

**COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF AIR QUALITY**

**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.:	<u>OP-14-0006</u>	Source &	<u>seven powerhouse boilers and</u>
Owner:	<u>The Pennsylvania State University</u>	Air	<u>associated sources, as</u>
Address:	<u>Physical Plant Building</u>	Cleaning	<u>described by conditions 3,</u>
	<u>University Park, PA 16802</u>	Device:	<u>20 and 21 herein</u>
Attn:	<u>Robert E. Cooper, P.E.</u>		
	<u>Manager, Engineering Services</u>	Location:	<u>College Township</u>
	<u>Operations Division</u>		<u>Centre County</u>

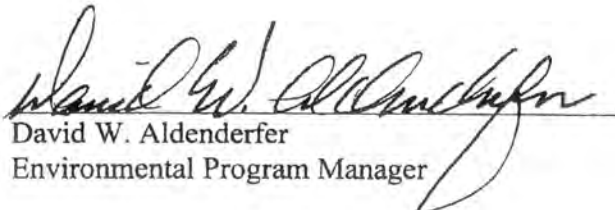
This permit is subject to the following conditions:

1. That the source(s) and any associated air cleaning device(s) are to be:
  - a. operated in such a manner as not to cause air pollution;
  - b. in compliance with the specifications and conditions of the applicable plan approval(s) issued;
  - c. 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.

See attached for additional conditions.

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

Issued: **DEC 30 1998**

  
David W. Aldenderfer  
Environmental Program Manager

cc: Harrisburg  
Hawk Run  
File

## **PERMIT CONDITIONS**

**PERMIT NO.: OP-14-0006**

**COMPANY: The Pennsylvania State University**

3. This operating permit incorporates Reasonably Available Control Technology (RACT) determinations as required by the provisions of Title I of the Clean Air Act Amendments and 25 Pa. Code Sections 129.91 through 129.95 for the following sources:
- a) three 143 million Btu/hr (each) Wickes vibragrate stoker bituminous coal-fired boilers with natural gas and #2 fuel oil firing/cofiring capability, designated WCSP boilers #1, #2 and #8
  - b) a 155 million Btu/hr Erie City Iron Works vibragrate stoker bituminous coal-fired boiler with natural gas and #2 fuel oil firing/cofiring capability, designated WCSP boiler #6
  - c) a 67.5 million Btu/hr Babcock & Wilcox natural gas/#2 fuel oil-fired boiler, designated WCSP boiler #5
  - d) two 130 million Btu/hr (each) E. Keeler natural gas/#2 fuel oil-fired boilers, designated ECSP boilers #1 and #2
  - e) an 18.5 million Btu/hr E. Keeler model DS-15 research boiler fired on natural gas, coal/water slurry and micronized coal (identified as an "outlying boiler" in Appendix A of the University's March 31, 1995 RACT proposal)
  - f) forty-three small combustion units (each less than 15 million Btu/hr), identified as "outlying boilers" in Appendix A of the University's March 31, 1995 RACT proposal
  - g) thirty-four emergency electric generators, identified as "generators" in Appendix A of the University's March 31, 1995 RACT proposal
  - h) six space heaters (less than 2 million Btu/hr each), identified as "unit heaters" in Appendix A of the University's March 31, 1995 RACT proposal
5. Pursuant to the RACT provisions of Sections 129.91 through 129.95 of Chapter 129 of Article III of the Rules and Regulations of the Department of Environmental Protection, the University shall perform annual tune-ups on WCSP boilers #1, #2, #5, #6 and #8 and ECSP boilers #1 and #2 to minimize the units' nitrogen oxides emissions. These tune-ups shall incorporate, at a minimum, the elements identified in paragraphs (i) through (iii) of Section 129.93(b)(2) of Chapter 129 of Article III of the

**PERMIT CONDITIONS**  
**PERMIT NO.: OP-14-0006**  
**COMPANY: The Pennsylvania State University**

Rules and Regulations of the Department of Environmental Protection. These tune-ups shall be performed within the 90 day period preceding the dates upon which the annual compliance testing required by conditions 11 through 13 herein is performed. The University shall maintain documentation which demonstrates that these tune-ups are being performed.

6. Pursuant to the RACT provisions of Sections 129.91 through 129.95 of Chapter 129 of Article III of the Rules and Regulations of the Department of Environmental Protection, WCSP boilers #1, #2, #6 and #8 shall not at any time, in aggregate, emit nitrogen oxides ( $\text{NO}_x$ , expressed as  $\text{NO}_2$ ) at a rate in excess of 0.55 pounds per million Btu of heat input.
7. Pursuant to the RACT provisions of Sections 129.91 through 129.95 of Chapter 129 of Article III of the Rules and Regulations of the Department of Environmental Protection, WCSP boiler #5 shall not at any time emit nitrogen oxides (expressed as  $\text{NO}_2$ ) at a rate in excess of 0.15 pounds per million Btu of heat input.
8. Pursuant to the RACT provisions of Sections 129.91 through 129.95 of Chapter 129 of Article III of the Rules and Regulations of the Department of Environmental Protection, ECSP boilers #1 and #2 shall not at any time individually emit nitrogen oxides (expressed as  $\text{NO}_2$ ) at a rate in excess of 0.20 pounds per million Btu of heat input. Additionally, these two boilers shall not (individually) emit nitrogen oxides at a rate in excess of 107.5 tons in any 12 consecutive month period.
9. Pursuant to the requirements of Section 129.93 of Chapter 129 of Article III of the Rules and Regulations of the Department of Environmental Protection, the E. Keeler DS-15 research boiler, small combustion units, space heaters and emergency electric generators identified in condition 3 herein shall be maintained and operated in accordance with manufacturers' specifications and in accordance with good air pollution control practices. Additionally, none of the emergency electric generators shall be operated 500 hours or more in any 12 consecutive month period.
10. The University shall maintain accurate comprehensive records of the quantity of each fuel fired in the WCSP and ECSP boilers. These records shall be maintained separately for each boiler, and shall show fuel usage figures on a monthly (or shorter term) basis.
11. The University shall perform nitrogen oxides testing upon the combined exhaust of WCSP boilers #1, #2, #6 and #8 on an annual basis, with the first test to be completed by March 31, 1998, and subsequent tests to be completed by no earlier than January 1 of each calendar year and no later than February 28.
12. The University shall perform nitrogen oxides testing upon each of ECSP boilers #1 and #2 by March 31, 1998, and again between October 1, 2001 and March 31, 2002.
13. The University shall perform nitrogen oxides testing upon WCSP boiler #5 by March 31, 1998.

## **PERMIT CONDITIONS**

**PERMIT NO.:** OP-14-0006

**COMPANY:** The Pennsylvania State University

14. All testing required by conditions 11-13 above shall be performed using test methods and procedures approved in advance by the Department, and shall be performed while the boilers are operating at or near their rated (or allowable) capacity. During all testing, the University shall monitor and record the steam production and fuel usage rates of each boiler being tested.
15. At least 45 days before the performance of any testing required herein, the University shall submit three copies of a pretest protocol to the Department for review. The protocol shall describe the proposed test methods, procedures and equipment, and shall contain a dimensioned sketch of the boiler's exhaust showing the location of the sampling ports to be used.
16. The University shall provide the Department with at least 10 days advance notice of the actual date(s) and time(s) when any testing required herein will be performed, so that Department personnel may arrange to be present during testing.
17. Within 60 days following the performance of any testing required herein, the University shall submit two copies of a test report to the Department. The test report shall contain the results of all testing, descriptions of the test methods and procedures actually used in the performance of testing, and copies of all boiler steam production and fuel usage data recorded during testing.