

STATE OF MISSOURI



PERMIT BOOK

DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: **06 2008 - 003** Project Number: 2008-02-048

Parent Company: Pittsburgh Corning Corporation

Parent Company Address: 800 Presque Isle Drive, Pittsburgh, PA 15239

Installation Name: Pittsburgh Corning Corporation

Installation Address: 2700 West 16th Street, Sedalia, MO 65301

Location Information: Pettis County, S5, T45N, R21W

Application for Authority to Construct was made for:
Installation of a cullet quench system. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

- Standard Conditions (on reverse) are applicable to this permit.
- Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

JUN - 9 2008

EFFECTIVE DATE

A handwritten signature in black ink, appearing to read "James V. Kawenczyk".

DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the departments' Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

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MISSOURI AIR CONSERVATION COMMISSION

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Permit No.	
Project No.	2008-02-048

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."

Pittsburgh Corning Corporation
Pettis County, S5, T45N, R21W

1. Emission Limitation
 - A. Pittsburgh Corning Corporation shall produce less than 143 tons of glass per 24-hour period.
 - B. Attachment A or equivalent forms approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 1.A. Pittsburgh Corning Corporation shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. These records shall include Material Safety Data Sheets (MSDS) for all materials used in this equipment.
 - C. Pittsburgh Corning Corporation shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after the end of the month during which the records from Special Condition Number 1.B indicate that the source exceeds the limitation of Special Conditions Number 1.A.
2. Baghouse(s) Control System Requirements
 - A. Visible emissions and physical samples will be used as an indicator of the proper operation of the control device. Visual emission observations will be made using a USEPA Method 22 like procedures. Physical samples will be taken and analyzed in accordance with the Pittsburgh Corning's standard operating procedures (SOP). During proper operation, no visible emissions and levels on the physical samples as indicated as normal operation in the SOP manual are expected from this emission unit. The existence of visible emissions or presence of residue on the physical samples above normal levels will indicate a decrease in the efficiency of the control device and corrective actions will be implemented.
 - B. Frequency - Visible emissions from the exhaust shall be monitored on a daily basis when the process is in operation. Physicals samples shall also be taken on a daily basis when the process is in operation.

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Permit No.	
Project No.	2008-02-048

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

- C. Duration - The duration of the observation for visible emissions shall be for a six minute time period.
- D. Threshold - The condition of no visible emissions or normal residue levels on the physical as indicated in the SOP manual is considered standard for this emission unit. When visible emissions or residue levels above normal are noted from the emission unit, it shall be documented and corrective actions taken.
- E. The observation of visible emissions or residue levels above normal on the physical sample from this emission unit will be considered an excursion and corrective actions shall be implemented within a reasonable period. An excursion does not necessarily indicate a violation of the applicable requirement. When the level of excursions exceed five percent of the of the total number of observations in a six month period and corrective actions fail to return the emission unit to a no visible emission condition, then the permittee shall conduct source testing within 90 days of the last excursion to demonstrate compliance with 10 CSR 10-6.400. If the test demonstrates noncompliance with the above emission limitation the permittee shall propose a schedule to implement further corrective actions to bring the source into compliance and demonstrate that compliance.
- F. All control equipment shall be maintained and operated according to the manufacturer's specifications.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2008-02-048
Installation ID Number: 159-0009
Permit Number:

Pittsburgh Corning Corporation
2700 West 16th Street
Sedalia, MO 65301

Complete: February 14, 2008

Parent Company:
Pittsburgh Corning Corporation
800 Presque Isle Drive
Pittsburgh, PA 15239

Pettis County, S5, T45N, R21W

REVIEW SUMMARY

- Pittsburgh Corning Corporation has applied for authority to install a cullet quench system. The installation of this new equipment removes a bottleneck for production of green glass. However, Pittsburgh Corning Corporation has agreed to limit their production to the same levels prior to this project. Therefore, conditioned emissions are based on emission increases from new equipment.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment in small amounts. HAPs of concern from this project are antimony and manganese compounds.
- None of the New Source Performance Standards (NSPS) apply to the proposed equipment.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) or currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment.
- Reverse pulse jet collectors are being used to control the PM₁₀ emissions from the cullet dryers.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Conditioned potential emissions of all pollutants are below de minimis levels.
- This installation is located in Pettis County, an attainment area for all criteria air pollutants.
- This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2].
- Ambient air quality modeling was not performed since potential emissions of the application

are below de minimis levels.

- Emissions testing is not required for the equipment.
- A revision to your Part 70 Operating Permit application is required for this installation within 1 year of equipment startup.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Pittsburgh Corning Corporation operates a cellular glass insulation installation in Sedalia, Missouri. Pittsburgh Corning submitted a Part 70 operating permit renewal in July of 2003. Permit No. OP1999-090 was obtained in July of 1999.

Pittsburgh Corning was considered a major source under New Source Review permits. However, upon review of recent permit history and a submittal of existing potential emissions from Pittsburgh Corning, it is the Air Pollution Control Program's conclusion that Pittsburgh Corning should be considered a minor source with regards to construction permits. Several notable changes that resulted in a lower potential-to-emit for the installation include the following. Fuel oil tanks were removed from service in 2004 and fuel oil piping was removed in 2006 and 2007 therefore the combustion equipment is no longer capable of burning fuel oil. Tank 3 was completely demolished and removed in March of 2007. They also do not have the capability to use propane in their combustion equipment as mentioned in other permits.

The following construction permits have been issued to Pittsburgh Corning Corporation from the Air Pollution Control Program.

Table 1: Previously Issued New Source Review Permits

Permit Number	Description
0579-011	Modification of rotary kiln.
1190-014	Installation of a cellular glass finishing line.
0592-010	Installation of foaming & annealing oven.
0793-023	Installation of a glass melting tank (Tank 3).
0894-015	Addition of two (2) ball mills.
1294-006	Addition of manganese dioxide to glass batch.
1294-007	Resuming operation of auxiliary glass unloading & grinding equipment.
0696-017	Addition of aluminum sulfate to existing glass batch process.
0899-014	Installation of two (2) Foamglas® block printers.
0799-020	Temporary permit for the installation of gluing process & cutting machines for the Foamglas® blocks.
0999-004	Replacement of the existing diesel generator with a new 300 hp diesel generator.
0799-020A	Amendment to temporary permit for the installation of gluing process & cutting machines for the Foamglas® blocks.
082001-025	Installation of natural gas fired burners with a combined total rating of ten (10) MMBtu/hr and to increase the electric boosting system in order to melt Green Glass in Tank 4. This addition will not increase the maximum capacity of Tank 4. In addition, this permit modifies the Special Conditions of Permit No. 0793-023.
1294-007A	Modification to monthly manganese dioxide recordkeeping sheet.

PROJECT DESCRIPTION

Pittsburgh Corning is seeking authority to install a cullet quench system (S-34) that will replace existing tube forming, conveying and crushing equipment. Production waste associated with the existing cullet crusher (S-08) will be significantly reduced by the use of the new cullet quench system. With this system, glass that is drawn from the three (3) forehearths will be fractured in water instead of being air-cooled and crushed. The quenched, fractured glass will then be dried in three natural gas-fired dryers with each dryer having heat input capacity of 1.5 million Btu per hour. Particulate matter generated by the dryers will be collected by three (3) reverse pulse jet collectors (Emission Points S34a, S34b, S34c). The dry, fractured cullet will be discharged onto an enclosed belt conveyor and then onto two (2) additional enclosed drag conveyors which are connected to existing cullet elevators. All pieces of equipment will be located inside the building. The existing cullet crusher will not be removed immediately. However, it can not be operated at the same time as the new cullet quench system.

With the existing tube conveying, cooling and crushing configuration, the production rate is limited to approximately 143 tons per day (tpd) while producing green glass. As a result of this project, the maximum hourly design rate of the several pieces of equipment (S-01 Rail Unloading, S-1A Truck Unloading, S-02 Batch Mixing, S-02A Batch Conveying, S-04 Batch Hauling, S-5A Batch Unloading and S-6A Tank 4) will have the capability to increase to 168 tpd. Since this project is removing a bottleneck for a portion of the equipment (listed in Table 2), this project is viewed as a modification and the emissions for this project are determined based on a potentials-minus-actuals test.

Table 2: Emission Points being Debottlenecked

Emission Point #	Emission Point Description
S-01	Rail Unloading
S-1A	Truck Unloading
S-02	Batch Mixing
S-02A	Batch Conveying
S-04	Batch Hauling
S-5A	Batch Unloading
S-6A	Tank 4
S-34	Cullet Dryers

EMISSIONS/CONTROLS EVALUATION

The emission factors used in this analysis for the new cullet dryers with reverse pulse jet collectors were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 11.20, *Lightweight Aggregate Manufacturing (July 1993)*, and Section 1.4, *Natural Gas Combustion (July 1998)*. All other emissions factors and control efficiencies for existing units were taken from the 2005 Emissions Inventory Questionnaire (EIQ).

Potential emissions from this project were calculated based on a potentials-minus-actuals. For the existing equipment being debottlenecked (listed in Table 2), the total potential emissions for that equipment, not just the increase, were used. The potential emissions of PM₁₀, SO_x and NO_x were determined to be above their respective de minimis levels. The potential emissions for all other pollutants and HAPs were determined to be below their respective de minimis and Screen Modeling Action Level (SMAL). Since this project includes new units as well as modifications to existing emissions units, the emissions increases of these pollutants were determined by calculating the difference between the potential emissions and the baseline actual emissions. The baseline actual emissions can be determined by using any consecutive 24-month period in the past 10 years. However, since white glass was produced prior to 2001 only the years since then were reviewed. Pittsburgh Corning has requested to use the consecutive calendar years of 2006 and 2007.

Table 3: Baseline Actual-to-Potential Evaluation

<i>Pollutant(s)</i>	<i>PM₁₀</i>	<i>SO_x</i>	<i>NO_x</i>
Potential Emissions (tons/yr)*	40.4	225.7	274.8
2005/2006 Baseline Emissions (tons/yr)**	19.9	125.5	151.7
Emissions Increase (tons/yr)	20.5	100.2	123.1
De Minimis Level (tpy)	15.0	40.0	40.0

* Emissions for equipment listed in Table 1.

**The 2005 and 2006 Emission Inventory Questionnaires (EIQs) were corrected to account for inability to enter in correct percent removal for the baghouses in the electronic EIQs.

The emissions increase for PM₁₀, SO_x and NO_x are above their respective de minimis levels as shown in Table 3. Pittsburgh Corning has requested to limit the project's emissions to pre-project green glass production levels of 143 tpd. By limiting production levels to 143 tpd, the bottleneck remains in place and the only emissions increase result from the addition of the new cullet quench system. Conditioned levels of all pollutants are below de minimis levels.

Existing actual emissions have been taken from the 2006 EIQ. The potential emissions for all new equipment plus all existing equipment affected by the debottlenecking was determined assuming continuous operation (8760 hours per year). For the equipment that was being debottlenecked, the total potential emissions, not just the increase, were used. Conditioned potential emissions are based on the emissions increase from addition of the cullet quence system. The following table provides an emissions summary for this project.

Table 4: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2006 EIQ)	Potential Emissions of the Application	Conditioned Potential Emissions
PM ₁₀	15.0	83.9	50.0	40.4	4.43
SO _x	40.0	194.3	132.5	225.7	0.01
NO _x	40.0	<250*	174.8	274.8	1.88
VOC	40.0	7.4	5.1	1.6	0.10
CO	100.0	58.6	20.7	0.1	1.58
HAPs	10.0/25.0	1.2	N/D	0.15	0.13
Carbonyl Sulfide	5	0.23	N/D	N/A	N/A
Manganese	0.8	0.51	N/D	0.15	0.13
Antimony	5	0.42	N/D	N/A	N/A

N/A = Not Applicable; N/D = Not Determined

*The installation was limited to less than 250 tons of NO_x per year in Permit No. 082001-025. The other pollutants under the Existing Potential Emissions column have not been scaled to account for the NO_x limit.

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Conditioned potential emissions of all pollutants are below de minimis levels.

APPLICABLE REQUIREMENTS

Pittsburgh Corning Corporation shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110

The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an

Emissions Inventory Questionnaire (EIQ) is required June 1 for the previous year's emissions.

- *Operating Permits*, 10 CSR 10-6.065
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170

- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-3.090

SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400
- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260
- *Maximum Allowable Emissions of Particulate Matter From Fuel Burning Equipment Used for Indirect Heating*, 10 CSR 10-3.060

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Susan Heckenkamp
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated February 12, 2008, received February 14, 2008, designating Pittsburgh Corning Corporation as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Kansas City Regional Office Site Survey, dated February 29, 2008.

Mr. Andrew Harris
Environmental Engineer
Pittsburgh Corning Corporation
2700 West 16th Street
Sedalia, MO 65301

RE: New Source Review Permit - Project Number: 2008-02-048

Dear Mr. Harris:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files.

Operation in accordance with these conditions, your new source review permit application and with your revised operating permit is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact Susan Heckenkamp, at the departments' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale
New Source Review Unit Chief

KBH:shl

Enclosures

c: Kansas City Regional Office
PAMS File: 2008-02-048

Permit Number: