

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

DEC 29 1994

DER-AIR QUALITY CONTROL
DIV. OF PERMITS

PLAN APPROVAL

Application No.	<u>PA-23-0017</u>	Source(s)	<u>2 Boilers Units No. 1 & 2</u>
Owner	<u>PECO Energy Company</u>	Air	<u>32 Low NO_x Burners for each Unit</u>
Address	<u>2301 Market Street</u>	Cleaning	<u>8 Overfire Air Ports/Unit</u>
	<u>P.O. Box 8699, Phila., PA 19101</u>	Device	<u>8 Close Coupled Overfire Air/Unit</u>
Attention	<u>Mr. G.M. Morley, Jr.</u>	Location	<u>Eddystone Generating Station</u>
	<u>Director, Environmental Affairs</u>		<u>No. 1 Industrial Highway</u>
			<u>Eddystone Borough, Delaware Co.</u>

In accordance with provisions of the Air Pollution Control Act, the Act of January 8, 1960, P.L. 2119, as amended, and with Chapter 127 of the rules and regulations of the Department of Environmental Resources, the Department on December 28, 1994 approved plans for the installation of air cleaning devices on the above indicated air contamination source(s).

PLAN APPROVAL expires July 31, 1995.

The plan approved is subject to the following conditions:

1. The air cleaning devices are to be installed in accordance with the plans submitted with the application (as approved herein).

(SEE THE ATTACHED ADDITIONAL CONDITIONS)

Notify the person noted below when the installation is completed so that the source(s) can be inspected for issuance of an OPERATING PERMIT.

NOTE:

Field Operations - Air Quality Control
Lee Park, Suite 6010
555 North Lane
Conshohocken, PA 19428
(610) 832-6242


JOSEPH A. FEOLA
Air Pollution Control Manager

cc: Division of Permits, MSSOB
Assistant Director
Southeast Regional Office

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Conditions (continued):

2. The Plan Approval No. PA-23-0017 is issued to PECO Energy Company (PECO) for the installation of the pollution control equipment on the nitrogen oxides (NO_x) emission sources at Eddystone Generating Station, located at No. 1 Industrial Highway, Eddystone Borough, Delaware County.
3. The purpose of this Plan Approval is to establish Nitrogen Oxides (NO_x)/Volatile Organic Compound (VOC) Reasonably Available Control Technology (RACT) for PECO's Eddystone Generating Station. This includes the following emission sources and control equipment:

A. Emission Sources

- (1) Tangentially fired (T-fired) Combustion Engineering Coal burning units No. 1 and No. 2 with rated heat input of 2704 MM BTU/HR and 2808 MM BTU/HR respectively. Each steam power generating boiler consists of two (2) similar dry bottom type furnaces.
- (2) Package type Combustion Engineering auxiliary boilers A, B and C with rated heat input of 124 MM BTU/hr per unit. Each auxiliary boiler contains a single burner and burns natural gas as a primary fuel and No. 2 oil as a back-up fuel.

B. Control Equipment

- (1) Low NO_x burner (LNB) system with close coupled and separated overfire air to control NO_x emissions from units No. 1 and No. 2.
- (2) Low NO_x burners to control NO_x emissions from auxiliary boilers A, B and C.

4. This Plan Approval authorizes:

- A. The installation of the following pollution control equipment on each of the Eddystone units No. 1 and No. 2 to comply with presumptive RACT requirements of 25 PA Code §129.93(b) (1):
 - (1) International Combustion Limited (ICL) Low- NO_x Concentric Firing System III which comprises thirty two (32) Low NO_x burners.
 - (2) Overfire Air Supply System Utilizes Close Coupled Overfire Air (CCOFA) and Separated Overfire Air (SOFA). The system will include a total of eight (8) CCOFA injection assemblies, one per corner, and eight (8) SOFA ports, one per corner, located 6'8" above burner top.
- B. The installation of the LNB Technology on each of the Auxiliary boilers A, B and C. An existing burner on each of three (3) boilers shall be

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replaced with Low NO_x burner including new spuds (rings), Low NO_x oil gun and baffle plates for air flow straightening.

5. This Plan Approval supersedes all Plan Approvals previously issued under No. 23-306-014A, 23-306-015A and No. 23-302-047.

6. Stack Emission Limitations

- A. The maximum air contaminant emissions from these sources, controlled by the equipment above shall be limited at stack outlet to:

(1) Nitrogen Oxides (NO_x):

Unit No. 1: 0.45 pounds or less per million BTU of heat input on a 30 day rolling average. The standard of 0.45 Lb/MM BTU is the EPA Title I Guidance Limit for T-fired coal unit, based on 30-day rolling average.

Unit No. 2: 0.45 pounds or less per million BTU of heat input on a 30 day rolling average. The standard of 0.45 Lb/MM BTU is the EPA Title I Guidance Limit of T-fired coal unit, based on a 30-day rolling average.

Auxiliary Boilers: 0.14 pounds or less per million BTU of heat input while burning a primary fuel.

(2) Volatile Organic Compounds (VOCs):

Unit No. 1: 0.003 Lb/MM BTU, 32 tons/year whichever is more stringent

Unit No. 2: 0.003 Lb/MM BTU, 42 tons/year whichever is more stringent. Final VOC emission limits shall be established for each unit based on the results of the emission tests to be conducted in accordance with condition 8A.

- B. The Department may establish more restrictive RACT emission limits including daily average after installation of the above controls based on the following:

- (1) The final NO_x RACT limits shall be established for each Eddystone Unit through the use of Department approved Continuous Emission Monitoring System (CEMS) and for auxiliary boilers through source periodic stack testing.
- (2) A load weighting factor.
- (3) An averaging period shall be established by the Department for emission limit calculations.

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7. RACT Implementation Schedule

- A. Upon issuance of this Plan Approval, PECO shall begin immediate implementation of the measures necessary to comply with the approved RACT proposal.
- B. PECO shall start installation of NO_x controls on Unit No. 2 by February 25, 1995 and shall start installation on Unit NO. 1 by April 24, 1995.
- C. Implementation of the approved NO_x control technology for unit No. 2 shall be completed no later than May 31, 1995 and for unit No. 1 no later than July 25, 1995. The implementation schedule contained herein is contingent upon execution and approval of a Consent Decree between PECO and the Department.
- D. PECO shall complete installation of LNB Technology on auxiliary boilers no later than May 31, 1995 to comply with RACT requirements of 25 PA Code §129.91(f).
- E. With thirty (30) days after restarting the boiler PECO must conduct performance testing of the NO_x emission control system to optimize the control efficiency of the system.

8. Testing Requirements

- A. PECO must perform VOC Emission tests on the units No. 1 and No. 2 and NO_x emission tests on the auxiliary boilers in accordance with the provisions of Chapter 139 to demonstrate compliance with RACT emission limit requirements. The tests shall be performed within 60 days of each unit restart while unit No. 1 and No. 2 are operating at a load of not less than 95% of the maximum rated gross electrical capacity and each auxiliary boiler is operating at a load not less than 95% of maximum rated steaming capacity.
- B. At least sixty (60) days prior to the test, the company shall submit to the Department for approval the procedures for the test and a sketch with dimensions indicating the location of sampling ports and other data to ensure the collection of representative samples.
- C. At least thirty (30) days prior to the test, the Regional Air Pollution Control Engineer shall be informed of the date and time of the test.
- D. Within thirty (30) days after the source test(s), two copies of the complete test report, including all operating conditions, shall be submitted to the Regional Air Pollution Control Engineer for approval.

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- E. The PECO shall, upon Department request, provide fuel analyses, or fuel samples, of the fuel used in the aforementioned boiler(s).

9. Continuous Monitoring Requirements

- A. Department Certified Continuous Emission Monitoring System (CEMS) shall be installed on Eddystone units No. 1 and No. 2 to provide Monitoring for SO₂, CO₂, NO_x and opacity.
- B. Each CEMS shall be installed, operated and maintained in accordance with the Department's "Continuous Source Monitoring Manual", Revision No.5.
- C. Each Units CEMS shall contain a NO_x analyzer. The analyzer in conjunction with Department-approved KVB Data Acquisition System, shall quantify emissions in pounds NO_x per million BTU of heat input and to demonstrate compliance with condition 6.A.(1).
- D. Each CEMS shall be performance tested to demonstrate acceptability in accordance with Department's "Continuous Source Monitoring Manual".
- E. The Department requires submission of the Phase I application to the Southeast Regional Office as specified in the Department's "Continuous Source Monitoring Manual" at least (180) days prior to the restart of the boiler.
- F. Phase II performance testing must be completed within 180 days of the Department's approval of the phase I application.
- G. Phase III Department approval must be obtained within sixty (60) days of achieving 95% of the maximum rated gross electrical capacity.
- H. The new CEMS shall be in service by January 1, 1995.

10. Recordkeeping and Reporting Requirements

- A. The permittee shall maintain a file containing all the records and other data that are required to be collected to demonstrate compliance with NO_x/VOC RACT requirements of 25 PA Code §§129.91-129.94.
- B. The records shall provide sufficient data and calculations to clearly demonstrate that the requirements of §§129.91-129.94 are met.
- C. Data required to determine compliance shall be recorded and maintained in a time frame consistent with the averaging period of the requirement.

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- D. Records shall be retained for at least two years and shall be made available to the Department on request.

11. Malfunctions

The company, within one hour of occurrence, shall notify the Department, at (610) 832-6242, of any malfunction of the source(s) or associated air emission of air contaminants 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 Resources. A written report shall be submitted to the Department within two working days following the incident describing the malfunctions and corrective actions taken. For those air contaminants monitored by a Department certified CEMS for which the Department's Enforcement Policy - Continuous Emission Monitoring System (CEMS) and Coal Sampling/Analysis Systems (CSAS) established penalties for excess emissions the aforementioned notification and Reporting Requirements will be waived.

12. The operation of the aforementioned boiler(s) shall not at any time result in the emission of visible air contaminants in excess of the limitations specified in Section 123.41, particulate matter in excess of the limitations specified in Section 123.11 or sulfur oxides in excess of the limitations specified in Section 123.22, all Sections of Chapter 123 of Article III of the Rules and Regulations of the Department of Environmental Resources, or in the emission of any of these or any other type of air contaminant in excess of the limitations specified in, or established pursuant to, any other applicable rule or regulation contained in Article III.
13. The company shall not impose conditions upon or otherwise restrict the Department's access to the aforementioned source(s) and/or any associated air cleaning device(s) and shall allow the Department to have access at any time to said source(s) and associated air cleaning device(s) with such measuring and recording equipment, including equipment 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.

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14. The expiration date shown on the Plan Approval is for state purposes. For Federal enforcement purposes the Plan Approval shall remain in effect as part of the State Implementation Plan until replaced pursuant to 40 CFR 51 and approved by the U.S. Environmental Protection Agency.
15. Revisions to any emission limitations incorporated in this Plan Approval will require re submission as revision to the PA State Implementation Plan. The applicant shall bear the cost of public hearing and notification required for EPA approval as stipulated in 25 PA Code §129.9(h).

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