



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL
STARK COUNTY**

CERTIFIED MAIL

Street Address:

122 S. Front Street

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:

Lazarus Gov. Center
P.O. Box 1049

Application No: 15-01044

Fac ID: 1576010601

DATE: 9/16/2004

The Babcock and Wilcox Company
Lindsey Schueller
1562 Beeson St.
Alliance, OH 44601

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

You are hereby notified that this action by the Director is final and may be appealed to the Ohio Environmental Review Appeals Commission pursuant to Chapter 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed within thirty (30) days after the notice of the Directors action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Commission. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
309 South Fourth Street, Room 222
Columbus, Ohio 43215

Sincerely,

Michael W. Ahern, Manager
Permit Issuance and Data Management Section
Division of Air Pollution Control

cc: USEPA

Canton LAA



**Permit To Install
Terms and Conditions**

**Issue Date: 9/16/2004
Effective Date: 9/16/2004**

FINAL PERMIT TO INSTALL 15-01044

Application Number: 15-01044
Facility ID: 1576010601
Permit Fee: **\$0**
Name of Facility: The Babcock and Wilcox Company
Person to Contact: Lindsey Schueller
Address: 1562 Beeson St.
Alliance, OH 44601

Location of proposed air contaminant source(s) [emissions unit(s)]:
**1562 Beeson St.
Alliance, Ohio, Ohio**

Description of proposed emissions unit(s):
Modification to PTI 15-01044 to administratively amend terms and conditions.

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the above described emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Director

Part I - GENERAL TERMS AND CONDITIONS

A. State and Federally Enforceable Permit To Install General Terms and Conditions

1. Monitoring and Related Recordkeeping and Reporting Requirements

- a. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall maintain records that include the following, where applicable, for any required monitoring under this permit:
 - i. The date, place (as defined in the permit), 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.
 - vi. The operating conditions existing at the time of sampling or measurement.
- b. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. Such records may be maintained in computerized form.
- c. Except as may otherwise be provided in the terms and conditions for a specific emissions unit, the permittee shall submit required reports in the following manner:
 - i. Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
 - ii. Quarterly written reports of (i) any deviations from federally enforceable emission limitations, operational restrictions, and control device operating parameter limitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the appropriate Ohio EPA District Office or local air agency. The written reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous

calendar quarters. See B.9 below if no deviations occurred during the quarter.

- iii. Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted to the appropriate Ohio EPA District Office or local air agency every six months, i.e., by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
- iv. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

2. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction.) The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06.

Except as provided in that rule, any scheduled maintenance or malfunction necessitating the shutdown or bypassing of any air pollution control system(s) shall be accompanied by the shutdown of the emission unit(s) that is (are) served by such control system(s).

3. Risk Management Plans

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Clean Air Act, as amended, 42 U.S.C. 7401 et seq. ("Act"), the permittee shall comply with the requirement to register such a plan.

4. Title IV Provisions

If the permittee is subject to the requirements of 40 CFR Part 72 concerning acid rain, the permittee shall ensure that any affected emissions unit complies with those requirements. Emissions exceeding any allowances that are lawfully held under Title IV of the Act, or any regulations adopted thereunder, are prohibited.

5. Severability Clause

A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition

declared invalid.

6. General Requirements

- a. The permittee must comply with all terms and conditions of this permit. Any noncompliance with the federally enforceable terms and conditions of this permit constitutes a violation of the Act, and is grounds for enforcement action or for permit revocation, revocation and reissuance, or modification, or for denial of a permit renewal application.
- b. 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 federally enforceable terms and conditions of this permit.
- c. This permit may be modified, reopened, revoked, or revoked and reissued, for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or of a notification of planned changes or anticipated noncompliance does not stay any term and condition of this permit.
- d. This permit does not convey any property rights of any sort, or any exclusive privilege.
- e. The permittee shall furnish to the Director of the Ohio EPA, or an authorized representative of the Director, upon receipt of a written request and within a reasonable time, any information that may be requested to determine whether cause exists for modifying, reopening or revoking this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Director or an authorized representative of the Director, copies of records required to be kept by this permit. For information claimed to be confidential in the submittal to the Director, if the Administrator of the U.S. EPA requests such information, the permittee may furnish such records directly to the Administrator along with a claim of confidentiality.

7. Fees

The permittee shall pay fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable Permit To Install fees within 30 days after the issuance of this Permit To Install.

8. Federal and State Enforceability

Only those terms and conditions designated in this permit as federally enforceable, that are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA, the State, and citizens under the Act. All other terms and conditions of this permit shall not be federally enforceable and shall be enforceable under State law only.

9. Compliance Requirements

- a. Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a responsible official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.
- b. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
 - i. At reasonable times, enter upon the permittee's premises where a source is located or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
 - ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
 - iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
 - iv. As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.
- c. The permittee shall submit progress reports to the appropriate Ohio EPA District Office or local air agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually, or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
 - i. Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
 - ii. An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

10. Permit To Operate Application

- a. If the permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77, the permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if the proposed new or modified source(s) would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification must be obtained before the operation of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d).
- b. If the permittee is required to apply for permit(s) pursuant to OAC Chapter 3745-35, the source(s) identified in this Permit To Install is (are) permitted to operate for a period of up to one year from the date the source(s) commenced operation. Permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the source(s) covered by this permit.

11. Best Available Technology

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

12. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

B. State Only Enforceable Permit To Install General Terms and Conditions

1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

2. Reporting Requirements

The permittee shall submit required reports in the following manner:

- a. Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
- b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

3. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

4. Termination of Permit To Install

This permit to install shall terminate within eighteen months of the effective date of the permit to install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete

within a reasonable time a continuing program of installation or modification. This deadline may be extended by up to 12 months if application is made to the Director within a reasonable time before the termination date and the party shows good cause for any such extension.

5. Construction of New Sources(s)

The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. The action of beginning and/or completing construction prior to obtaining the Director's approval constitutes a violation of OAC rule 3745-31-02. Furthermore, issuance of the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install is not to be construed as a waiver of any rights that the Ohio Environmental Protection Agency (or other persons) may have against the applicant for starting construction prior to the effective date of the permit. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed facilities cannot meet the requirements of this permit or cannot meet applicable standards.

6. Public Disclosure

The facility is hereby notified that this permit, and all agency records concerning the operation of this permitted source, are subject to public disclosure in accordance with OAC rule 3745-49-03.

7. Applicability

This Permit to Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate application must be made to the Director for the installation or modification of any other emissions unit(s).

8. Construction Compliance Certification

The Babcock and Wilcox Company
PTI Application: 15-01044
Issued: 9/16/2004

Facility ID: 1576010601

If applicable, the applicant shall provide Ohio EPA with a written certification (see enclosed form if applicable) that the facility has been constructed in accordance with the Permit To Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

9. **Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations (See Section A of This Permit)**

If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

C. **Permit To Install Summary of Allowable Emissions**

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

SUMMARY (for informational purposes only)
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons Per Year</u>
PM	26.3
SO ₂	99.6
NO _x	99.6
CO	5.5
VOC	0.5

The Babcock and Wilcox Company
PTI Application: 15-01044
Issued: 9/16/2004

Facility ID: 1576010601

Part II - FACILITY SPECIFIC TERMS AND CONDITIONS

A. State and Federally Enforceable Permit To Install Facility Specific Terms and Conditions

None

B. State Only Enforceable Permit To Install Facility Specific Terms and Conditions

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	
B010-100 MMBTU/hr fossil fuel fired Research and Development (R&D) Boiler, named the "Clean Environment Development Facility" (CEDF) Furnace	NSPS Subpart Dc, 40 CFR part 60	OAC rule 3745-17-10(C)(1)
	OAC rule 3745-31-05(A)(3)	
		OAC rule 3745-31-05(C)

OAC rule 3745-17-07(A)(1)

**The B
PTI A
Issued: 9/16/2004**

Applicable Emissions
Limitations/Control
Measures

below.

See Section A.I.2.d.

NO_x emissions shall not exceed 140 pounds/hr; and 0.7 pound/MMBTU as a daily 24-hour average.

SO₂ emissions shall not exceed 240 pounds/hr; and 1.2 pounds/MMBTU as a daily 24-hour average

VOC emissions shall not exceed 1.3 pounds/hr.

CO emissions shall not exceed 15 pounds/hr.

PM emissions shall not exceed 6.0 pounds/hr.

(See section A.I.2.b)

Visible particulate emissions shall not exceed 20 % opacity as a six minute average except as provided by rule.

The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
See Sections A.I.2.a and b

2. Additional Terms and Conditions

- 2.a** The total SO₂ emissions from the entire facility, including emission units B009, B010, P002, P003, P009, and T003 shall be calculated each day and shall be less than 100 tons, as a rolling 365-day average.

The total NO_x emissions from the entire facility, including emission units B009, B010, P002, P003, P009, and T003 shall be calculated each day and shall be less than 100 tons, as a rolling 365-day average.

- 2.b** The emissions recorded by the continuous NO_x and SO₂ monitors shall be used to document: (a) the daily average pounds of NO_x and SO₂ per million BTU; (b) the total pounds of NO_x and SO₂ per day; and (c) the daily rolling 365-day emissions of NO_x and SO₂ from the CEDF furnace.

The SO₂ and NO_x emissions from all emission units located at The Babcock and Wilcox research facility, other than the CEDF furnace, B010, including emission units B009, P002, P003, P009, and T003, shall be calculated based on the actual fuel consumption in each unit and the applicable AP-42 emission factors, as defined in their respective permits.

- 2.c** The emissions limit of 240 pounds SO₂/hr corresponds to two times the average emission rate of 1.2 pounds SO₂/MMBTU; and the emission limit of 140 pounds NO_x/hr corresponds to two times the average emission rate of 0.7 pounds NO_x/MMBTU. In lieu of these hourly short term limits, the 24-hour average emissions from the CEDF furnace in any day shall not exceed 1.2 pounds SO₂/MMBTU and 0.7 pounds NO_x/MMBTU.
- 2.d** In accordance with 40 CFR Part 60.40c(c), this emission unit shall not be subject to the sulfur dioxide or particulate matter performance testing or monitoring and record keeping requirements of sections 60.44c, 60.45c, 60.46c, or 60.47c of 40 CFR Part 60, Subpart Dc during periods of combustion research as defined in 40 CFR part 60.41c.

II. Operational Restrictions

1. The permittee shall operate this emission unit as a combustion research unit as defined in 40 CFR Part 60.41c(c) at all times.
2. The permittee shall only burn coal, oil (residual or distillate), and/or natural gas in this emissions unit. The permittee shall obtain written approval from the Canton Local Air Agency (Canton LAA) or the Ohio EPA Central Office before burning any other fuel. A written request to burn an alternative fuel, not mentions above, shall be submitted to the Canton LAA at least 60 days prior

Emissions Unit ID: B010

to the anticipated new fuel use. The request shall be accompanied by a detailed plan for burning these materials. Elements of this plan may be modified or additional requirements may be added by the Canton LAA or Ohio EPA Central Office at the time of the request.

3. This emissions unit shall always be vented to the baghouse except when burning natural gas.
4. This emissions unit shall always be vented through the dry scrubber, except: (a) when burning natural gas during startup operations, (b) when burning low sulfur fuels, as demonstrated by the SO₂ continuous emissions monitoring equipment or (c) when testing other SO₂ control equipment.
5. The flue gas from the Small Boiler Simulator (SBS), B009, shall be exhausted through the CEDF furnace stack during all period of time in which both the CEDF furnace and the SBS are operating at the same time. The stack servicing the CEDF furnace and SBS shall be maintained at a minimum of 200 feet in height.
6. This emissions unit shall employ low NO_x burners at all time when the emission unit is in operation.
7. The source shall be allowed to consume up to the full U.S. EPA PSD emissions increment of SO₂ and NO_x for short duration tests provided, the permittee obtains written approval from the Canton LAA or Ohio EPA Central Office at least 30 days prior to conducting the tests.
8. Substitution of burners in this emission unit shall be permitted for research and development purposes, so long as the burner is manufactured for the fuel tested and/or the burner does not result in excess emissions, as monitored by the continuous emissions monitors.
9. The permittee shall maintain, calibrate, and operate the existing continuous opacity monitor, and continuous SO₂ and NO_x monitors, installed on this emissions unit, as suggested by the manufacturers of each instrument. The continuous SO₂ and NO_x monitors shall be set to record the emissions rates of the pollutants in the appropriate units needed to demonstrate compliance.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall maintain a statement of certification of the existing continuous opacity monitoring system shall be maintained on site and shall consist of a letter form the Ohio EPA detailing the results of an Agency review of the certification tests and a statement by the Agency that the system is considered certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 1. Proof of certification shall be made available to the Director upon request.
2. The permittee shall operate and maintain existing equipment to continuously monitor and record the opacity of the particulate emissions from this emissions unit. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13. The permittee shall maintain records of all data obtained by the continuous opacity monitoring system including, but not limited to, percent opacity on an instantaneous (one-minute) and six-minute block average basis, results of daily zero/span calibration checks, and magnitude of manual

calibration adjustments.

3. A statement of certification of the existing continuous SO₂ monitoring system shall be maintained on site and shall consist of a letter from the Ohio EPA detailing the results of an Agency review of the certification tests and a statement by the Agency that the system is considered certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 2. Proof of certification shall be made available to the Ohio EPA or the Canton LAA upon request.
4. The permittee shall operate and maintain existing equipment to continuously monitor and record SO₂ from this emissions unit in ppm. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13 with one exception. The permittee shall conduct Relative Accuracy Tests (RATA) at a frequency of once every 8000 hours of operation or every 3 calendar years starting from the effective date of this permit. The time period for conducting the subsequent RATA test shall commence on the day following the prior RATA test.
5. The permittee shall maintain records of all data obtained by the continuous SO₂ monitoring system including, but not limited to, parts per million SO₂, on an instantaneous (one-minute) basis, average hourly SO₂ emissions, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments. The CEM shall be part of an approved data acquisition system that calculates the average hourly SO₂ emissions, in tons, and the total daily SO₂ emissions (equal to the sum of the average hourly SO₂ emissions over a 24 hour period), in tons. The data acquisition system shall be operated and maintained in accordance with manufacturers recommendations.
6. A statement of certification of the existing continuous NO_x monitoring system shall be maintained on site and shall consist of a letter from the Ohio EPA detailing the results of an Agency review of the certification tests and a statement by the Agency that the system is considered certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 2. Proof of certification shall be made available to the Ohio EPA or the Canton LAA upon request.
7. The permittee shall operate and maintain existing equipment to continuously monitor and record NO_x from this emissions unit in ppm. Such continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.13 with one exception. The permittee shall conduct Relative Accuracy Tests (RATA) at a frequency of once every 8000 hours of operation or every 3 calendar years starting from the effective date of this permit, whichever comes first. The time period for conducting any subsequent RATA test shall commence on the day after any RATA test.
8. The permittee shall maintain records of all data obtained by the continuous NO_x monitoring

Emissions Unit ID: B010

system including, but not limited to, parts per million NO_x, on an instantaneous (one-minute) basis, average hourly NO_x emissions, results of daily zero/span calibration checks, and magnitude of manual calibration adjustments. The CEM shall be part of an approved data acquisition system that calculates the average hourly NO_x emissions, in tons, and the total daily NO_x emissions (equal to the sum of the average hourly NO_x emissions over a 24 hour period), in tons. The data acquisition system shall be operated and maintained in accordance with manufacturers recommendations.

9. The permittee shall maintain daily records of the total NO_x emissions, in tons, as a rolling 365-day average, for all of the emissions units located at The Babcock and Wilcox research facility, including emissions units B009, B010, P002, P003, P009, and T003. The daily NO_x emissions from the CEDF furnace shall be documented as the average reading from the continuous NO_x monitoring system. If the continuous NO_x monitoring system is not operational for any operating day of B010, the average NO_x emissions from the previous day (if using the same fuel), or the average NO_x emissions recorded from the closest day while running the same fuel, shall be used to replace the missing daily average, to be added to the previous 364 days.
10. The permittee shall maintain daily records of the total SO₂ emissions, in tons, as a rolling 365-day average, for all of the emissions units located at The Babcock and Wilcox research facility, including emissions units B009, B010, P002, P003, P009, and T003. The daily SO₂ emissions from the CEDF furnace shall be documented as the average reading from the continuous SO₂ monitoring system. If the continuous SO₂ monitoring system is not operational for any operating day of B010, the average SO₂ emissions from the previous day (if using the same fuel), or the average SO₂ emissions recorded from the closest day while running the same fuel, shall be used to replace the missing daily average, to be added to the previous 364 days.
11. For each shipment of coal received for burning in this emissions unit, the permittee shall maintain records of the total quantity of coal received and the permittee's or coal supplier's analysis for ash content, sulfur content, and heat content.
12. For each shipment of oil received for burning in this emissions unit, the permittee shall maintain records of the total quantity of oil received and the permittee's or oil supplier's analysis for sulfur content and heat content.
13. The permittee shall collect or require the coal supplier to collect a representative grab sample of each shipment of coal that is received for burning in this emission unit. The permittee shall perform or require the supplier to perform the coal sampling in accordance with ASTM method D2234, Collection of a Gross Sample of Coal and analyze the coal sample for ash content (percent), sulfur content (percent), and heat content (Btu/pound of coal) shall be: ASTM method D3174, Ash in the Analysis of Coal and Coke; ASTM method D3177, Total Sulfur in the Analysis of Coal and Coke or ASTM method D4239, Sulfur in the Analysis Sample of Coal or Coke Using High Temperature Tube Furnace Combustion Methods; and ASTM method D2015, Gross Calorific Value of Solid Fuel by the Adiabatic Bomb Calorimeter, ASTM method D3286, Gross Calorific Value of Coal and Coke by the Isothermal Bomb Calorimeter, or ASTM method D1989, Standard Test Method for Gross Calorific Value of Coal or Coke by Microprocessor Controlled Iso-peribol Calorimeter, respectively. Alternative methods may be used upon written approval of

the Canton LAA or Ohio EPA.

14. The permittee shall collect or require the oil supplier to collect a representative grab sample of each shipment of oil that is received for burning in this emission unit. The permittee shall perform or require the supplier to perform oil analyses for sulfur content and heat content in accordance with the following ASTM methods: ASTM method D4294, ASTM method D240, or ASTM method 6010, for sulfur content; and ASTM method D240 for heat content. Alternative methods may be used upon written approval of the Canton LAA or Ohio EPA.
15. Except during startups operations while burning natural gas, the permittee shall maintain a record of any period of time in which the CEDF furnace was not vented to the baghouse, or any period of time the baghouse was not operational while the emissions unit is in operation. The permittee shall record the date, the hours of operation, and the fuel being fired during the bypassed or baghouse downtime.
16. The permittee shall maintain a record of any period of time in which the CEDF furnace was not vented to the dry scrubber, or any period of time the dry scrubber was not operational during any period of operation except (a) when burning natural gas during startup operations, (b) when burning low sulfur fuels, as demonstrated by the SO₂ continuous emissions monitoring equipment or (c) when testing other SO₂ control equipment. The permittee shall record the date, the hours of operation, and the fuel being fired during the bypassed or downtime of the dry scrubber, during any period other than the scenarios mention above.
17. The permittee shall maintain a record of any period of time in which the flue gas from the Small Boiler Simulator (SBS), B009, was not exhausted through the CEDF furnace stack when both the CEDF furnace and the SBS were operating at the same time.
18. At the end of each day the permittee shall record the average daily SO₂ and NO_x emissions, as the average of the previous 24 hours recorded by the CEMs, for each pollutant and in lbs/MMBTU.

IV. Reporting Requirements

1. Pursuant to OAC rules 3745-15-04, 3745-35-02, and ORC sections 3704.03(I) and 3704.031 and 40 CFR Parts 60.7 and 60.13(h), the permittee shall submit reports within 30 days following the end of each calendar quarter to the Canton LAA documenting the date, commencement and completion times, duration, magnitude, reason (if known), and corrective actions taken (if any), of all instances of NO_x values in excess of the applicable limits specified in the terms and conditions of this permit. These reports shall also contain the total NO_x emissions for the calendar quarter (in tons).
2. The permittee shall submit reports within 30 days following the end of each calendar quarter to the Canton LAA documenting any continuous NO_x monitoring system downtime while the emissions unit was on line (date, time duration and reason) along with any corrective actions taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time reason and corrective actions taken for each time period of emissions unit and control equipment malfunctions. The total operating time of the emissions unit and the total

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operating time of the analyzer while the emissions unit was on line shall also be included in the quarterly report.

3. If there are no excess NO_x emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the emissions unit operating time during the reporting period and the date, time reason, and corrective actions taken for each time period of emissions unit, control equipment, and/or monitoring system malfunctions. The total operating time of the emissions unit and the total operating time of the NO_x analyzer while the emission unit was on line also shall be included in the quarterly report. These quarterly excess emission reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall address the data obtained during the previous calendar quarter.
4. Pursuant to OAC rules 3745-15-04, 3745-35-02, and ORC sections 3704.03(I) and 3704.031, the permittee shall submit a summary of the excess emission report for NO_x pursuant to 40 CFR Part 60.7. The summary shall be submitted to the Canton LAA within 30 days following the end of each calendar quarter in a manner prescribed by the Director.
5. Pursuant to OAC rules 3745-15-04, 3745-35-02, and ORC sections 3704.03(I) and 3704.031 and 40 CFR Parts 60.7 and 60.13(h), the permittee shall submit reports within 30 days following the end of each calendar quarter to the Canton LAA documenting the date, commencement and completion times, duration, magnitude, reason (if known), and corrective actions taken (if any), of all instances of SO₂ values in excess of the applicable limits specified in OAC rule 3745-18 and in the terms and conditions of this permit. These reports shall also contain the total SO₂ emissions for the calendar quarter (in tons).
6. The permittee shall submit reports within 30 days following the end of each calendar quarter to the Canton LAA documenting any continuous SO₂ monitoring system downtime while the emissions unit was on line (date, time duration and reason) along with any corrective actions taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time reason and corrective actions taken for each time period of emissions unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall also be included in the quarterly report.
7. If there are no excess SO₂ emissions during the calendar quarter, the permittee shall submit a statement to that effect along with the emissions unit operating time during the reporting period and the date, time reason, and corrective actions taken for each time period of emissions unit, control equipment, and/or monitoring system malfunctions. The total operating time of the emissions unit and the total operating time of the SO₂ analyzer while the emission unit was on line also shall be included in the quarterly report. These quarterly excess emission reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall address the data obtained during the previous calendar quarter.
8. Pursuant to OAC rules 3745-15-04, 3745-35-02, and ORC sections 3704.03(I) and 3704.031, the permittee shall submit a summary of the excess emission report for SO₂ pursuant to 40 CFR Part 60.7. The summary shall be submitted to the Canton LAA within 30 days following the end of

each calendar quarter in a manner prescribed by the Director.

9. Pursuant to 40 CFR Parts 60.7 and 60.13(h), the permittee shall submit reports within 30 days following the end of each calendar quarter to the Canton LAA documenting all instances of opacity values in excess of the limitations specified in OAC rule 3745-17-07, detailing the date, commencement and completion times, duration, magnitude (percent opacity), reason (if known), and corrective action taken (if any) of each 6-minute block average above the applicable opacity limitations.
10. The permittee shall submit reports within 30 days following the end of each calendar quarter to the Canton LAA documenting any continuous opacity monitoring system downtime while the emissions unit was on line (date, time, duration and reason) along with any corrective action taken. The permittee shall provide the emissions unit operating time during the reporting period and the date, time, reason, and corrective action taken for each time period of emissions unit and control equipment malfunctions. The total operating time of the emissions unit and the total operating time of the analyzer while the emissions unit was on line shall be included in the quarterly report.
11. If there are no excess opacity readings during the calendar quarter, the permittee shall submit a statement to that effect along with the emissions unit operating time during the reporting period and the date, time, reason, and corrective action taken for each time period of emissions unit, control equipment, and/or monitoring system malfunctions. The total operating time of the emissions unit and the total operating time of the opacity analyzer, while the emissions unit was on line, shall also be included in the quarterly report. There quarterly excess emission reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall address the data obtained during the previous calendar quarter.
12. The permittee shall submit deviation (excursion) reports that identifies any annual exceedance of the 365-day rolling average for SO₂ or NO_x for all The Babcock and Wilcox research facility air emissions sources, including emissions units B009, B010, P002, P003, P009, and T003.
13. The permittee shall submit, on a quarterly basis, copies of the permittee's or coal supplier's analyses (wet and/or dry) for each shipment of coal which is received for burning in this emission unit. The permittee or coal supplier's analyses shall document the ash content (percent), sulfur content (percent), and hear content (Btu/pound of coal) of each shipment of coal. The following information shall also be included with the copies of the permittee's or coal supplier's analyses:
 - a. the total quantity of coal received in each shipment (tons);
 - b. the weighted average ash content (percent) of the coal received during each calendar

month;

- c. the weighted sulfur content (percent) of the coal received during each calendar month;
- d. the weighted average heat content (Btu/pound of coal) of the coal received during each calendar month; and

- e. the weighted average sulfur dioxide emissions rate (in pounds sulfur dioxide/MMBTU actual heat input) from the coal received during each calendar month.

The weighted average is measured in proportion to the quantity of coal received in each shipment during the calendar month. The quarterly reports shall be submitted by February 15, May 15, August 15, and November 15 of each year and shall cover the coal shipments received during the previous calendar quarters.

- 14. The permittee shall submit, on a quarterly basis, copies of the permittee's or oil supplier's analyses for each shipment of oil which is received for burning in this emission unit. The permittee or oil supplier's analyses shall document the sulfur content (percent), and heat content (Btu/gallon of oil) of each shipment of oil. The following information shall also be included with the copies of the permittee's or oil supplier's analyses:

- a. the total quantity of oil received in each shipment (gallon);
- b. the weighted average heat content (Btu/gallon) of the oil received during each calendar month; and
- c. the weighted average sulfur dioxide emissions rate (in pounds sulfur dioxide/MMBtu actual heat input) from the oil received during each calendar month.

The weighted average is measured in proportion to the quantity of oil received in each shipment during the calendar month. The quarterly reports shall be submitted by February 15, May 15, August 15, and November 15 of each year and shall cover the oil shipments received during the previous calendar quarters.

- 15. The permittee shall submit quarterly deviation reports documenting any period of time in which the CEDF furnace was not vented to the baghouse, other than during startups operations while burning natural gas. The permittee shall include the date, the hours of operation, and the fuel being fired during the bypassed or baghouse downtime.
- 16. The permittee shall submit quarterly deviation reports documenting any period of time in which the CEDF furnace was not vented to the dry scrubber, or any period of time the dry scrubber was not operational other than: (a) when burning natural gas during startup operations, (b) when burning low sulfur fuels, as demonstrated by the SO₂ continuous emissions monitoring equipment, or (c) when testing other SO₂ control equipment. The permittee shall include the date, the hours of operation, and the fuel burned during the bypassed or downtime of the dry scrubber.
- 17. The permittee shall submit quarterly deviation reports documenting any period of time in which

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the flue gas from the Small Boiler Simulator (SBS), B009, was not exhausted through the CEDF furnace stack when both the CEDF furnace and the SBS were in operation.

18. The permittee shall submit quarterly deviation reports documenting any day on which the CEMs recorded a 24-hour average exceedance of 1.2 pounds of SO₂/MMBtu and/or 0.7 pounds of NO_x/MMBtu emissions, as recorded by the CEMs for each pollutant.
19. The quarterly deviation reports shall be submitted as required in the General Terms and Conditions of this permit.

V. Testing Requirements

1. Compliance with the emission limitations in section A.I.1 of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emissions limitations:
Visible particulate emissions shall not exceed 20 % opacity as a six-minute average except as provided by rule.

Applicable Compliance Method:

Compliance shall be demonstrated based upon the use of a continuous opacity monitor (COM) which has been certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 1 and complies with the requirements specified in 40 CFR Part 60.13 and the terms and conditions of this permit.

- b. Emissions Limitation:

1.2 pound SO₂/MMBtu as a 24-hour average

Applicable Compliance Method:

Compliance shall be demonstrated based upon the use of a continuous SO₂ monitor (CEM) and the records maintained as required by Section A.III.18. The CEM shall be certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 2 and shall comply with the requirements specified in 40 CFR Part 60.13 and the terms and conditions of this permit.

- c. Emissions Limitation:

240 pounds SO₂/hr.

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 6.

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- d. Emission Limitation:
- 140 pound NO_x/hr
- Applicable Compliance Method:
- If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 7 or an approved modification of this method.
- e. Emission Limitation:
- 0.7 pounds NO_x/MMBTU as a 24-hour average
- Applicable Compliance Method:
- Compliance shall be demonstrated based upon the use of a continuous NO_x monitor (CEM) and the records maintained as required by Section A.III.18. The CEM shall be certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specification 2 and shall comply with the requirements specified in 40 CFR Part 60.13 and the terms and conditions of this permit.
- f. Emission Limitation:
- 1.3 pounds VOC/hr
- Applicable Compliance Method:
- Compliance when burning coal or fuel oils shall be demonstrated through the stack testing required in Section V.2. If required for other fuels, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 18 or an approved modification of this method.
- g. Emission Limitation:
- 15 pounds CO/hr
- Applicable Compliance Method:

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Compliance when burning coal or fuel oils shall be demonstrated through the stack testing required in Section V.2. If required for other fuels, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Method 10 or an approved modification of this method.

h. Emission Limitation:

6.0 pounds PM/hr

Applicable Compliance Method:

If required, compliance shall be demonstrated based upon the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 5 or an approved modification of this method.

2. The permittee shall conduct or have conducted emission testing for this emission unit in accordance with the following requirements:
- a. The emission testing shall be conducted during the next RATA test when coal is burned and the first time oil is burned in this emissions unit following the effective date of this permit.
 - b. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emission rates for CO and VOC and confirm the operating parameters established in sections II.1 through II.7.
 - c. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rates:
 - (1) 40 CFR Part 60, Appendix A, Method 18 for VOC
 - (2) 40 CFR Part 60, Appendix A, Method 10 for CO

Alternative U.S. EPA-approved test methods may be used with prior approval of the Canton LAA or Ohio EPA.
 - d. All stack tests shall be conducted while the emissions unit is operating at its maximum capacity.
 - e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent To Test" notification to the Canton LAA for all emission tests. The "Intent To Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s) and the person(s) who will be conducting the test(s). Failure to submit such notification for

review and approval prior to the test(s) may result in the Canton LAA's or Ohio EPA's refusal to accept the results of the emission test.

- f. Personnel from the Canton LAA shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the

operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

- g. A comprehensive written report on the results of any emissions tests shall be signed by the person or persons responsible for the tests and submitted to the Canton LAA within 30 days following completion of the tests. In addition to the information identified in the General Terms and Conditions, the report shall also include the data recorded as required by section A.V.2.e. The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Canton LAA.

VI. Miscellaneous Requirements

None

B. State Only Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
B010-100 MMBTU/hr fossil fuel fired Research and Development Boiler, named the "Clean Environment Development Facility" (CEDF) Furnace	OAC rule 3745-31-05	NONE

2. Additional Terms and Conditions

2.a NONE

II. Operational Restrictions

NONE

III. Monitoring and/or Recordkeeping Requirements

NONE

IV. Reporting Requirements

NONE

V. Testing Requirements

NONE

VI. Miscellaneous Requirements

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NONE