

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
FIELD OPERATIONS - AIR QUALITY CONTROL

OPERATING PERMIT

In accordance with provisions of the Air Pollution Control Act, the act of January 8, 1960, P.L. 2119, as amended, and after due consideration of an application received under Chapter 127 of the rules and regulations of the Department of Environmental Protection, the Department hereby issues this permit for the operation of the air contamination source(s) described below:

|            |   |           |                           |
|------------|---|-----------|---------------------------|
| Permit No. | OP-46-0031                                  | Source(s) | Facility NO.              |
| Owner      | SmithKline Beecham Research Company         | Air       |                           |
| Address    | 1250 S. Collegeville Rd., P.O. Box 5000     | Cleaning  |                           |
|            | Collegeville, PA 19428                      | Device    |                           |
| Attention  | Dr. Eileen Hotte                            | Location  | Upper Providence Township |
|            | Manager, Occupational Safety & Env. Affairs |           | Collegeville              |
|            |   |           | Montgomery County         |

This permit is subject to the following conditions:

1. That the source(s) and any associated air cleaning devices are to be:
  - a. operated in such a manner as not to cause air pollution;
  - b. operated and maintained in a manner consistent with good operating and maintenance practices.
2. This permit is valid only for the specific equipment, location and owner named above and the equipment listed in Condition 4.

(SEE ADDITIONAL CONDITIONS ATTACHED)

Failure to comply with conditions placed on this permit is a violation of Section 127.444. Violation of this or any other provision of the rules and regulations of the Department of Environmental Protection will result in suspension of this permit and/or prosecution under Section 9 of the Air Pollution Control Act.

Issued: 10/31/1997  
Expires: 10/31/2002

*Francine Carlini*  
Francine Carlini  
Regional Manager  
Air Quality

Central Office  
File (SMC) 192-2



**OPERATING PERMIT  
PERMIT NO. OP-46-0031  
SMITHKLINE BEECHAM RESEARCH COMPANY**

REVISED (05/01/1998)

**CONDITIONS (CONTINUED):**

3. General Requirements

- (a) The expiration date shown on the Operating Permit, OP-46-0031, is for state purposes only. For Federal enforcement purposes the Operating Permit shall ~~remain in effect as part of the Pennsylvania State Implementation Plan (SIP) until repealed pursuant to 40 C.F.R. §51 and approved by the United States Environmental Protection Agency (EPA).~~ The Operating Permit shall ~~become enforceable by the EPA upon its approval of the above as a revision to the SIP.~~
- (b) This Operating Permit is being issued to SmithKline Beecham Research Company for the operation of oxides of nitrogen (NO<sub>x</sub>) emission sources ~~regulated under 25 Pa. Code §§129.91-129.95. This Operating Permit, OP-46-0031, also specifies SmithKline Research Company, Reasonably Available Control Technology (RACT) requirements for sources of NO<sub>x</sub>. Other pollutants are regulated under the applicable provisions of Title 25 of the Pennsylvania Code and by existing permit conditions which are incorporated herein.~~
- (c) The company shall not impose conditions upon or otherwise restrict the ~~Department's~~ access to the aforementioned source(s) and shall allow the ~~Department~~ to have access at any time to said source(s) with such ~~measuring and recording equipment, including equipment for recording visual observations, as the Department deems necessary and proper for performing its duties and for the effective enforcement of the Air Pollution Control Act.~~
- (d) If at any time the Department has cause to believe that air contaminant ~~emissions from the aforementioned source may be in excess of the limitations specified in, or established pursuant to, any applicable rule or regulation contained in Article III of the Rules and Regulations of the Department of Environmental Protection, the Company shall be required to conduct whatever tests are deemed necessary by the Department to determine the actual emission rate(s). Such testing shall be conducted in accordance with the provisions of Chapter 139 of the Rules and Regulations of the Department of Environmental Protection, where applicable, and in accordance with any restrictions or limitations established by the Department at such time as it notifies the Company that testing is required.~~

4. Facility Inventory

This Operating Permit covers the following sources located at SmithKline Beecham Research Company, Collegeville, Upper Providence Township, Montgomery County.

**OPERATING PERMIT  
PERMIT NO. OP-46-0031  
SMITHKLINE BEECHAM RESEARCH COMPANY**

REVISED (05/01/1998)

**CONDITIONS (CONTINUED):**

| <u>Emission Sources</u>     | <u>Rated Capacity</u>        | <u>Fuel Used<sup>1</sup></u> | <u>Model No.</u> |
|-----------------------------|------------------------------|------------------------------|------------------|
| 3 Cleaver Brooks Boilers    | 56.8 MMBtu/hr                | NG/No. 2 FO                  | D-76             |
| 1 Cleaver Brooks Boiler     | 31.4 MMBtu/hr                | NG/No. 2 FO                  | CB-200-750-150ST |
| 6 Caterpillar Electric Gen. | 18.904 MMBTU/hr <sup>2</sup> | No. 2 FO                     | 3516 DITA        |
| Emergency Firewater Pump    | 1.28 MMBTU/hr                | Diesel Fuel                  |                  |

<sup>1</sup>NG = Natural Gas and FO = Fuel Oil

<sup>2</sup>18.904 MM Btu/hr = 2847 hp

**5. RACT Implementation**

- (a) RACT for the sources listed in Condition (4) as the three (3) Cleaver Brooks boilers rated at 56.8 MMBtu/hr and one (1) Cleaver Brooks boiler rated at 31.4 MMBtu/hr shall be an annual tune-up on the combustion process. The annual tune-up of the combustion process shall consist of but not be limited to the following.
- (i) Inspection, adjustment, cleaning or replacement of fuel burning equipment, including the burners and moving parts necessary for proper operation as specified by the manufacturer.
  - (ii) Inspection of the flame pattern or characteristics and adjustments necessary to minimize total emissions of NO<sub>x</sub>, and, to the extent practicable, minimize the emissions of CO.
  - (iii) Inspection of the air-to-fuel ratio control system and adjustments necessary to ensure proper calibration and operation as specified by the manufacturer.
  - (iv) Each adjustment conducted under the procedures in Condition (5)(a) shall be recorded in a permanently bound log book.
    - (A) The date of the tuning procedure.
    - (B) The name of the service company and technicians
    - (C) The final operating rate or load.
    - (D) The final CO and NO<sub>x</sub> emission rates.



**OPERATING PERMIT**  
**PERMIT NO. OP-46-0031**  
**SMITHKLINE BEECHAM RESEARCH COMPANY**  
REVISED (05/01/1998)

**CONDITIONS (CONTINUED):**

- (E) The final excess oxygen rate.
- (v) The annual adjustment shall be made in accordance with the EPA document "Combustion Efficiency Optimization Manual for Operators of Oil and Gas-fired Boilers," September 1983 (EPA-340/1-83-023) or equivalent procedures approved in writing by the Department.
- (vi) The company shall maintain records which include a certification from the fuel supplier of the type of the fuel and for each shipment of No. 2 fuel oil and certification that the fuel complies with ASTM D396-78 "Standard Specifications for Fuels Oils".
- (b) RACT for the sources listed in Condition (4) as the Caterpillar Emergency Generators and the Emergency Firewater Pump shall be the installation, maintenance, and operation of the sources in accordance with manufacturers specifications (25 Pa. Code §129.93(c)).

6. Emission Limitations

- (a) The following air contaminant emissions limits are approved for each of the three (3) Cleaver Brooks boilers (Model No. D-76). The Department reserves the right to establish and impose more stringent limitations based on test results from stack testing.
  - (i) For each of the three (3) Cleaver Brooks boilers (Model No. D-76), the emissions of oxides of nitrogen ( $\text{NO}_x$ ) shall be limited to 5.7 lbs/hr, when firing natural gas.
  - (ii) For each of the three (3) Cleaver Brooks boilers (Model No. D-76), the emissions of oxides of nitrogen ( $\text{NO}_x$ ) shall be limited to 10.2 lbs/hr, when firing No. 2 fuel oil.
  - (iii) For each of the three (3) Cleaver Brooks boilers (Model No. D-76), the emissions of volatile organic compounds (VOCs) shall be limited to 0.68 lbs/hr, when firing natural gas.
  - (iv) For each of the three (3) Cleaver Brooks boilers (Model No. D-76), the emissions of volatile organic compounds (VOCs) shall be limited to 1.1 lbs/hr, when firing No. 2 fuel oil.

**OPERATING PERMIT  
PERMIT NO. OP-46-0031  
SMITHKLINE BEECHAM RESEARCH COMPANY**

REVISED (05/01/1998)

**CONDITIONS (CONTINUED):**

- (b) The following air contaminant emissions limits are approved for the Cleaver Brooks boiler (Model No. CB-200-750-150 ST). The Department reserves the right to establish and impose more stringent limitations based on test results from stack testing.
  - (i) For the Cleaver Brooks boiler (Model No. CB-200-750-150 ST), the emissions of volatile oxides of nitrogen ( $\text{NO}_x$ ) shall be limited to 3.1 lbs/hr, when firing natural gas.
  - (ii) For the Cleaver Brooks boiler (Model No. CB-200-750-150 ST), the emissions of oxides of nitrogen ( $\text{NO}_x$ ) shall be limited to 5.7 lbs/hr, when firing No. 2 fuel oil.
  - (iii) For the Cleaver Brooks boiler (Model No. CB-200-750-150 ST), the emissions of volatile organic compounds (VOCs) shall be limited to 0.38 lbs/hr, when firing natural gas.
  - (iv) For the Cleaver Brooks boiler (Model No. CB-200-750-150 ST), the emissions of volatile organic compounds (VOCs) shall be limited to 0.63 lbs/hr, when firing No. 2 fuel oil.
- (c) The following air contaminant emissions limits are approved for each of the six (6) Caterpillar Emergency Generators (Model No. 3516 DITA). The Department reserves the right to establish and impose more stringent limitations based on test results from stack testing.
  - (i) For each of the six (6) Caterpillar Emergency Generators, the emissions of oxides of nitrogen ( $\text{NO}_x$ ) shall be limited to 0.521 lbs/gal. when firing No. 2 fuel oil.
  - (ii) For each of the six (6) Caterpillar Emergency Generators, the emissions of volatile organic compounds (VOC) shall be limited to 0.0044 lbs/gal when firing No. 2 fuel oil.

OPERATING PERMIT  
PERMIT NO. OP-46-0031  
SMITHKLINE BEECHAM RESEARCH COMPANY

REVISED (05/01/1998)

**CONDITIONS (CONTINUED):**

7. Hours of Operation

- (a) The four (4) boilers listed in Condition (4) shall not be limited in their hours of operation.
- (b) The six (6) Caterpillar Electric Generators shall be limited in their combined hours of operation to 3900 hours per year.
- (c) The Emergency Firewater Pump shall be limited to 500 hours in a 12 month rolling period.

8. Recordkeeping Requirements

A bound logbook for each source listed in Condition (4) will be kept and sufficient data recorded so that compliance with Conditions (5) through (7) can be determined. Records shall be kept for a minimum of two (2) years and shall be made available to the Department upon request.

- (a) The Company shall record the number of hours the 6 Caterpillar Electric Generators and the Emergency Firewater Pump have operated in a calendar year. The Company shall also record the amount of fuel used in a calendar year as well as the date, duration, and the reason why the Caterpillar Electric Generator(s) and the Emergency Firewater Pump have operated.
- (b) The Company shall keep a copy of the operation and maintenance manuals for the 6 Caterpillar Electric Generators, the Emergency Firewater Pump, and the Cleaver Brooks Boilers, Model No. CB-200-750-1505T.
- (c) The Company shall keep a copy of the annual tune up results of the three Cleaver Brooks Boilers rated at 56.8 MMBTU/W, shall be kept.

(SMC96)192-1