plan, as well as with other applicable statutes and regulations of the United States or the State of Illinois or applicable ordinances, except as specifically stated in this permit and as allowed by law and rule [Section 39.5(7)(j)(iv) of the Act].

9.1.2 In particular, this permit does not alter or affect the following:

- a. The provisions of Section 303 (emergency powers) of the CAA, including USEPA's authority under that Section;
- b. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
- c. The applicable requirements of the acid rain program consistent with Section 408(a) of the CAA; and
- d. The ability of USEPA to obtain information from a source pursuant to Section 114 (inspections, monitoring, and entry) of the CAA.

9.1.3 Notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.

9.2 General Obligations of Permittee

9.2.1 Duty to Comply

The Permittee must comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the CAA and the Act, and is grounds for any or all of the following: enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal application [Section 39.5(7)(o)(i) of the Act].

The Permittee shall meet applicable requirements that become effective during the permit term in a timely manner unless an alternate schedule for compliance with the applicable requirement is established.

9.2.2 Duty to Maintain Equipment

The Permittee shall maintain all equipment covered under this permit in such a manner that the performance or operation of such equipment shall not cause a violation of applicable requirements.

9.2.3 Duty to Cease Operation

No person shall cause, threaten or allow the continued operation of any emission unit during malfunction or breakdown of the emission unit or related air pollution control equipment if such operation would cause a violation of an applicable emission standard, regulatory requirement, ambient air quality standard or permit limitation unless such malfunction or breakdown is allowed by a permit condition [Section 39.5(6)(c) of the Act].

9.2.4 Disposal Operations

The source shall be operated in such a manner that the disposal of air contaminants collected by the equipment operations, or activities shall not cause a violation of the Act or regulations promulgated thereunder.

9.2.5 Duty to Pay Fees

The Permittee must pay fees to the Illinois EPA consistent with the fee schedule approved pursuant to Section 39.5(18) of the Act, and submit any information relevant thereto [Section 39.5(7)(o)(vi) of the Act]. The check should be payable to "Treasurer, State of Illinois" and sent to: Fiscal Services Section, Illinois Environmental Protection Agency, P.O. Box 19276, Springfield, Illinois 62794-9276.

9.3 Obligation to Allow Illinois EPA Surveillance

Upon presentation of proper credentials and other documents, the Permittee shall allow the Illinois EPA, or an authorized representative to perform the following [Section 39.5(7)(a) and (p)(ii) of the Act and 415 ILCS 5/4]:

- a. Enter upon the Permittee's premises where an actual or potential emission unit is located; where any regulated equipment, operation, or activity is located or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect during hours of operation any sources, equipment (including monitoring and air pollution control

equipment), practices, or operations regulated or required under this permit;

- d. Sample or monitor any substances or parameters at any location:
 - i. At reasonable times, for the purposes of assuring permit compliance; or
 - ii. As otherwise authorized by the CAA, or the Act.
- e. Obtain and remove samples of any discharge or emission of pollutants authorized by this permit; and
- f. Enter and utilize any photographic, recording, testing, monitoring, or other equipment for the purposes of preserving, testing, monitoring, or recording any activity, discharge or emission at the source authorized by this permit.

9.4 Obligation to Comply with Other Requirements

The issuance of this permit does not release the Permittee from applicable State and Federal laws and regulations, and applicable local ordinances addressing subjects other than air pollution control.

9.5 Liability

9.5.1 Title

This permit shall not be considered as in any manner affecting the title of the premises upon which the permitted source is located.

9.5.2 Liability of Permittee

This permit does not release the Permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the sources.

9.5.3 Structural Stability

This permit does not take into consideration or attest to the structural stability of any unit or part of the source.

9.5.4 Illinois EPA Liability

This permit in no manner implies or suggests that the Illinois EPA (or its officers, agents or employees) assumes any liability, directly or indirectly, for any

loss due to damage, installation, maintenance, or operation of the source.

9.5.5 Property Rights

This permit does not convey any property rights of any sort, or any exclusive privilege [Section 39.5(7)(o)(iv) of the Act].

9.6 Recordkeeping

9.6.1 Control Equipment Maintenance Records

A maintenance record shall be kept on the premises for each item of air pollution control equipment. As a minimum, this record shall show the dates of performance and nature of preventative maintenance activities.

9.6.2 Records of Changes in Operation

A record shall be kept describing changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under this permit, and the emissions resulting from those changes [Section 39.5(12)(b)(iv) of the Act].

9.6.3 Retention of Records

- a. Records of all monitoring data and support information shall be retained 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, original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit [Section 39.5(7)(e)(ii) of the Act].
- b. Other records required by this permit shall be retained for a period of at least 5 years from the date of entry unless a longer period is specified by a particular permit provision.

9.7 Annual Emissions Report

The Permittee shall submit an annual emissions report to the Illinois EPA, Compliance Section no later than May 1 of the following year, as required by 35 IAC Part 254.

9.8 Requirements for Compliance Certification

Pursuant to Section 39.5(7)(p)(v) of the Act, the Permittee shall submit annual compliance certifications. The compliance

certifications shall be submitted no later than May 1 or more frequently as specified in the applicable requirements or by permit condition. The compliance certifications shall be submitted to the Air Compliance Section, Air Regional Field Office, and USEPA Region 5 - Air Branch. The addresses for the submittal of the compliance certifications are provided in Condition 8.6.4 of this permit.

- a. The certification shall include the identification of each term or condition of this permit that is the basis of the certification; the compliance status; whether compliance was continuous or intermittent; the method(s) used for determining the compliance status of the source, both currently and over the reporting period consistent with the conditions of this permit.
- b. All compliance certifications shall be submitted to USEPA Region 5 in Chicago as well as to the Illinois EPA.
- c. All compliance reports required to be submitted shall include a certification in accordance with Condition 9.9.

9.9 Certification

Any document (including reports) required to be submitted by this permit shall contain a certification by a responsible official of the Permittee that meets the requirements of Section 39.5(5) of the Act [Section 39.5(7)(p)(i) of the Act]. An example Certification by a Responsible Official is included as an attachment to this permit.

9.10 Defense to Enforcement Actions

9.10.1 Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the 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 [Section 39.5(7)(o)(ii) of the Act].

9.10.2 Emergency Provision

- a. An emergency shall be an affirmative defense to an action brought for noncompliance with the technology-based emission limitations under this permit if the following conditions are met through properly signed, contemporaneous operating logs, or other relevant evidence:
 - i. An emergency occurred as provided in Section 39.5(7)(k) of the Act and the Permittee can identify the cause(s) of the emergency.

Normally, an act of God such as lightning or flood is considered an emergency;

- ii. The permitted source was at the time being properly operated;
 - iii. The Permittee submitted notice of the emergency to the Illinois EPA within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken; and
 - iv. During the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission limitations, standards, or regulations in this permit.
- b. This provision is in addition to any emergency or upset provision contained in any applicable requirement. This provision does not relieve a Permittee of any reporting obligations under existing federal or state laws or regulations.

9.11 Permanent Shutdown

This permit only covers emission units and control equipment while physically present at the indicated source location(s). Unless this permit specifically provides for equipment relocation, this permit is void for the operation or activity of any item of equipment on the date it is removed from the permitted location(s) or permanently shut down. This permit expires if all equipment is removed from the permitted location(s), notwithstanding the expiration date specified on this permit.

9.12 Reopening and Reissuing Permit for Cause

9.12.1 Permit Actions

This permit may be modified, reopened, and reissued, for cause pursuant to Section 39.5(15) of the Act. The filing of a request by the Permittee for a permit modification, revocation, and reissuance, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition [Section 39.5(7)(o)(iii) of the Act].

9.12.2 Reopening and Revision

This permit must be reopened and revised if any of the following occur [Section 39.5(15)(a) of the Act]:

- a. Additional requirements become applicable to the equipment covered by this permit and three or more years remain before expiration of this permit;
- b. Additional requirements become applicable to an affected source for acid deposition under the acid rain program;
- c. The Illinois EPA or USEPA determines that this permit contains a material mistake or inaccurate statement when establishing the emission standards or limitations, or other terms or conditions of this permit; and
- d. The Illinois EPA or USEPA determines that this permit must be revised to ensure compliance with the applicable requirements of the Act.

9.12.3 Inaccurate Application

The Illinois EPA has issued this permit based upon the information submitted by the Permittee in the permit application. Any misinformation, false statement or misrepresentation in the application shall be grounds for revocation under Section 39.5(15)(b) of the Act.

9.12.4 Duty to Provide Information

The Permittee shall furnish to the Illinois EPA, within a reasonable time specified by the Illinois EPA any information that the Illinois EPA may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to the Illinois EPA copies of records required to be kept by this permit, or for information claimed to be confidential, the Permittee may furnish such records directly to USEPA along with a claim of confidentiality [Section 39.5(7)(o)(v) of the Act].

9.13 Severability Clause

The provisions of this permit are severable, and should any one or more be determined to be illegal or unenforceable, the validity of the other provisions shall not be affected. The rights and obligations of the Permittee shall be construed and enforced as if this permit did not contain the particular provisions held to be invalid and the applicable requirements

underlying these provisions shall remain in force [Section 39.5(7)(i) of the Act].

9.14 Permit Expiration and Renewal

The right to operate terminates on the expiration date unless the Permittee has submitted a timely and complete renewal application. For a renewal to be timely it must be submitted no later than 9 and no sooner than 12 months prior to expiration. The equipment may continue to operate during the renewal period until final action is taken by the Illinois EPA, in accordance with the original permit conditions [Section 39.5(5)(1), (n), and (o) of the Act].

10.0 ATTACHMENTS

10.1 Attachment 1 Allowable Emissions of Particulate Matter

Process Emission Units for Which Construction or Modification Commenced on or After April 14, 1972 [35 IAC 212.321(b)].

No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in the following equation:

$$E = A(P)^B$$

Where:

P = Process weight rate;
E = Allowable emission rate; and,

- a. For process weight rate up to 450 ton/hour:

	<u>Metric</u>	<u>English</u>
P	Mg/hr	T/hr
E	kg/hr	lbs/hr
A	1.214	2.54
B	0.534	0.534

- b. For a process weight rate under 100 lb/hr (0.05 ton), the allowable is 0.55 lb/hr.

10.2 Attachment 2 Emissions of Pollutants Other than SO₂

The following values shall be used for calculating emissions other than SO₂. The basis for the value is listed under reference which is usually an emissions test possibly with assumed destruction by an afterburner (incinerator).

<u>Pollutant</u>	Emissions, lb/hr		<u>Reference</u>
	<u>With Four Furnace Groups Operating</u>	<u>Less Than Four</u>	
CO	3.37	2.7	1999 Emissions Test
NO _x	14.5	11.6	1999 Emissions Test
PM	1.68	1.34	1999 Test, with Sulferox ®
PM	22.5	22.5	Historical
PM ₁₀	0.34	0.27	20% of PM, with Sulferox ®
PM ₁₀	4.5	22.5	Historical
H ₂ S	0.22	0.22	Uncontrolled valve with removal/destruction by Sulferox ® and Afterburner
H ₂ S	10.9	8.7	Afterburner Only
COS	3.0	2.4	Historical and Afterburner
CS ₂	0.38	0.31	Historical and Afterburner
VOM	3.4	2.7	Combination of CS ₂ and COS

10.3 Attachment 3 Example Certification by a Responsible Official

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: _____

Name: _____

Official Title: _____

Telephone No.: _____

Date Signed: _____

10.4 Attachment 4 Guidance on Revising This Permit

The Permittee must submit an application to the Illinois EPA using the appropriate revision classification in accordance with Sections 39.5(13) and (14) of the Act and 35 IAC 270.302. Specifically, there are currently three classifications for revisions to a CAAPP permit. These are:

1. Administrative Permit Amendment;
2. Minor Permit Modification; and
3. Significant Permit Modification.

The Permittee must determine, request, and submit the necessary information to allow the Illinois EPA to use the appropriate procedure to revise the CAAPP permit. A brief explanation of each of these classifications follows.

1. Administrative Permit Amendment
 - Corrects typographical errors;
 - Identifies a change in the name, address, or phone number of any person identified in the permit, or provides a similar minor administrative change at the source;
 - Requires more frequent monitoring or reporting by the Permittee;
 - Allows for a change in ownership or operational control of the source where no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new Permittees has been submitted to the Illinois EPA. This shall be handled by completing form 272-CAAPP, REQUEST FOR OWNERSHIP CHANGE FOR CAAPP PERMIT; or
 - Incorporates into the CAAPP permit a construction permit, provided the conditions of the construction permit meet the requirements for the issuance of CAAPP permits.
2. Minor Permit Modification
 - Do not violate any applicable requirement;
 - Do not involve significant changes to existing monitoring, reporting, or recordkeeping requirements in the permit;

- Do not require a case-by-case determination of an emission limitation or other standard, or a source-specific determination of ambient impacts, or a visibility or increment analysis;
- Do not seek to establish or change a permit term or condition for which there is no corresponding underlying requirement and which avoids an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
 - A federally enforceable emissions cap assumed to avoid classification as a modification under any provision of Title I of the CAA; and
 - An alternative emissions limit approved pursuant to regulations promulgated under Section 112(i)(5) of the CAA.
- Are not modifications under any provision of Title I of the CAA;
- Are not required to be processed as a significant permit modification; and
- Modifications involving the use of economic incentives, marketable permits, emissions trading, and other similar approaches.

An application for a minor permit modification shall include the following:

- A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs;
- The source's suggested draft permit/conditions;
- Certification by a responsible official that the proposed modification meets the criteria for use of minor permit modification procedures and a request that such procedures be used; and
- Information as contained on form 271-CAAPP, MINOR PERMIT MODIFICATION FOR CAAPP PERMIT for the Illinois EPA to use to notify USEPA and affected States.

3. Significant Permit Modification

- Applications that do not qualify as either minor permit modifications or as administrative permit amendments;
- Applications requesting a significant change in existing monitoring permit terms or conditions;
- Applications requesting a relaxation of reporting or recordkeeping requirements; and
- Cases in which, in the judgment of the Illinois EPA, action on an application for modification would require decisions to be made on technically complex issues.

An application for a significant permit modification shall include the following:

- A detailed description of the proposed change(s), including all physical changes to equipment, changes in the method of operation, changes in emissions of each pollutant, and any new applicable requirements which will apply as a result of the proposed change. Note that the Permittee need only submit revised forms for equipment and operations that will be modified.

The Illinois EPA requires the information on the following appropriate forms to be submitted in accordance with the proper classification:

- Form 273-CAAPP, REQUEST FOR ADMINISTRATIVE PERMIT AMENDMENT FOR CAAPP PERMIT; or
- Form 271-CAAPP, MINOR PERMIT MODIFICATION FOR CAAPP PERMIT; or
- Form 200-CAAPP, APPLICATION FOR CAAPP PERMIT (for significant modification).

Application forms can be obtained from the Illinois EPA website at <http://www.epa.state.il.us/air/forms>.

Note that the request to revise the permit must be certified for truth, accuracy, and completeness by a responsible official.

Note that failure to submit the required information may require the Illinois EPA to deny the application. The Illinois EPA reserves the right to require that additional information be submitted as needed to evaluate or take final action on applications pursuant to Section 39.5(5)(g) of the Act and 35 IAC 270.305.



Illinois Environmental Protection Agency
 Division Of Air Pollution Control -- Permit Section
 P.O. Box 19506
 Springfield, Illinois 62794-9506

Application For Construction Permit (For CAAPP Sources Only)	For Illinois EPA use only
	ID number:
	Permit number:
	Date received:

This form is to be used by CAAPP sources to supply information necessary to obtain a construction permit. Please attach other necessary information and completed CAAPP forms regarding this construction/modification project.

Source Information		
1. Source name:		
2. Source street address:		
3. City:	4. Zip code:	
5. Is the source located within city limits? <input type="checkbox"/> Yes <input type="checkbox"/> No		
6. Township name:	7. County:	8. ID number:

Owner Information		
9. Name:		
10. Address:		
11. City:	12. State:	13. Zip code:

Operator Information (if different from owner)		
14. Name		
15. Address:		
16. City:	17. State:	18. Zip code:

Applicant Information	
19. Who is the applicant? <input type="checkbox"/> Owner <input type="checkbox"/> Operator	20. All correspondence to: (check one) <input type="checkbox"/> Owner <input type="checkbox"/> Operator <input type="checkbox"/> Source
21. Attention name and/or title for written correspondence:	
22. Technical contact person for application:	23. Contact person's telephone number:

This Agency is authorized to require and you must disclose this information under 415 ILCS 5/39. Failure to do so could result in the application being denied and penalties under 415 ILCS 5 et seq. It is not necessary to use this form in providing this information. This form has been approved by the forms management center.

Summary Of Application Contents	
24. Does the application address whether the proposed project would constitute a new major source or major modification under each of the following programs: a) Non-attainment New Source Review – 35 IAC Part 203; b) Prevention of Significant Deterioration (PSD) – 40 CFR 52.21; c) Hazardous Air Pollutants: Regulations Governing Constructed or Reconstructed Major Sources – 40 CFR Part 63?	<input type="checkbox"/> Yes <input type="checkbox"/> No
25. Does the application identify and address all applicable emissions standards, including those found in the following: a) Board Emission Standards – 35 IAC Chapter I, Subtitle B; b) Federal New Source Performance Standards – 40 CFR Part 60; c) Federal Standards for Hazardous Air Pollutants – 40 CFR Parts 61 and 63?	<input type="checkbox"/> Yes <input type="checkbox"/> No
26. Does the application include a process flow diagram(s) showing all emission units and control equipment, and their relationship, for which a permit is being sought?	<input type="checkbox"/> Yes <input type="checkbox"/> No
27. Does the application include a complete process description for the emission units and control equipment for which a permit is being sought?	<input type="checkbox"/> Yes <input type="checkbox"/> No
28. Does the application include the information as contained in completed CAAPP forms for all appropriate emission units and air pollution control equipment, listing all applicable requirements and proposed exemptions from otherwise applicable requirements, and identifying and describing any outstanding legal actions by either the USEPA or the Illinois EPA? Note: The use of "APC" application forms is not appropriate for applications for CAAPP sources. CAAPP forms should be used to supply information.	<input type="checkbox"/> Yes <input type="checkbox"/> No
29. If the application contains TRADE SECRET information, has such information been properly marked and claimed, and have two separate copies of the application suitable for public inspection and notice been submitted, in accordance with applicable rules and regulations?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Applicable, No TRADE SECRET information in this application

Note 1: Answering "No" to any of the above may result in the application being deemed incomplete.

Signature Block	
This certification must be signed by a responsible official. Applications without a signed certification will be returned as incomplete.	
30. I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in this application are true, accurate and complete. Authorized Signature:	
BY:	_____
_____	_____
AUTHORIZED SIGNATURE	TITLE OF SIGNATORY
_____	_____ / _____ / _____
TYPED OR PRINTED NAME OF SIGNATORY	DATE

Note 2: An operating permit for the construction/modification permitted in a construction permit must be obtained by applying for the appropriate revision to the source's CAAPP permit, if necessary.

10.6 Attachment 6 Guidance on Renewing This Permit

Timeliness - Pursuant to Section 39.5(5)(n) of the Act and 35 IAC 270.301(d), a source must submit to the Illinois EPA a complete CAAPP application for the renewal of a CAAPP permit not later than 9 months before the date of permit expiration of the existing CAAPP permit in order for the submittal to be deemed timely. Note that the Illinois EPA typically sends out renewal notices approximately 18 months prior to the expiration of the CAAPP permit.

The CAAPP application must provide all of the following information in order for the renewal CAAPP application to be deemed complete by the Illinois EPA:

1. A completed renewal application form 200-CAAPP, APPLICATION FOR CAAPP PERMIT.
2. A completed compliance plan form 293-CAAPP, COMPLIANCE PLAN/SCHEDULE OF COMPLIANCE FOR CAAPP PERMIT.
3. A completed compliance certification form 296-CAAPP, COMPLIANCE CERTIFICATION, signed by the responsible official.
4. Any applicable requirements that became effective during the term of the permit and that were not included in the permit as a reopening or permit revision.
5. If this is the first time this permit is being renewed and this source has not yet addressed CAM, the application should contain the information on form 464-CAAPP, COMPLIANCE ASSURANCE MONITORING (CAM) PLAN.
6. Information addressing any outstanding transfer agreement pursuant to the ERMS.
7. a. If operations of an emission unit or group of emission units remain unchanged and are accurately depicted in previous submittals, the application may contain a letter signed by a responsible official that requests incorporation by reference of existing information previously submitted and on file with the Illinois EPA. This letter must also include a statement that information incorporated by reference is also being certified for truth and accuracy by the responsible official's signing of the form 200-CAAPP, APPLICATION FOR CAAPP PERMIT and the form 296-CAAPP, COMPLIANCE CERTIFICATION. The boxes should be marked yes on form 200-CAAPP, APPLICATION FOR CAAPP PERMIT, as existing information is being incorporated by reference.

- b. If portions of current operations are not as described in previous submittals, then in addition to the information above for operations that remain unchanged, the application must contain the necessary information on all changes, e.g., discussion of changes, new or revised CAAPP forms, and a revised fee form 292-CAAPP, FEE DETERMINATION FOR CAAPP PERMIT, if necessary.
8. Information about all off-permit changes that were not prohibited or addressed by the permit to occur without a permit revision and the information must be sufficient to identify all applicable requirements, including monitoring, recordkeeping, and reporting requirements, for such changes.
9. Information about all changes made under 40 CFR 70.4(b)(12)(i) and (ii) that require a 7-day notification prior to the change without requiring a permit revision.

The Illinois EPA will review all applications for completeness and timeliness. If the renewal application is deemed both timely and complete, the source shall continue to operate in accordance with the terms and conditions of its CAAPP permit until final action is taken on the renewal application.

Notwithstanding the completeness determination, the Illinois EPA may request additional information necessary to evaluate or take final action on the CAAPP renewal application. If such additional information affects your allowable emission limits, a revised form 292-CAAPP, FEE DETERMINATION FOR CAAPP PERMIT must be submitted with the requested information. The failure to submit to the Illinois EPA the requested information within the time frame specified by the Illinois EPA, may force the Illinois EPA to deny your CAAPP renewal application pursuant to Section 39.5 of the Act.

Application forms may be obtained from the Illinois EPA website at <http://www.epa.state.il.us/air/forms.html>.

If you have any questions regarding this matter, please contact a permit analyst at 217/782-2113.

Mail renewal applications to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Permit Section (MC 11)
P.O. Box 19506
Springfield, Illinois 62794-9506