



State of Ohio Environmental Protection Agency

Northeast District Office

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February 12, 2009

NOV AT TITLE V HIGH PRIORITY FACILITY - GC7

**CERTIFIED MAIL**

Mr. Dave Pastorius  
Central Heating Plant Manager  
Oberlin College  
173 West Lorain Street  
Oberlin, OH 44074-1092

RE: Division of Air Pollution Control Compliance Evaluation for the operations located at the Oberlin College campus, Oberlin, Ohio - DAPC Facility ID No. (02-47-10-0408)

Dear Mr. Pastorius:

On 1/15/09, Ohio EPA representative Christine McPhee visited the above-named site to determine compliance with the permits issued by the Division of Air Pollution Control (DAPC), and other applicable requirements. The time and courtesy given by Ms. Claudia Ferrini, the Environmental Health & Safety Manager, and you was greatly appreciated. An electronic copy of the inspection report will be e-mailed to you.

The purpose of this letter is to provide a follow-up to the inspection. A review of quarterly deviation reports finds that the input power, as a 3-hour average to the electrostatic precipitator for the coal-fired boiler nos. 1 and 2 (B001 & B002), frequently does not meet 90% of the combined power input. This parameter was established during the most recent emissions test that demonstrated compliance with the (mass) particulate emissions limit. We also found violations of the record keeping requirements for B001 and B002, which were used to estimate and document the weighted, monthly average sulfur dioxide emissions, from each coal-fired boiler. Additional information and/or revisions to the current record keeping programs is requested as discussed below.

*Title V Operating Permit Requirements*

(B001 & B002) 50.0 mmBtu/hr coal-fired boiler nos. 1 and 2 with a settling chamber and a dry electrostatic precipitator (ESP or EP) to control particulate emissions (PE)

For B001 and B002, term A.II.2. requires that the average total combined power input (in kilowatts) to all fields of the ESP, for any 3-hour block of time when the emissions

unit is in operation, shall be no less than 90% of the total combined power input, as a 3-hour average, established during the most recent emissions test that demonstrated the emission unit was in compliance with the particulate emissions limitation.

Submitted quarterly deviation reports note that there were 45 days and 19 days during the second quarter and fourth quarter, respectively, in 2007 and 14 days during the first quarter in 2008, when there were undisclosed hours, as 3-hour blocks of time, when the input power to the ESP was less than 90% of the baseline value which are violations of term A.II.2. However, the total combined power input value (baseline value), established during the Method 5B stack tests conducted on 4/05/07 and 4/07/07, at B002 and B001, respectively, is not identified in the stack test report nor is any ESP operating parameter data during these 2007 tests included in our files.

Submitted quarterly deviation reports note that there were 19 days and 54 days during the second quarter and fourth quarter, respectively, in 2008 for one or more 3-hour blocks of time when the input power to the ESP was less than 90% of the baseline value, which are violations of term A.II.2. The electronic record for 12/08 ESP data has a note to state that the 3/21/08 stack test (of B001) had a power input of 7.03 kilowatts (KW). Therefore, 90% of this baseline is 6.33 KW. However, the 3-hr average power input to the ESP during the 08:48 – 12:40 test period on 3/21/08 was 6.27 – 6.67 KW or an average value of about 6.49 KW rather than a value a 7.03 KW that is currently noted as the baseline value; see 3/21/08 BHA Report for ESP printout.

The five above specified quarterly reports do not identify all 3-hour blocks of time when the average total combined ESP power input did not meet 90% of the baseline value, in violation of term A.IV.2. for B001 and B002 each.

The corrective actions column of the 2007 deviation reports stated that Oberlin College was working with United McGill, ESP manufacture, and BHA, ESP instrumentation control manufacturer, to determine the cause of power factor variations. We find that the reported days of deviations periods were 152 days in 2006, 145 days in 2007, and 87 days in 2008 do show a decline in reported deviation days. The fourth quarter deviation report for 2008 report states, "Oberlin College has credible evidence from prior stack tests to support its belief that particulate emissions limits were not exceeded during the intermittent periods when the average total combined power input dropped below 90% of the 3-hour average established during the most recent emissions test demonstrating compliance."

1. Please review the 3-hour power input data to the ESP during the 08:48 – 12:40 sampling period on 3/21/08 when a Method 5 test, conducted on boiler no. 1 (B001), which demonstrated compliance with the limit of 0.020 lb PE/mmBtu actual heat input. If you believe the average power ESP input of around 6.49 KW is incorrect, please give us your estimate of the average power input value and provide supporting documentation.

2. In order to establish the extent of the control equipment operating parameter deviation period for the first quarter report of 2009 due 4/30/09, please specify each time period when the 3-hour power input data to the ESP does not meet 90% of the baseline value established from the 08:48 – 12:40 period data on 3/21/08.
3. Please provide a technical explanation of how an average 3-hour ESP power input that is less than 90% of the baseline does not indicate a violation of the limit of 0.020 lb PE/mmBtu actual heat input.

The ESP data is important and we would like to learn of current efforts to maintain it and the associated instrumentation in accordance with the manufacturer's recommendations, instructions and operating manuals, as required by term A.III.3. for B001 and B002 each.

4. Please provide a brief discussion of the preventative maintenance program on B001 & B002 boiler equipment and control equipment. You should address the following items:
  - calibration schedule on secondary voltage monitor(s);
  - calibration schedule on secondary amp meter(s); and
  - calibration schedule on temperature monitor(s) at ESP inlet.

It is further noted that no coal weight that is combusted at boiler no. 1 (B001) was recorded as of 29:00, 12/05/08, because the scale is not operational according to the operator log. The fourth quarter deviation report for 2008 states that, "Repairs will be scheduled when compatible parts are located." A record of the coal weight combusted at boiler no. 1 (B001) is needed to estimate the weighted, monthly average sulfur dioxide emissions rate in lbs SO<sub>2</sub>/mmBtu of coal. Since each coal shipment can be and is combusted at both coal-fired boilers (B001 & B002), the estimated sulfur dioxide emissions rate from each one may differ slightly.

5. Beginning with January 1, 2009, until the coal scale is successfully repaired, please estimate the weight of coal combusted at boiler no. 1 (B001). Do make a note on the operator log and in the electronic records of how the weight of coal combusted at boiler no. 1 was estimated.

A review of the monthly, average SO<sub>2</sub> emissions estimates during the fourth quarter of 2008, finds that the calculated value is determined for coal received and combusted at both boilers rather than for each boiler, in violation of term A.III.2. requirements for B001 and B002 each.

6. Please revise the current record keeping procedures to include the weight of coal combusted at each boiler and calculate the estimated SO<sub>2</sub> emissions, in lbs SO<sub>2</sub>/mmBtu of coal combusted.

- a. For the month of January 2009, please submit a copy of the revised records of the weighted, average SO<sub>2</sub> emissions, in lbs SO<sub>2</sub>/mmBtu of coal combusted at B001 and at B002 each. Electronic files are preferred, but hard copies will be accepted.
- b. You may wish to determine the SO<sub>2</sub> emissions, in tons/month, and sum the cumulative SO<sub>2</sub> emissions so that a more accurate estimate of annual SO<sub>2</sub> emissions may be included in the annual fee emissions report due 4/15/09.

(B003) 61.5 mmBtu/hr natural gas/no.2 oil-fired boiler no.3

Current record keeping formats for boiler no. 3 (B003) meet the requirements in term A.III. of the operating permit.

*Federal Rule Requirements*

In order to comply with a Maximum Achievement Control Technology (MACT) rule for industrial boilers, 40 CFR Part 63, Subpart DDDDD (Boiler MACT), Oberlin College installed, certified and operates a continuous opacity monitor (COM) on the one stack that exhausts gases from both B001 & B002. As of 7/30/07, the D.C. Circuit Court of Appeals vacated on the Boiler MACT rule, meaning that the rule is no longer effective.

In order to demonstrate compliance with the Boiler MACT, 40 CFR Part 63, Subpart DDDDD, Performance Specification 1 (PS1) was performed on Phoenix Instruments, Inc./OPAC 2020, serial no. OPAC no. 1192 on 2/21/08 and met certification requirements to detect Opacity%, as a 6-minute average. A 3/24/08 letter from Mr. Todd Brown (COMS/CEMS coordinator, DAPC, OEPA, CO) stated that excess emissions reports (EER) must be submitted on a quarterly basis to the Northeast District Office (NEDO), in Twinsburg, Ohio. Our Central Office has determined that the excess emissions reports for COM deviations are currently not required.

We acknowledge the 1/30/09 receipt of a Part I initial notification report and permit application for an operating permit to regulate major source levels of hazardous air pollutants (HAPs) per Section 112(j) of the Clean Air Act. Ohio EPA intends to give additional guidance concerning Part 2 applications under Section 112(j), which would be due on **March 31, 2009**, which is 60 days after the Part I application submittal. Oberlin College may wish to consider whether operation of a COM would be included in a permit under Section 112(j) to address HAPs.

Pending Permit Applications

A renewal application for a Title V operating permit no. P0085479 was submitted on 10/04/05, which was revised with a 1/04/06 version. If a Part 2 application under Section 112(j) is received, the proposal will need to be reviewed so that approvable portions will be incorporated in the renewal Title V operating permit. The next step is a technical review of the application.

7. Please verify whether each insignificant emissions unit currently listed in our records still exists in an operational state or whether the equipment has been shutdown/dismantled; see the enclosed list of emissions units.

#### General Reporting Requirements

All future reports, permit applications and fee emissions reports must be electronically filed via the e-Business Center. You must include all non-insignificant emissions units in an updated facility profile via the e-Business program prior to submitting the next (fee) emissions report, due on **4/15/09** for air pollutant emissions during 2008.

The associated process equipment, two control devices and egress point for B002 should be similar to B001. It appears that process equipment B002-2 has the appropriate source classification code(s) SCCs for an external combustion, overfeed stoker boiler that can combust bituminous coal.

8. Please make the following updates in eBusiness.
  - a. You may wish to associate the appropriate control devices and egress point to process equipment B002-2 and delete the others as long as the correct associations are made for boiler no. 2 (B002).
  - b. For any shutdown/dismantled emissions unit, please use the "Edit" mode to insert the appropriate shutdown date and shutdown notification date.
  - c. In the owner/contact section of the facility profile, please ensure that updated information is indicated for the responsible official and the primary contact person.

You asked how SO<sub>2</sub> emissions estimates were made for previous fee emissions reports, which you should be able to view in e-Business. The 2007 SO<sub>2</sub> emissions estimates for the coal-fired boiler nos. 1 and 2 (B001 & B002) were automatically calculated made by taking an input (or default) value of 2.84% sulfur content to have an assigned emissions factor of 110.58 lbs SO<sub>2</sub>/ton coal for a boiler with an SCC no. of 1-03-002-07 and multiplying an input value for the weight of coal burned, in 1,000 tons coal burned. The assigned SO<sub>2</sub> emissions factor is similar to the values one would derive if one multiplied the sulfur weight percentage by 38 for bituminous coal or by 35 for subbituminous coal, as found in U.S. EPA Compilation of Air Pollutant Emissions Factors Table 1.1-3, AP-42 1.1 (9/98); which is available at <http://www.epa.gov/ttn/chief/index.html>. If you wish, you may estimate the SO<sub>2</sub> emissions using the sulfur content analysis data.

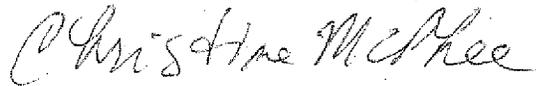
Please submit the information requested in item nos. 1, 3, 4 and 6-8 by **3/12/09**. If you are unable to respond to any part of this request within the time frame(s) discussed above, please inform this Agency. Failure to respond to this request in a timely manner can result in a referral to the Central Office of Ohio EPA for the appropriate enforcement action.

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The submission of the requested information does not constitute a waiver of Ohio EPA's authority to seek civil penalties as provided in ORC 3704.06 or for U.S. EPA to seek civil penalties pursuant to federal law. Ohio EPA will decide whether to pursue or decline to pursue penalties regarding this matter at a later date.

Should you have any comments or questions about this correspondence, please do not hesitate to contact me at (330) 963-1205, or via e-mail at [christine.mcphee@epa.state.oh.us](mailto:christine.mcphee@epa.state.oh.us).

Sincerely,



Christine McPhee  
Environmental Specialist  
Division of Air Pollution Control

CM:bo

enclosures

cc: Tim Fischer, Ohio EPA, NEDO, DAPC  
Tom Kalman, Ohio EPA, CO, DAPC  
Lisa Holscher, U.S. EPA, Region V

ec: Ed Fasko, Ohio EPA, NEDO, DAPC  
Todd Brown, Ohio EPA, CO, DAPC  
Dave Pastorius, Central Heating Plant, Oberlin College  
Claudia Ferrini, Environmental Health & Safety, Oberlin College