



Environmental
Protection Agency

Ted Strickland, Governor
Lee Fisher, Lt. Governor
Chris Korleski, Director

12/29/2010

Certified Mail

Jim Stice
DP&L, Killen Generating Station
14869 U.S. Route 52
Manchester, OH 45144

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 0701000060
Permit Number: P0106805
Permit Type: OAC Chapter 3745-31 Modification
County: Adams

No	TOXIC REVIEW
Yes	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
Yes	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
No	MODELING SUBMITTED

Dear Permit Holder:

Enclosed please find a final Air Pollution Permit-to-Install (PTI) which will allow you to install or modify the described emissions unit(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, we urge you to read it carefully. Please complete a survey at www.epa.ohio.gov/dapc/permitsurvey.aspx and give us feedback on your permitting experience. We value your opinion.

The issuance of this PTI is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 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. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Kevin Boyce," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. 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, OH 43215

The Ohio EPA is encouraging 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 Compliance Assistance and Pollution Prevention at (614) 644-3469. If you have any questions regarding this permit, please contact the Portsmouth City Health Dept., Air Pollution Unit. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Issued Air Pollution Control Permits" link.

Sincerely,

Michael W. Ahern, Manager
Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA
Portsmouth; Kentucky; West Virginia



Response to Comments

Response to comments for: Permit-To-Install

Table with 2 columns and 8 rows containing permit details: Facility ID, Facility Name, Facility Description, Facility Address, Permit #, public notice information, hearing date, and hearing notice date.

The following comments were received during the comment period specified. Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health.

In an effort to help you review this document, the questions are grouped by topic and organized in a consistent format. PDF copies of the original comments in the format submitted are available upon request.

- 1. Topic: Barbara A. Lund, Lynx, Ohio, comment letter received November 30, 2010
a. Comment: I am opposed to permit P0106805 to modify the Killen plant to burn biomass. Burning biomass produces more air pollution than the coal and kerosene now being burned.

Substituting a more polluting fuel source like biomass for coal doesn't make any scientific sense if the goal is to reduce air pollution. Reducing, or at least not increasing, air pollution should be the goal of Ohio EPA and if it isn't, then what is the Clean Air Act for?

If burning biomass instead of coal actually did reduce air pollution, then this permit would not even be necessary. The very fact that an air pollution permit is required means there will be more air pollution. I am opposed to more air pollution. I oppose this permit.

And yes, I understand the economic and political aspects of this permit. I also oppose those philosophies and behaviors because they also are not based on science. Air pollution is an issue of science, and policy and action should be based on science. Not junk science, either.

Bottom line: I oppose the issuance of permit P0106805.

- b. **Response:** Ohio EPA and the Portsmouth Local Air Agency (PLAA) conduct reviews of each permit application submitted to determine if the proposed project would comply with the applicable state and federal air pollution control regulations. If we determine the proposed project to be in compliance with the applicable regulations, then a permit is drafted. The state and federal air pollution control regulations allow air emissions at levels that have been determined to be protective of human health and the environment.

2. Topic: **Barbara A. Lund, Lynx, Ohio, Killen Plant Questions received December 7, 2010**

- a. **Comment: What documents are available? What documents are not available? Any "classified"?**

- b. **Response:** The documents available for review include the draft permit P010680, permit-to-Install application and associated technical support document, air dispersion modeling analysis, emissions activity category form, and the process flow diagram are available to review.

No documents associated with draft permit P0106805 have been identified as classified or confidential.

- c. **Comment: Source: where is the biomass coming from? The grass? The wood? Anything else? How far away is it? Does it get trucked? What are transportation costs compared to coal barge? Is Shawnee State Forest considered a wood source? Who is the supplier? Is there more than one?**

- d. **Response:** Ohio EPA does not have the authority to consider the origin of the biomass when evaluating the air impacts of a project.

Per the application, the renewable fuel briquettes will be produced and manufactured offsite at a separate facility and shipped to DP&L by truck.

- e. **Comment: Composition: What comprises the biomass? What percent of each component? Is the wood hard like oak? Soft like pine? Will landfill waste be used?**

- f. **Response:** Per the permit application, the renewable fuel stream will be comprised of briquettes of wood and grass or other approved clean cellulosic biomass. The components of the renewable fuel are: heat content of 7,000 – 7,500 Btu/lb, ash content of 1.0 percent, sulfur content of 0.02 percent, chlorine content of 300 ppm, and mercury content of less than 0.02 ppm.

The biofuel proposed is comprised of clean wood, grass and/or crop residue and does not include yard waste, or construction, renovation, or demolition waste or municipal solid waste. Clean wood does not include any wood containing paint, stain, glue or resin of any kind or that has been chemically treated.

g. **Comment: Definitions: What are the official, national, or state definitions of biomass? How are they interpreted?**

h. **Response:** Per OAC rule 3745-27-03(A)(8)(d), biomass fuels are those fuels from any plant derived organic matter available on a renewable basis, including dedicated energy crops and trees, agricultural wood and feed crops, agricultural crop wastes and residues, forestry residues and sawdust, aquatic plants, and refuse derived fuel consisting of waste paper, cardboard, wood waste and yard wastes, and animal wastes.

Per 40 CFR Part 63, Subpart DDDDD, Major source Boiler MACT proposed rule dated June 4, 2010, biomass fuel means but is not limited to, wood residue, and wood products (e.g, trees, tree stumps, tree limbs, bark, lumber, sawdust, sanderdust, chips, scraps, slabs, millings, and shavings); animal manure, including litter and other bedding materials; vegetative agricultural and silvicultural materials, such as logging residues (slash), nut and grain hulls and chaff (e.g, almond, walnut, peanut, rice, and wheat), bagasse, orchard prunings, corn stalks, coffee bean hulls and grounds. This definition of biomass fuel is not intended to suggest that these materials are or are not solid waste.

Per 40 CFR Part 241, Identification of Non-Hazardous Secondary Materials that are Solid Waste proposed rule dated June 4, 2010, clean biomass includes but not necessarily limited to: forest-derived biomass (e.g., green wood; forest thinning; clean and unadulterated bark; sawdust; trim; and tree harvesting residuals from logging and sawmill materials); corn stover and other biomass crops used specifically for energy production (e.g., energy cane, other fast growing grasses); bagasse and other crop residues (e.g., peanut shells, agricultural seeds); wood collected from forest clearance activities; trees and clean wood found in disaster debris; clean biomass from land clearing operations; and clean construction wood.

The DP&L permit emphasizes clean cellulosic biomass and that would not include treated wood, construction waste, animal waste or municipal solid waste.

i. **Comment: Monitoring: Who will monitor and test? Who regulates and monitors biomass production? Who monitors stack emissions? How often? Does OEPA have testing equipment? Do the testing?**

j. **Response:** DP&L conducted a trial burn in September/October 2009 which was witnessed by PLAA staff. The existing monitoring equipment at DP&L, Killen Station consists of continuous particulate matter (PM), sulfur dioxide (SO₂), nitrogen oxides (NO_x), and opacity monitors. This draft permit action requires DP&L to also install and certify a new continuous emissions monitoring system (CEMS) for carbon monoxide (CO). The permit requires DP&L to conduct emissions testing for PM, CO, and volatile organic compound (VOCs) within 6 months after commencing operation of the boiler while co-firing with the wood/grass briquettes, or other clean cellulosic biomass fuel. Ohio EPA will observe the initial certification testing of the new CO CEMS and the PLAA will witness the initial compliance testing. The testing frequency will be determined upon review of the initial stack test report. Ohio EPA does not have stack testing equipment. The stack testing is conducted by a third party contractor. The PLAA witnesses the testing to ensure the testing is conducted in accordance with the approved U.S. EPA test methods.

Ohio EPA would only regulate biomass production if the biomass production facility included air contaminant sources of particulate emissions. For instance, if a biomass production facility was

grinding biomass material, the Ohio EPA would regulate that operation. The source of biomass material would be a contractual business arrangement between a biomass production facility and a willing owner of the biomass material. Obtaining biomass material may also involve the policies and/or regulations of the Ohio Department of Agriculture and the Ohio Department of Natural Resources.

k. **Comment: Emissions: What is produced by each component? Each species of grass or wood? Killen and other plants have recently been modified with new equipment to clean the air. What are the present coal emissions? How does biomass compare?**

l. **Response:** The permit application was evaluated based on Boiler #2 co-firing 95% coal and up to 5% of total heat input of renewable fuel. The application allows for a mixture of wood/grass and was not evaluated for each species of grass or wood. The baseline actual emissions to projected actual emissions analysis for co-firing coal with renewable fuel up to 5% heat input indicates an increase in carbon monoxide and volatile organic compound emissions. The draft permit establishes emissions limitations, monitoring, record keeping, reporting, and testing requirements which represent Best Available Control Technology (BACT) for carbon monoxide and Best Available Technology (BAT) for volatile organic compound emissions.

m. **Comment: Costs: What is the cost (price) of a ton of biomass? What is the price of a ton of coal? What are current subsidies for burning coal? What are the subsidies for burning biomass? What are the subsidies for producing biomass? It takes twice the wood to produce the same amount of BTU energy as coal. Without subsidies, how do costs compare? Biomass to coal?**

There are costs other than price. They are called externalities. They involve environmental costs and social costs. They occur from the source to the final product. There are production costs of growing grass and trees. There are production costs converting grass and wood into fuel product like a briquette. There are fuel use costs. There are pollutants created at every stage, things harmful to human and other organism health. There is degradation of air, water, soil and life at every stage.

Which of these many health, social, and environmental costs are being factored into the overall cost of the Killen plant biomass project?

n. **Response:** Ohio EPA does not have the authority to consider the cost of the renewable fuel when evaluating the air impacts of the project.

o. **Comment: Trial Burn: Where were the scientific results of the trial burn on the Killen Plant?**

p. **Response:** An Ohio EPA approved trial burn was conducted in September/October 2009 at 3% biomass / 97% coal. The results indicated the co-firing of biomass with coal resulted in a "significant" increase in CO emissions. "Significant" is defined in OAC rule 3745-31-01(MMMMM)(1) as a net emissions increase of carbon monoxide that would equal or exceed 100 tons per year. Subsequently, DP&L prepared and submitted a permit application which included (BACT) review for the pollutant CO and an associated Air Dispersion Modeling Analysis.

3. Topic: **William J. Tipton, Franklin Furnace, Ohio, Questions for December 13, 2010 public hearing received December 7, 2010**
- a. **Comment: Where will the bio-mass fuel come from? The only bio-mass company in this area that I am aware of is Midwestern bio-fuels in Wurtland, Kentucky. This new plant that is working with the University of Kentucky to study switch grass and Miscanthus Giganteus grass as a source. As of this date all of their Bio-fuel pellets are made of 90% processed wood.**
- b. **Response:** Ohio EPA does not have the authority to consider the origin of the biomass when evaluating the air impacts of a project.
- c. **Comment: Are the prescribed burn areas in Shawnee State Forest going to be harvested as Bio-Mass products?**
- d. **Response:** Ohio EPA does not have the authority to consider the origin of the biomass when evaluating the air impacts of a project.
- e. **Comment: In the Draft permit information it says Bio-Fuel is not defined as fossil fuel. Therefore Boiler #2 is subject only to current standards of Subpart D and not Subpart Da emission standards or requirements. What does that mean and what are the requirements of Subpart D and Subpart Da?**
- f. **Response:** This means that the addition of using biomass fuel in the existing electric utility steam generating unit did not trigger the boiler to be subject to the Subpart Da standards. Specifically, the rule states that any change to an existing fossil-fuel-fired steam generating unit to accommodate the use of combustible materials, other than fossil fuels as defined in this subpart, shall not bring that unit under the applicability of Subpart Da.
- Subpart D is applicable to fossil fired steam generating units which commenced construction after August 17, 1971 and Subpart Da is applicable to units which commenced construction after September 18, 1978. The emission limitations for Subpart Da are more stringent than those listed in Subpart D and also include additional monitoring requirements such as particulate matter and mercury,
- g. **Comment: Adams County is classified as having ambient air quality better than the national standard. Does that give DP&L the right to pollute more than let's say it was in Columbus, Ohio?**
- h. **Response:** See response to comment 1.a above.
- i. **Comment: What is the region that will be affected by this pollution?**
- j. **Response:** Adams County is currently classified as partial non-attainment within the Huntington-Ashland Area for PM2.5. The Huntington Ashland area includes Monroe and Sprigg Townships of Adams County, all of Scioto and Lawrence County and a few additional counties in Kentucky and West Virginia bordering southeastern Ohio.
- k. **Comment: Has a study been done to project how much forested land will be lost in this Bio-Mass experiment?**

- l. **Response:** Ohio EPA does not have the authority to consider the origin of the biomass when evaluating the air impacts of a project.
 - m. **Comment:** Has a study been done to see how many new jobs will be created?
 - n. **Response:** Ohio EPA does not have the authority to consider the jobs created when evaluating the air impacts of a project.
 - o. **Comment:** Has a study been done to estimate how the loss of our wood products to Bio-Mass will affect other wood products?
 - p. **Response:** Ohio EPA does not have the authority to consider the origin of the biomass when evaluating the air impacts of a project.
 - q. **Comment:** Has a study been done to estimate how many of our agriculture lands will be lost in the Bio-Mass experiment?
 - r. **Response:** Ohio EPA does not have the authority to consider the origin of the biomass when evaluating the air impacts of a project.
 - s. **Comment:** Has a study been done to make sure that the introduction of Switch Grass and Miscanthus Grass is non-invasive to our native grasses and plants and trees?
 - t. **Response:** Ohio EPA does not have the authority to consider the origin of the biomass when evaluating the air impacts of a project.
4. Topic: **Several comments received via email expressing concerns with the permit and requesting Ohio EPA to deny the permit**
- a. **Comment:** It is not acceptable for a Clean Air Act permit to be issued for the DP&L Killen facility to burn biomass when there is no conceivable improvement being made to their emissions from this modification. There is not an improvement in SO₂ nor in NO_x. In fact the emission levels for carbon monoxide (CO) will increase significantly. Effects from CO can include birth defects, low birth weight, biological dysfunctions, or psychological or behavioral deficits.
- The permit supporting documents indicate that the level of Benzene emissions will increase by 450%. Benzene causes cancer, development disability in children and infertility. Formaldehyde levels will increase by as much as 2100%, and is known to cause cancer, and suspected of being a neurotoxin.
- Furthermore, DP&L is seeking permission to burn briquettes that could have anywhere from a 0-100% grass and 0-100% wood composition. This is impermissible because the emissions profiles differ significantly for these two materials. Ohio EPA should not write the Killen facility a blank check to burn a mystery combination of wood and grass when the actual corresponding emissions rates are not being disclosed upfront in the permitting process.
- Please deny the permit.

- b. **Response:** Modeling was conducted in accordance with the Ohio EPA Air Toxics Policy and OAC Chapter 3745-114. The results of the modeling were found to be within the Maximum Allowable Ground Level Concentration specified in the Air Toxic Policy. While the required modeling indicates there may be an increase in some pollutants, levels of toxic pollutants will be within standards deemed to be protective of the environment and public health.
5. Topic: **Sierra Club Ohio Chapter, grassroots environmental organization – public hearing oral testimony and written comments received**
- a. **Comment:** Comments were received that stated Ohio EPA should not grant the permit without fully investigating how burning biomass in Southern Ohio could worsen the problem because much of Southern Ohio including Adams County is in non-attainment for Particulate Matter 2.5. Stating that burning biomass actually produces larger amounts of particulate matter than burning coal.
- b. **Response:** The particulate emission limitations for emissions unit B001 have not been revised in this current permit action. The particulate emission limitations and the visible particulate emission limitation required in the Title V permit issued on December 18, 2002 have not been changed.
- The ash content of the biofuel is significantly less than that of coal. Therefore, the potential particulate emissions are not expected to increase while co-firing coal with biomass.
- c. **Comment:** Comments received that expressed the Killen plant has not disclosed which type and source and type of biomass it plans on burning. Is Killen planning on burning trees? Trash? Agricultural Waste? Manure? Different types of biomass produce a myriad of different types and levels of pollutants. We ask that Ohio EPA demand DP&L to disclose what type of biomass it intends to burn at the Killen facility so the environmental impacts associated with that fuel type could be fully understood and evaluated.
- d. **Response:** See response to comments 2.e and 2.g above and comment 9.i below. The biomass fuel to be employed at this facility is restricted by the definition included in the permit.
- e. **Comment:** Comments were received expressing concerns over significant increases in carbon monoxide pollution.
- f. **Response:** Air quality dispersion modeling was conducted to assess the effect of this project on the national ambient air quality standards (NAAQS). Peak impacts of CO were well below the applicable Significant Impact Levels and it is believed that the permitting action will not cause or contribute to NAAQS exceedances. Ohio EPA determined that the emission levels were acceptable to be protective of health and the environment.

Any facility operating within Ohio must comply with all applicable state and federal environmental regulations. Ohio EPA has developed extensive monitoring, record keeping, reporting and testing requirements in this permit to ensure ongoing compliance.

6. Topic: **Nathan Johnson, Buckeye Forest Council**

- a. **Comment:** Comments were received that expressed concern of not knowing what the plant will be burning.
- b. **Response:** Ohio EPA developed the draft permit to include a definition that describes biomass as wood / grass briquettes, or other approved clean cellulosic biomass based on what the company provided in the permit application and an Ohio EPA approved trial burn conducted in October, 2009. The permit approves a mixture of biofuel. Boiler #2 is a very well monitored emissions unit with existing continuous emissions monitors for particulate matter, nitrogen oxides, sulfur dioxide, and opacity along with the draft permit requiring the installation of a continuous carbon monoxide monitor.
- c. **Comment:** Comments were received expressing concerns of one ton of pellets equating to 2 tons of wood and 3,700 forest acres.
- d. **Response:** Ohio EPA does not have the authority to consider the origin of the biomass fuel when evaluating the air impacts of a project.
- e. **Comment:** Comments were received expressing concerns of allowing 0 – 100% grass and how the emissions profiles differ.
- f. **Response:** See response to comment 6.a above.
- g. **Comment:** Comments were received expressing concerns that clean cellulosic biomass includes green wood with increase moisture content which can affect the Carbon Monoxide emissions causing an increase.
- h. **Response:** The permit requires the company to install, operate and maintain equipment to continuously monitor and record carbon monoxide (CO) emissions to ensure ongoing compliance with the CO emissions limitations established in the permit. The company is required to submit a report to Ohio EPA each quarter which includes documenting any exceedances of the CO emissions limit.
- If the CO continuous monitoring system indicates an increase in CO emissions above the permitted allowable emissions, Ohio EPA will take the appropriate action.
- i. **Comment:** Comments were received stating the permit application states the wood briquettes would be comprised of 1% ash which is problematic because switch grasses are at 5% ash.
- j. **Response:** The ash content for biofuel provided in the permit application was based on a nominal average of 1.0 weight percent. We recognize that the ash content of switchgrass can be up to 4%. However, the projected actual emissions for particulate matter is based on test data while firing 100% coal since the ash content of coal is 9.81% which is much greater than the ash content of biofuel.

- k. **Comment: Comments were received stating there was no improvement in Particulate Matter, Sulfur Dioxide, and Nitrogen Oxides and Carbon Monoxide is increasing.**
- l. **Response:** The baseline actual to projected actual emission analysis indicates an emissions decrease in particulate matter, sulfur dioxide, and nitrogen oxides emissions and an increase in carbon monoxide emissions. The projected sulfur content of the biofuel is 0.02 weight percent in comparison to that of coal at 3.0 weight percent. The ash content of the biofuel is also significantly less than that of coal.
- m. **Comment: Comments were received expressing concern of benzene increasing by 450% and formaldehyde by 2100%.**
- n. **Response:** See response to comment 4.a above.
- o. **Comment: Comments were received expressing that when comparing the Baseline actual 2009 emissions to the projected actual emissions that emissions have increased across the board.**
- p. **Response:** Ohio Administrative Code (OAC) 3745-31-01(O) defines the baseline actual emissions for any electric steam generating unit as the average rate, in tons per year, at which the unit actually emitted the pollutant during any consecutive twenty-four-month period selected by the company within the five-year period immediately preceding when the company begins actual construction. Therefore, it is not accurate to assume an emissions increase when comparing calendar year 2009 to the projected actual calendar year 2010.
- q. **Comment: Comments were received expressing that biomass is far less efficient than coal with heat input of biomass at 7,500 Btu/lb versus coal at 11,700 Btu/lb.**
- r. **Response:** Ohio EPA does not have the authority to consider the efficiency of the biomass fuel when evaluating the air impacts of a project.
7. Topic: **General public hearing citizen comments received**
- a. **Comment: Citizen expressed concerns regarding the source and added pollution with biomass fuel.**
- b. **Response:** See response to Comment 1.a.
- c. **Comment: Citizen expressed concern that this is a test and the results of how these grasses will grow in this area is not established yet.**
- d. **Response:** Ohio EPA does not have the authority to consider the origin of the biomass fuel when evaluating the air impacts of a project.
- e. **Comment: Citizen is concerned if biomass fuels are not available locally then where will they come from. Will the source be domestic, foreign and will we have to worry about importation of harmful bugs and viruses?**
- f. **Response:** Ohio EPA does not have the authority to consider the origin of the biomass fuel when evaluating the air impacts of a project.

- g. **Comment:** Citizen expressed concern of carbon monoxide pollution increasing 1,214 tons per year.
 - h. **Response:** See response to comment 5.e and 6.e above.
 - i. **Comment:** Citizen objects to this permit and asks that DP&L along with Ohio EPA and environmental groups go back to the legislature and ask that they modify Senate Bill 221 until further study can be done.
 - j. **Response:** Ohio EPA does not have the authority to consider legislative actions required by other government entities when evaluating the air impacts of a project.
 - k. **Comment:** Citizen expressed concern for allowing more air pollution.
 - l. **Response:** Ohio EPA evaluated the amount of various pollutants expected to be emitted from this facility and have determined that the emission limits and control requirements established in the final permit are protective of human health and the environment.
 - m. **Comment:** Citizen expressed concerns if biomass project continues and grows that Shawnee State forest is at risk.
 - n. **Response:** Ohio EPA does not have the authority to consider the origin of the biomass fuel when evaluating the air impacts of a project.
 - o. **Comment:** Citizen expressed concern that agencies have very few people to follow-up on what's being done.
 - p. **Response:** The PLAA is required by contractual obligation to Ohio EPA to conduct periodic inspections of the DP&L, Killen facility and to maintain the ambient air monitoring equipment which monitors the particulate matter and sulfur dioxide emissions in Adams County. The permit requires DP&L to conduct emissions testing within 6 months after commencing operation of the boiler while co-firing with wood/grass briquettes, or other approved clean cellulosic biomass. This emissions testing will be witnessed and the written report of the results will be reviewed by the PLAA.
 - q. **Comment:** Citizen expressed concern that producing and delivering biomass increases pollution and is not considered in overall equation.
 - r. **Response:** Ohio EPA does not have the authority to consider the emissions from the production of the biomass fuel in relation to this project. However, the material handling operations for this renewable energy project were included in the Baseline Actual to Projected Actual analysis.
8. **Topic: Dayton Power and Light written comments**
- a. **Comment:** Carbon Monoxide (CO) – Page 15 section h. provides a CO limit of 0.15 lb/mmBtu (as a 24-hour average) when co-firing wood/grass briquettes or other clean cellulosic biomass. The averaging period should be changed to a 30-day rolling average, similar to that commonly used for sulfur dioxide. This change better aligns with the

BACT analysis. In addition, modeling of CO emissions demonstrates that CO emissions from Killen Station will yield only a tiny fraction of the permissible ambient impact.

- b. **Response:** Ohio EPA does not agree with this proposed change. Therefore, the CO emission limitation will remain based on a 24-hour average basis.
- c. **Comment: Volatile Organic Compounds (VOC) – Page 15 section i. should incorporate language similar to CO, i.e. “When co-firing coal with wood/grass briquettes or other approved clean cellulosic biomass:”**
- d. **Response:** Ohio EPA agrees with this change. The permit terms will be revised to add the clarifying language to the VOC emission limitation.
- e. **Comment: Clean Cellulosic Biomass – Page 20 section (4) provides a workable definition for a renewable fuel. DP&L requests that this definition not be altered in the final permit.**
- f. **Response:** Ohio EPA does not plan to alter the definition of clean cellulosic biomass as proposed in the draft permit.
- g. **Comment: Method 9 Readings – Page 22, section (7). DP&L asserts that sufficient compliance with the opacity limitation was established in 2010 that the requirement for monthly Method 9 readings can be reduced or eliminated at this time.**
- h. **Response:** Per correspondence dated August 2, 2006, USEPA, Region V allowed DP&L to demonstrate compliance with the opacity limit by using Method 9 (M9) readings and specified conditions which included Monthly M9 observations. As stated in draft term and condition (7)e., DP&L may petition the Director of Ohio EPA and USEPA for a reduction in the frequency of Method 9 readings. Therefore, this request cannot be approved with this pending final permit action and must be submitted as a separate request to both Ohio EPA and USEPA, Region V.
- i. **Comment: Carbon Monoxide (CO) – Page 25, section (13) DP&L requests that language requiring prior submittal of location information be deleted. DP&L is an experienced purchaser and user of CEMS equipment and this provision would interfere with our acquisition process.**
- j. **Response:** The permit has been revised to remove this term.
- k. **Comment: Carbon Monoxide (CO) – Page 34, section (8) & (9) DP&L requests that somewhere in this section it be reiterated that these provisions only apply during calendar quarters where clean cellulosic biomass is combusted.**
- l. **Response:** The emissions limitation applies only when co-firing coal with the wood/grass briquettes or other approved clean cellulosic biomass fuel. However, this modification initiated the requirement for DP&L to install, operate, and maintain a Carbon Monoxide continuous emissions monitoring system (CEMS) at all times.
- m. **Comment: PM CEMS – page 37 section f)(1)a. last paragraph is new and mentions “Ongoing compliance with the PM limitation...shall be demonstrated through the data collected..” DP&L is not familiar with the intent of this language and asks that it be deleted. Alternatively, the scope of this language should be narrowed to times of normal**

operation of the FGD system. DP&L reminds Ohio EPA that equations with the PM CEMS system do not give a true representation of what is happening during startup/shutdown. This is due to the way that the PM CEMS is calibrated and the effect of the low CO₂ on calculations.

- n. **Response:** Ohio EPA and USEPA, Region V view the PM CEMS data as a direct measure of PM emissions which will be available for determining compliance with the PM emissions limitation on an ongoing basis.
- o. **Comment: Opacity – page 38, section c. The phrase ‘any gases’ does not work well for a wet plume. This section should be adjusted to recognize wet plume realities and/or link back to a COMS exclusion when the FGD is in use.**
- p. **Response:** OAC rule 3745-17-03(C) requires that any facility subject to 40 CFR Part 51, Appendix P, operate and maintain a COMS, and that the system meet requirements set forth in 40 CFR Part 60, Appendix B. 40 CFR 60.42(a) further states that ANY gases from an emissions unit subject to this Subpart, and that exhibits greater than 20% opacity, except for one 6-minute period per hour of not more than 27% opacity, is in violation of the Subpart. Although Ohio EPA recognizes that opacity cannot be measured in a wet plume, it is accepted by USEPA and Ohio EPA that if opacity is required to be monitored at the point where emissions are discharged to the atmosphere, and water droplets are present, the opacity may be monitored at a location upstream of the interference (the FGD), providing that the location is still able to meet the COMS siting requirements contained in 40 CFR Part 60, Appendix B.

In this case the FGD was installed in a location where any upstream COMS installation location would not be able to meet siting requirements. This being the case, the COMS was installed in the stack, and provides valid opacity readings when the FGD is not in use, but it is not able to monitor opacity when the FGD is in use because of water droplet interference. Ohio EPA does recognize that a PM monitor has been installed, certified, and is being used to demonstrate ongoing compliance with particulate emissions limitations for this emissions unit, and that 40 CFR Part 60, in this case, would eliminate both the opacity limit, and the opacity monitoring requirement. Ohio EPA is working on a rule change that will address situations such as this, but since the current rule does not contain alternate monitoring provisions, or exemptions from monitoring opacity even from wet stacks, an exclusion from monitoring opacity is not possible at this time.

- q. **Comment: Carbon Monoxide (CO) – page 39 section f. As mentioned above, DP&L requests that the averaging time be a rolling 30 days.**
- r. **Response:** See response to comment 8.a above.
- s. **Comment: Carbon Monoxide (CO) – page 41 section (4) mentions CO₂. DP&L does not know whether this is a typo, meaning CO. If CO₂ is intended, it does not seem appropriate in this “Testing” section and should be deleted.**
- t. **Response:** This was a typo and will be corrected to state CO.

9. **Topic: Sierra Club, Natural Resources Defense Council (NRDC), Buckeye Forest Council, and Ohio Environmental Council written comments**

- a. **Comment:** Comments were received stating the draft permit fails to establish existing source MACT limits for mercury and other Hazardous Air Pollutants they believe are triggered by the renewable fuel co-firing project.
- b. **Response:** Ohio EPA has reviewed the established state and federal rules in regards to applicability of the MACT standards to the modification of the existing DP&L utility boiler renewable fuel co-firing project and have determined neither state or federal MACT requirements apply to this modification.
- c. **Comment:** Comments received with concerns that the Killen Plant emits significant amounts of Mercury and other HAPs that present serious public health and environmental threats.
- d. **Response:** See response to comment 4.a above.
- e. **Comment:** Comments received stating the permit fails to impose emission limits reflective of BACT for the proposed project.
- f. **Response:** Ohio EPA has reviewed and evaluated past BACT determinations for a wide variety of sources. The BACT determination reflected in the draft air permit represents what Ohio EPA believes to be BACT for sources similar to the proposed DP&L, Killen project.
- g. **Comment:** Comments received which stated Ohio EPA must determine whether Renewable Fuel Co-firing project will increase Carbon Dioxide emissions above the significant threshold.
- h. **Response:** Ohio EPA is not required to regulate CO₂ under any current state law or federal regulation. Ohio EPA has not proposed or issued any rule or guidance that addresses greenhouse gas emissions, including CO₂.
- i. **Comment:** Comments received which stated Ohio EPA should impose further restrictions on source and composition of biomass fuels in order to ensure adequate protection of environmental quality.
- j. **Response:** Ohio EPA does not have the authority to consider the origin of the biomass when evaluating the air impacts of a project.

However, the permit has been revised to include the requirement for DP&L to keep records on a monthly basis documenting the origin / composition / description of the biomass fuel or if there is an expected change in the biomass fuel blend. The Director has the authority to determine if a change in the biomass fuel blend may require additional testing.

10. **Topic: Other written comments received**

- a. **Comment:** Positive comments were received from 1 commentor.
- b. **Response:** No response necessary.

- c. **Comment:** Comments received stating what about the health effects on the Killen facility's employees? Has the Killen safety & health staff shown that adequate engineering, work practice, and personal protective equipment controls are in place? To cite just one example, are the emergency escape respirators on hand adequate to protect employees against a formaldehyde concentration twenty-one times higher than previously expected? Commentor stating the permit application should be denied until these and the other questions raised by the Buckeye Forest Council have been addressed.
- d. **Response:** Ohio EPA believes the emissions limits set forth in the draft permit-to-install are protective of public health. Ohio EPA does not have jurisdiction over employee health and safety. These questions are better directed to the Ohio Department of Health.



FINAL

Division of Air Pollution Control
Permit-to-Install
for
DP&L, Killen Generating Station

Facility ID: 0701000060
Permit Number: P0106805
Permit Type: OAC Chapter 3745-31 Modification
Issued: 12/29/2010
Effective: 12/29/2010



Division of Air Pollution Control
Permit-to-Install
for
DP&L, Killen Generating Station

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Authorization

Facility ID: 0701000060
Facility Description: Electric Generating Station
Application Number(s): A0039841
Permit Number: P0106805
Permit Description: Dayton Power and Light plans to implement a renewable energy project at Killen Station. This will be a modification to Boiler #2 (B001) to produce energy using a renewable fuel that will be co-fired with coal. The renewable fuel will consist of briquetted wood and grass or other approved clean cellulosic biomass. The renewable fuel stream will provide up to 5% of the unit's total heat input.
Permit Type: OAC Chapter 3745-31 Modification
Permit Fee: \$9,000.00
Issue Date: 12/29/2010
Effective Date: 12/29/2010

This document constitutes issuance to:

DP&L, Killen Generating Station
14869 U.S. Route 52
Manchester, OH 45144

of a Permit-to-Install for the emissions unit(s) identified on the following page.

Ohio EPA District Office or local air agency responsible for processing and administering your permit:

Portsmouth City Health Dept., Air Pollution Unit
605 Washington Street
3rd Floor
Portsmouth, OH 45662
(740)353-5156

The above named entity is hereby granted a Permit-to-Install for the emissions unit(s) listed in this section 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 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

Chris Korleski
Director



Authorization (continued)

Permit Number: P0106805
Permit Description: Dayton Power and Light plans to implement a renewable energy project at Killen Station. This will be a modification to Boiler #2 (B001) to produce energy using a renewable fuel that will be co-fired with coal. The renewable fuel will consist of briquetted wood and grass or other approved clean cellulosic biomass. The renewable fuel stream will provide up to 5% of the unit's total heat input.

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

Emissions Unit ID:	B001
Company Equipment ID:	Boiler No. 2
Superseded Permit Number:	07-00542
General Permit Category and Type:	Not Applicable

A. Standard Terms and Conditions

1. Federally Enforceable Standard Terms and Conditions

- a) All Standard Terms and Conditions are federally enforceable, with the exception of those listed below which are enforceable under State law only:
 - (1) Standard Term and Condition A.2.a), Severability Clause
 - (2) Standard Term and Condition A.3.c) through A. 3.e) General Requirements
 - (3) Standard Term and Condition A.6.c) and A. 6.d), Compliance Requirements
 - (4) Standard Term and Condition A.9., Reporting Requirements
 - (5) Standard Term and Condition A.10., Applicability
 - (6) Standard Term and Condition A.11.b) through A.11.e), Construction of New Source(s) and Authorization to Install
 - (7) Standard Term and Condition A.14., Public Disclosure
 - (8) Standard Term and Condition A.15., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations
 - (9) Standard Term and Condition A.16., Fees
 - (10) Standard Term and Condition A.17., Permit Transfers

2. Severability Clause

- a) 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.
- b) All terms and conditions designated in parts B and C of this permit are federally enforceable as a practical matter, if they 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 and the State and by citizens (to the extent allowed by section 304 of the Act) under the Act. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under State law only, only if specifically identified in this permit as such.

3. 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 re-issuance, or modification.

- 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, 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 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.

4. Monitoring and Related Record Keeping 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:
 - (1) The date, place (as defined in the permit), and time of sampling or measurements.
 - (2) The date(s) analyses were performed.
 - (3) The company or entity that performed the analyses.
 - (4) The analytical techniques or methods used.
 - (5) The results of such analyses.
 - (6) 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:
 - (1) Reports of any required monitoring and/or recordkeeping of federally enforceable information shall be submitted to the Portsmouth City Health Dept., Air Pollution Unit.

- (2) 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 Portsmouth City Health Dept., Air Pollution Unit. The written reports shall be submitted (i.e., postmarked) quarterly, by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. See A.15. below if no deviations occurred during the quarter.
 - (3) Written reports, which identify any deviations from the federally enforceable monitoring, recordkeeping, and reporting requirements contained in this permit shall be submitted (i.e., postmarked) to the Portsmouth City Health Dept., Air Pollution Unit every six months, 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.
 - (4) This permit is for an emissions unit located at a Title V facility. 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.
- d) The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

5. 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 Portsmouth City Health Dept., Air Pollution Unit 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).

6. Compliance Requirements

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

- c) 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:
 - (1) 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.
 - (2) 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.
 - (3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
 - (4) 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.
- d) The permittee shall submit progress reports to the Portsmouth City Health Dept., Air Pollution Unit 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:
 - (1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.
 - (2) 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.

7. Best Available Technology

As specified in OAC Rule 3745-31-05, new sources that must employ Best Available Technology (BAT) shall comply with the Applicable Emission Limitations/Control Measures identified as BAT for each subject emissions unit.

8. 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.

9. 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 Portsmouth City Health Dept., Air Pollution Unit.

- 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 Portsmouth City Health Dept., Air Pollution Unit. 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 (i.e., postmarked) quarterly, 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.)

10. 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).

11. Construction of New Sources(s) and Authorization to Install

- a) This permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. This permit does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the application and terms and conditions of this permit. 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 this permit does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Issuance of this permit 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.
- b) If applicable, authorization to install any new emissions unit included in this permit shall terminate within eighteen months of the effective date of the permit if the owner or operator has not undertaken a continuing program of installation or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation. 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.
- c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed by marking the affected emissions unit(s) as "permanently shut down" in Ohio EPA's "Air Services" along with the date the emissions unit(s) was permanently

removed and/or disabled. Submitting the facility profile update will constitute notifying of the permanent shutdown of the affected emissions unit(s).

- d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31). All records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

No emissions unit certified by the authorized official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.

- e) The permittee shall comply with any residual requirements related to this permit, such as the requirement to submit a deviation report, air fee emission report, or other any reporting required by this permit for the period the operating provisions of this permit were enforceable, or as required by regulation or law. All reports shall be submitted in a form and manner prescribed by the Director. All records relating to this permit must be maintained in accordance with law.

12. Permit-To-Operate Application

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).

13. Construction Compliance Certification

The applicant shall identify the following dates in the online facility profile for each new emissions unit identified in this permit.

- a) Completion of initial installation date shall be entered upon completion of construction and prior to start-up.
- b) Commence operation after installation or latest modification date shall be entered within 90 days after commencing operation of the applicable emissions unit.

14. 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.

15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations

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., postmarked), by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters.

16. 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 any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

17. Permit Transfers

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The new owner must update and submit the ownership information via the "Owner/Contact Change" functionality in Air Services once the transfer is legally completed. The change must be submitted through Air Services within thirty days of the ownership transfer date.

18. 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.

19. 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.

B. Facility-Wide Terms and Conditions



1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:
 - a) None.
2. The permittee shall ensure that any CAIR NOx, SO2, or NOx ozone season units complies with the requirements of OAC 3745-109, which includes submitting timely permit applications. The permittee shall ensure that the affected emissions units comply with those requirements as outlined in the permit application submitted as required by OAC rules 3745-109-03, 109-10 and 109-16 for the affected emissions units.
3. Clean Air Interstate Rule – OAC Chapter 3745-109.
 - a) Facility Code – 0701000060.
 - b) The following regulated emissions units are subject to the applicable requirements specified in OAC Chapter 3745-109 pursuant to OAC rule 3745-109-01(C)(1):
 - (1) B001 – 5928 mmBtu/hour pulverized coal-fired, dry bottom, wall-fired utility boiler

Note: Ohio EPA DAPC has completed proposed rule amendments for OAC Chapter 3745-14, specifically, OAC rule 3745-14-01 and OAC rule 3745-14-06, which facilitated the transition of the affected units from OAC Chapter 3745-14 into the federal Clean Air Interstate Rule (CAIR) program which began with the 2009 control periods. This began the process of “sunsetting” the parts of OAC Chapter 3745-14 which were no longer needed as a result of Ohio’s CAIR rules (OAC Chapter 3745-109). On July 6, 2010, US EPA announced the proposed CAIR replacement rule, the “Transport Rule” as required by the original court vacatur of the federal CAIR program in July 2008. The current time frame for the requirements of this program, as far as new state emission budgets, is beginning with the 2012 control periods.

The following regulated non-electrical generating emissions units have been allocated the following CAIR allowances in the appropriate permittee’s facility account as indicated below:

Emissions Unit Identification Number	Ozone Season Allowance (tons) for years 2009 – 2014
B001	3514

C. Emissions Unit Terms and Conditions

2. B001, Boiler No. 2

Operations, Property and/or Equipment Description:

Babcock and Wilcox pulverized coal-fired, dry bottom, wall-fired utility boiler having a nominal capacity of 5,928 MMBtu/hr and controlled with an electrostatic precipitator (ESP), selective catalytic reduction (SCR), and flue gas desulfurization (FGD) scrubber.

Boiler #2 modified to add capability to burn renewable fuel (wood/grass briquettes, or other approved clean cellulosic biomass) with renewable fuel combustion comprising up to 5 pct. of total heat input (296.4 MMBtu/hr) or up to 8% weight ratio of total fuel input and restricted to 185,500 tons annually.

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) d)(18), d)(19) and e)(14)

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	40 CFR Part 60.42(a)(2)	Any gases discharged into the atmosphere from this emissions unit shall not exceed 20% opacity, as a 6-minute average, except for one 6-minute period per hour of not more than 27% opacity.
b.	OAC rule 3745-17-07(A)	The emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to 40 CFR Part 60.42(a)(2).
c.	OAC rule 3745-17-10(C)(1) and 40 CFR Part 60.42(a)(1)	Particulate emissions (PM) shall not exceed 0.10 lb/mmBtu of actual heat input.
d.	OAC rule 3745-18-07(C) and 40 CFR Part 60.43(a)(2)	Sulfur dioxide (SO ₂) emissions shall not exceed 1.2 lbs/mmBtu of actual heat input.
e.	40 CFR Part 60.44(a)(3)	Nitrogen oxides (NO _x) emissions shall not exceed 0.70 lb/mmBtu of actual heat input.
f.	OAC rule 3745-31-05(A)(3) (PTI 07-354)	The controlled PM from the chemical cleaning and evaporation process shall not exceed 0.73 lb/hr and 0.03 ton/year.
g.	OAC rule 3745-31-05(A)(3) (PTI 07-001)	Compliance with this rule also includes compliance with OAC rules 3745-17-

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		10(C) and 3745-18-07(C), and the applicable provisions of 40 CFR Part 60, Subpart D.
h.	OAC rule 3745-31-10 through 20	When co-firing coal with wood/ grass briquettes or other approved clean cellulosic biomass: Carbon Monoxide (CO) emissions from the boiler stack shall not exceed 0.15 lb/mmBtu of actual heat input (as a 24-hour average), 889.2 lbs/hr (as a 24-hour average) and 3,895 tpy. See b)(2)a, c)(1), and c)(2).
i.	ORC 3704.03(T)	When co-firing coal with wood/ grass briquettes or other approved clean cellulosic biomass: Volatile organic compounds (VOC) emissions from the boiler stack shall not exceed 0.0034 lb/mmBtu of actual heat input. The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-10 through 20. See b)(2)b, c)(1) and c)(2).
j.	OAC rule 3745-114-01	See d)(18) and d)(19).
k.	OAC rule 3745-31-05(A)(3) (PTI 07-00542)	See b)(2)c.

(2) Additional Terms and Conditions

a. Based on the “Prevention of Significant Deterioration” (PSD) analysis conducted to ensure the application of “Best Available Control Technology” (BACT), it has been determined that the following control measures constitute BACT for CO emissions from this emissions unit when co-firing wood/ grass briquettes or other approved clean cellulosic biomass:

i. It has been determined that the use of good combustion practices, and the emission limitations listed under OAC rules 3745-31-10 through 20 above constitutes BACT for this emissions unit.

The emission limitations based on the BACT requirements are listed under OAC rules 3745-31-10 through 3745-31-20 in b)(1)h above. The controls and

practices that constitute BACT also meet the BAT requirements of ORC 3704.03(T).

- b. Compliance with ORC 3704.03(T) shall be demonstrated by the emission limitations and compliance with applicable fuel restrictions, BACT requirements, record keeping, reporting, and emissions testing required by this permit that are associated with the above ORC 3704.03(T) limitations and requirements.

The above-specified limitations under ORC 3704.03(T) represent best available technology (BAT) requirements that were triggered as a result of the New Source Review (NSR) major modification in this permit action for the renewable fuel project which increased potential emissions of CO and VOC only when co-firing coal with wood/grass briquettes, or other approved clean cellulosic biomass. BAT requirements do not apply to this existing emissions unit when firing only coal or fuel oil (for ignition and supplemental firing).

- c. OAC rule 3745-31-05(A)(3) did not apply to this modification issued 12/09/2004, based on OAC rule 3745-31-01(QQQ)(1)(b).

This permit allowed the voluntary installation of one flue gas desulfurization (FGD) scrubber unit on emissions unit B001. A permit to install was required to determine whether the air quality impacts associated with the installation of the new FGD unit exceeded the levels outlined in OAC rule 3745-31-01(QQQ)(1)(b). Because an environmentally beneficial exemption does not allow installation of a project that exceeds modeling thresholds, the installation of the scrubber required a permit to install.

- d. Each continuous CO monitoring system shall be certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specifications 4 or 4a and 6. At least 45 days before commencing certification testing of the continuous CO monitoring system(s), the permittee shall develop and maintain a written quality assurance/quality control plan designed to ensure continuous valid and representative readings of CO emissions from the continuous monitor(s), in units of the applicable standard(s). Except as allowed below, the plan shall follow the requirements of 40 CFR Part 60, Appendix F. The quality assurance/quality control plan and a logbook dedicated to the continuous CO monitoring system must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct relative accuracy test audits for the continuous CO monitoring system in accordance with the frequencies required for monitoring systems subject to 40 CFR 60, or may follow relative accuracy test audit frequency requirements for monitoring systems subject to 40 CFR 75, Appendix B. In either case, results shall be recorded and reported in units of the applicable standard(s) in accordance with 40 CFR Part 60.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits as required in 40 CFR Part 60; however, the quarterly cylinder gas audit and relative accuracy audit frequency requirements may be adjusted to coincide with linearity checks completed for continuous emissions monitoring systems subject to 40 CFR Part 75, Appendix B requirements.

- e. The continuous CO monitoring system consists of all the equipment used to acquire data to provide a record of emissions and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data recording/processing hardware and software.
- f. The permittee shall maintain a written quality assurance/quality control plan for the continuous SO₂ monitoring system, designed to ensure continuous valid and representative readings of SO₂ emissions in units of the applicable standard(s). Except as allowed below, the plan shall follow the requirements of 40 CFR Part 60, Appendix F and 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous SO₂ monitoring system must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct relative accuracy test audits for the continuous SO₂ monitoring system in accordance with the frequencies required pursuant to 40 CFR Part 60 and 40 CFR Part 75; or may follow relative accuracy test audit frequency requirements for monitoring systems subject to 40 CFR 75, Appendix B, in lieu of frequencies required in 40 CFR Part 60. In either case, results shall be recorded and reported in units of the applicable standard(s) in accordance with 40 CFR Part 60.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits pursuant to 40 CFR Part 60, and linearity checks pursuant to 40 CFR Part 75; however, linearity checks completed pursuant to 40 CFR Part 75, Appendix B, may be substituted for the quarterly cylinder gas or relative accuracy audits required per 40 CFR Part 60.

- g. The continuous SO₂ monitoring system consists of all the equipment used to acquire data to provide a record of emissions and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data recording/processing hardware and software.
- h. The permittee shall maintain a written quality assurance/quality control plan for the continuous NO_x monitoring system, designed to ensure continuous valid and representative readings of NO_x emissions in units of the applicable standard(s). Except as allowed below, the plan shall follow the requirements of 40 CFR Part 60, Appendix F and 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous NO_x monitoring system must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct relative accuracy test audits for the continuous NO_x monitoring system in accordance with the frequencies required pursuant to 40 CFR Part 60 and 40 CFR Part 75; or may follow relative accuracy test audit frequency requirements for monitoring systems subject to 40 CFR 75, Appendix B, in lieu of frequencies required in 40 CFR Part 60. In either case, results shall be recorded and reported in units of the applicable standard(s) in accordance with 40 CFR Part 60.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits pursuant to 40 CFR Part 60, and linearity checks pursuant to 40 CFR Part 75; however, linearity checks completed pursuant to 40

CFR Part 75, Appendix B, may be substituted for the quarterly cylinder gas or relative accuracy audits required per 40 CFR Part 60.

- i. The continuous NO_x monitoring system consists of all the equipment used to acquire data to provide a record of emissions and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data recording/processing hardware and software.
- j. The permittee shall maintain a written quality assurance/quality control plan for the continuous opacity monitoring system, designed to ensure continuous valid and representative readings of opacity and compliance with 40 CFR Part 60, Appendix B, Performance Specification 1. The plan shall include, at a minimum, procedures for conducting and recording daily automatic zero/span checks, provisions for conducting a quarterly audit of the continuous opacity monitoring system, and a description of preventive maintenance activities. The plan shall describe step by step procedures for ensuring accurate operation of the continuous opacity monitoring system on a continuous basis. The quality assurance/quality control plan and a logbook dedicated to the continuous opacity monitoring system must be kept on site and available for inspection during regular office hours.
- k. The continuous opacity monitoring system consists of all the equipment used to acquire data and record opacity.
- l. The permittee shall maintain a written quality assurance/quality control plan for the continuous particulate monitoring system, designed to ensure continuous valid and representative readings of particulate matter and compliance with 40 CFR Part 60, Appendix B, Performance Specification 11. The plan shall include, at a minimum, procedures for conducting and recording daily automatic zero/span checks, provisions for conducting a quarterly audit of the continuous particulate monitoring system, and a description of preventive maintenance activities. The plan shall describe step by step procedures for ensuring accurate operation of the continuous particulate monitoring system on a continuous basis. The quality assurance/quality control plan and a logbook dedicated to the continuous particulate monitoring system must be kept on site and available for inspection during regular office hours.
- m. The continuous particulate monitoring system consists of all the equipment used to acquire data and record particulate emissions.
- n. During the review of this permit, it became clear that there are significant uncertainties concerning the expected CO emissions from coal-fired utility boiler sources. These uncertainties include, but are not limited to (1) the fact that limited CO testing has been done on coal-fired utility boiler sources, (2) DP&L, Killen Station has only conducted a trial burn at 3% biomass by weight ratio, and (3) there is limited information on the affects of biomass fuel on boiler operations and control equipment.

Because of the significant uncertainties, DP&L, Killen Station may request that the Director adjust the Best Available Control Technology (BACT) CO limit after enough data has been collected to understand the expected emissions. DP&L

may petition the Director to change the limits once initial testing for CO while co-firing at 5% heat input or up to 8% weight ratio is complete and at least six months of data are collected via the CO continuous emissions monitoring system (CEMS). The Director shall consider the information contained in the permittee's petition, but is not obligated to accept the permittee's recommended BACT CO emission limitation.

- o. The permittee shall maintain a written quality assurance/quality control plan for the continuous CO₂ monitoring system, designed to ensure continuous valid and representative readings of CO₂ emissions in units of the applicable standard(s). Except as allowed below, the plan shall follow the requirements of 40 CFR Part 60, Appendix F and 40 CFR Part 75, Appendix B. The quality assurance/quality control plan and a logbook dedicated to the continuous CO₂ monitoring system must be kept on site and available for inspection during regular office hours.

The plan shall include the requirement to conduct relative accuracy test audits for the continuous CO₂ monitoring system in accordance with the frequencies required pursuant to 40 CFR Part 60 and 40 CFR Part 75; or may follow relative accuracy test audit frequency requirements for monitoring systems subject to 40 CFR 75, Appendix B, in lieu of frequencies required in 40 CFR Part 60. In either case, results shall be recorded and reported in units of the applicable standard(s) in accordance with 40 CFR Part 60.

The plan shall include the requirement to conduct quarterly cylinder gas audits or relative accuracy audits pursuant to 40 CFR Part 60, and linearity checks pursuant to 40 CFR Part 75; however, linearity checks completed pursuant to 40 CFR Part 75, Appendix B, may be substituted for the quarterly cylinder gas or relative accuracy audits required per 40 CFR Part 60.

- p. The continuous CO₂ monitoring system consists of all the equipment used to acquire data to provide a record of emissions and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data recording/processing hardware and software.

c) **Operational Restrictions**

- (1) The maximum annual wood/grass briquettes, or other approved clean cellulosic biomass burned in this emissions unit shall not exceed 185,500 tons based upon a rolling, 12-month summation of the renewable fuel use.

To ensure enforceability during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall not exceed the operating hours levels specified in the following table:

<u>Month(s)</u>	<u>Maximum Allowable Cumulative Fuel Use (tons)</u>
1	15,500 tons
1-2	31,000 tons
1-3	46,500 tons
1-4	62,000 tons
1-5	77,500 tons

1-6	93,000 tons
1-7	108,500 tons
1-8	124,000 tons
1-9	139,500 tons
1-10	155,000 tons
1-11	170,500 tons
1-12	185,500 tons

After the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, compliance with the annual renewable fuel usage limitation shall be based upon a rolling, 12- month summation of the renewable fuel usage in tons.

- (2) The actual heat input from the co-firing of wood/grass briquettes, or other approved clean cellulosic biomass shall not exceed 5% of the emissions unit's actual total heat input, and up to 8% weight ratio on a daily average basis.
- (3) The permittee shall combust only coal, distillate fuel oil and/or biodiesel (B20) [for ignition and supplemental firing], and wood/grass briquettes, or other approved clean cellulosic biomass in this emissions unit. The permittee may not alter the raw material waste constituents of the manufactured wood/grass briquettes, or other approved clean cellulosic biomass without prior approval from Ohio EPA.
- (4) Clean cellulosic biomass is defined as forest-derived biomass (e.g., green wood, forest thinnings, clean and unadulterated bark, sawdust, trim, and tree harvesting residuals from logging and sawmill materials), corn stover and other biomass crops used specifically for energy production (e.g., energy cane, other fast growing grasses), bagasse and other crop residues (e.g., peanut shells), wood collected from forest fire clearance activities, trees and clean wood found in disaster debris, and clean biomass from land clearing operations.

d) **Monitoring and/or Recordkeeping Requirements**

- (1) The permittee shall maintain monthly records of the following information:
 - a. the wood/grass briquettes, or other approved clean cellulosic biomass fuel use for each month, in tons; and
 - b. beginning after the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the rolling, 12-month summation of the wood/grass briquettes, or other approved clean cellulosic biomass fuel use, in tons.

Also, during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the permittee shall record the cumulative usage of wood/grass briquettes, or other approved clean cellulosic biomass, in tons, for each calendar month.

- (2) The permittee shall maintain daily records of the calculated actual heat input (average) from the co-firing of wood/grass briquettes, or other approved clean cellulosic biomass as a percentage of the total actual heat input to this emissions unit.

- (3) The permittee shall maintain on-site, the document of certification received from the U.S. EPA or the Ohio EPA's Central Office verifying that the continuous opacity monitoring system has been certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specification 1. The letter/document of certification shall be made available to the Director (the Portsmouth Local Air Agency) upon request.

Each continuous monitoring system consists of all the equipment used to acquire and record data in units of all applicable standard(s), and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data processing hardware and software.

- (4) The permittee shall operate and maintain the continuous opacity monitoring system to continuously monitor and record the opacity of the particulate emissions from this emissions unit. The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60.

The permittee shall maintain records of data obtained by the continuous opacity monitoring system including, but not limited to:

- a. percent opacity on an instantaneous (one-minute) and 6-minute block average basis;
 - b. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
 - c. hours of operation of the emissions unit, continuous opacity monitoring system, and control equipment;
 - d. the date, time, and hours of operation of the emissions unit without the control equipment and/or the continuous opacity monitoring system;
 - e. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the continuous opacity monitoring system; as well as,
 - f. the reason (if known) and the corrective actions taken (if any) for each such event in (d) and (e).
- (5) To obtain an exemption pursuant to OAC rule 3745-17-17(A)(3)(a)(i) or (A)(3)(b)(i), the permittee shall operate and maintain a temperature monitor(s) and recorder(s) that measure and record the temperature of the boiler exhaust gases entering the ESP during (a) all periods of start-up until the ESPs are operational or until the inlet temperature of the ESPs achieve the temperature level specified in OAC rule 3745-17-07(A)(3)(a)(i) and (b) all periods of shutdown until the inlet temperature of the ESPs drop below the temperature level specified in OAC rule 374-17-07(A)(3)(b)(i). An electronic or hardcopy record of the temperature during periods of startup and shutdown shall be maintained.

The temperature monitors and recorders shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, with any

modification deemed necessary by the permittee, and shall be capable of accurately measuring the temperature of the boiler exhaust gases in units of degrees Fahrenheit.

- (6) Until such time that an alternative monitoring option becomes available and is accepted by Ohio EPA and USEPA, the permittee shall install, operate and maintain equipment to continuously monitor and record the particulate mass emissions data in units of the standard(s) from this emission unit during operations in which the flue gas is passing through the desulfurization control equipment. Continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR 60.13, 40 CFR Part 60, Appendix B, Performance Specifications 11 and modifications as approved by Ohio EPA and USEPA, and be operated in accordance with 40 CFR Part 60, Appendix B, Performance Specifications 11 and modifications as approved by USEPA, and 40 CFR Part 60, Appendix F, Procedure 2.

The continuous monitoring system consists of all the equipment used to acquire data and includes the data recording/processing hardware and software.

The permittee shall maintain a certification letter from the Ohio EPA documenting that the continuous particulate monitoring system has been certified in accordance with the requirements of 40 CFR Part 60, Appendix B, Performance Specifications 11, with any modifications as approved by Ohio EPA and USEPA. The letter of certification shall be made available to the Director upon request.

The permittee shall maintain records of the following data obtained by the continuous particulate monitoring system: particulate emissions in units of the standard(s) on a one-hour basis, results of daily zero/span calibration checks, magnitude of manual calibration adjustments, the duration of time that the continuous particulate monitoring system was not operating while flue gases were passing through the desulfurization control device, and the duration of time that the flue gases were passing through the desulfurization control device.

- (7) Upon initial startup of the unit with the desulfurization control device in operation, the permittee shall perform periodic Method 9 readings. The Method 9 readings must be taken by a certified observer with the following conditions:
- a. The permittee will take weekly Method 9 readings, for at least one hour each week during regular source operation until the PM CEMs is certified.
 - b. If continuous compliance with the opacity limitation is demonstrated for six consecutive weeks and the PM CEMS is in operation and certified, the permittee can begin taking monthly Method 9 readings.
 - c. Monthly Method 9 readings must be taken for at least two hours each consecutive month but may be performed in no less than 30- minute intervals during regular source operation.
 - d. If excess opacity is identified during monthly Method 9 readings, the permittee must revert back to weekly Method 9 readings until six consecutive weeks of Method 9 data indicate compliance with the opacity limit.

- e. If continuous compliance with the opacity limitation is demonstrated for 6 consecutive months, the permittee may petition the Director and USEPA for a reduction in the frequency of Method 9 readings.
- (8) Each continuous particulate monitoring system shall be installed in accordance with the siting requirements in 40 CFR Part 60, Appendix B, Performance Specifications 11.

Each continuous monitoring system consists of all the equipment used to acquire and record data in units of all applicable standard(s), and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data processing hardware and software.

- (9) The permittee shall maintain on-site, the document(s) of certification received from the U.S. EPA or the Ohio EPA's Central Office documenting that the continuous SO₂ monitoring system has been certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specification 2; and has been certified by U.S. EPA or recommended for certification by Ohio EPA to U.S. EPA under 40 CFR Part 75. The letter(s)/document(s) of certification under Part 60 and certification or recommendation for certification under Part 75 shall be made available to the Director (the Portsmouth Local Air Agency) upon request.

Each continuous monitoring system consists of all the equipment used to acquire and record data in units of all applicable standard(s), and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data processing hardware and software.

- (10) The permittee shall operate and maintain equipment to continuously monitor and record SO₂ emissions from this emissions unit in units of the applicable standard(s). The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60 and 40 CFR Part 75.

The permittee shall maintain records of data obtained by the continuous SO₂ monitoring system including, but not limited to:

- a. emissions of SO₂ in parts per million on an instantaneous (one-minute) basis;
- b. emissions of SO₂ in all units of the applicable standard(s) on an hourly average basis;
- c. results of quarterly cylinder gas audits or linearity checks;
- d. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
- e. results of required relative accuracy test audit(s), including results in units of the applicable standard(s);
- f. hours of operation of the emissions unit, continuous SO₂ monitoring system, and control equipment;
- g. the date, time, and hours of operation of the emissions unit without the control equipment and/or the continuous SO₂ monitoring system;

- h. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the continuous SO₂ monitoring system; as well as,
 - i. the reason (if known) and the corrective actions taken (if any) for each such event in (g) and (h).
- (11) The permittee shall maintain on-site, the document(s) of certification received from the U.S. EPA or the Ohio EPA's Central Office documenting that the continuous NO_x monitoring system has been certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specification 2; and has been certified by U.S. EPA or recommended for certification by Ohio EPA to U.S. EPA under 40 CFR Part 75. The letter(s)/document(s) of certification under Part 60 and certification or recommendation for certification under Part 75 shall be made available to the Director (the Portsmouth Local Air Agency) upon request.

Each continuous monitoring system consists of all the equipment used to acquire and record data in units of all applicable standard(s), and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data processing hardware and software.

- (12) The permittee shall operate and maintain equipment to continuously monitor and record NO_x emissions from this emissions unit in units of the applicable standard(s). The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60 and 40 CFR Part 75.

The permittee shall maintain records of data obtained by the continuous NO_x monitoring system including, but not limited to:

- a. emissions of NO_x in parts per million on an instantaneous (one-minute) basis;
- b. emissions of NO_x in all units of the applicable standard(s) on an hourly average basis;
- c. results of quarterly cylinder gas audits or linearity checks;
- d. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
- e. results of required relative accuracy test audit(s), including results in units of the applicable standard(s);
- f. hours of operation of the emissions unit, continuous NO_x monitoring system, and control equipment;
- g. the date, time, and hours of operation of the emissions unit without the control equipment and/or the continuous NO_x monitoring system;
- h. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the continuous NO_x monitoring system; as well as,

- i. the reason (if known) and the corrective actions taken (if any) for each such event in (g) and (h).
- (13) The permittee shall install, operate, and maintain equipment to continuously monitor and record CO emissions from this emissions unit in units of the applicable standard(s). The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Parts 60.

The permittee shall maintain records of data obtained by the continuous CO monitoring system including, but not limited to:

- a. emissions of CO in parts per million on an instantaneous (one-minute) basis;
 - b. emissions of CO in pounds per hour and in all units of the applicable standard(s) on an hourly average basis;
 - c. results of quarterly cylinder gas audits;
 - d. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
 - e. results of required relative accuracy test audit(s), including results in units of the applicable standard(s);
 - f. hours of operation of the emissions unit, continuous CO monitoring system, and control equipment;
 - g. the date, time, and hours of operation of the emissions unit without the control equipment and/or the continuous CO monitoring system;
 - h. the date, time, and hours of operation of the emissions unit during any malfunction of the control equipment and/or the continuous CO monitoring system; as well as,
 - i. the reason (if known) and the corrective actions taken (if any) for each such event in (g) and (h).
- (14) The permittee shall maintain on-site, the document(s) of certification received from the U.S. EPA or the Ohio EPA's Central Office documenting that the continuous CO₂ monitoring system has been certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specification 3; and has been certified by U.S. EPA or recommended for certification by Ohio EPA to U.S. EPA under 40 CFR Part 75. The letter(s)/document(s) of certification under Part 60 and certification or recommendation for certification under Part 75 shall be made available to the Director (the appropriate Ohio EPA District Office or local air agency) upon request.

Each continuous monitoring system consists of all the equipment used to acquire and record data in units of all applicable standard(s), and includes the sample extraction and transport hardware, sample conditioning hardware, analyzers, and data processing hardware and software.

- (15) The permittee shall operate and maintain equipment to continuously monitor and record CO₂ emitted from this emissions unit in percent CO₂. The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Parts 60 and Part 75.

The permittee shall maintain records of data obtained by the continuous CO₂ monitoring system including, but not limited to:

- a. percent CO₂ on an instantaneous (one-minute) basis;
 - b. results of quarterly cylinder gas audits or linearity checks;
 - c. results of daily zero/span calibration checks and the magnitude of manual calibration adjustments;
 - d. results of required relative accuracy test audit(s);
 - e. hours of operation of the emissions unit, continuous CO₂ monitoring system;
 - f. the date, time, and hours of operation of the emissions unit without the continuous CO₂ monitoring system;
 - g. the date, time, and hours of operation of the emissions unit during any malfunction of the continuous CO₂ monitoring system; as well as,
 - h. the reason (if known) and the corrective actions taken (if any) for each such event in (f) and (g).
- (16) The permittee shall maintain daily records of the total heat input values as determined through F-Factor and carbon dioxide calculations as specified in 40 CFR Part 60, Appendix A, Method 19.
- (17) The permittee shall have the liquid waste from the emissions unit cleaning process tested to determine if it is a hazardous waste. Only non-hazardous liquid waste from the cleaning process shall be evaporated in this emissions unit.

Any hazardous waste generated from the cleaning process shall be handled, stored, and disposed of in accordance with all State and federal requirements for hazardous waste.

- (18) The permit to install for this emissions unit B001 was evaluated based on the actual materials and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Manganese

TLV (ug/m3): 0.2

Maximum Hourly Emission Rate (lbs/hr): 0.60

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.03

MAGLC (ug/m3): 4.8

Pollutant: Acetaldehyde

TLV (ug/m3): 33.2

Maximum Hourly Emission Rate (lbs/hr): 0.39

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.02

MAGLC (ug/m3): 790

Pollutant: Benzene

TLV (ug/m3): 1.6

Maximum Hourly Emission Rate (lbs/hr): 1.57

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.08

MAGLC (ug/m3): 38.1

Pollutant: Formaldehyde

TLV (ug/m3): 0.27

Maximum Hourly Emission Rate (lbs/hr): 1.37

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.12

MAGLC (ug/m3): 6.4

Pollutant: Toluene

TLV (ug/m3): 188

Maximum Hourly Emission Rate (lbs/hr): 0.33

Predicted 1-Hour Maximum Ground-Level Concentration (ug/m3): 0.02

MAGLC (ug/m3): 4,476

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

- a. changes in the composition of the materials used or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
 - b. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
 - c. physical changes to the emissions unit or its exhaust parameters (e.g., increased/ decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).
- (19) If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) is (are) defined as a modification under other provisions of the modification definition, then the permittee shall obtain a final permit to install prior to the change.

The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy:"

- a. a description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
- b. documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
- c. where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

- (20) The permittee shall maintain records of a representative manifest of the biomass fuel which provides a description of the biomass fuel including origin and description / composition of the material on a monthly basis or if there is an expected change in the biomass blend.

These records shall be made available to the Director (the Portsmouth Local Air Agency) upon request.

e) Reporting Requirements

- (1) The permittee shall submit deviation (excursion) reports that identify all exceedances of the rolling, 12-month renewable fuel usage rate limitation and, for the first 12 calendar months of operation, all exceedances of the maximum allowable cumulative renewable fuel usage levels.
- (2) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous opacity monitoring system:
- a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR Parts 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the Portsmouth Local Air Agency, documenting all instances of opacity values in excess of any limitation specified in this permit, 40 CFR Part 60, OAC rule 3745-17-07, and any other applicable rules or regulations. The report shall document the date, commencement and completion times, duration, and magnitude (percent opacity) of each 6-minute block average exceeding the applicable opacity limitation(s), as well as, the reason (if known) and the corrective actions taken (if any) for each exceedance.
 - b. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall include the following:
 - i. the facility name and address;
 - ii. the manufacturer and model number of the continuous opacity monitor;
 - iii. a description of any change in the equipment that comprises the continuous opacity monitoring system (COMS), including any change to the hardware, changes to the software that may affect COMS readings, and/or changes in the location of the COMS sample probe;
 - iv. the excess emissions report (EER)*, i.e., a summary of any exceedances during the calendar quarter, as specified above;
 - v. the total operating time (hours) of the emissions unit;
 - vi. the total operating time of the continuous opacity monitoring system while the emissions unit was in operation;
 - vii. the date, time, and duration of any/each malfunction** of the continuous opacity monitoring system, emissions unit, and/or control equipment;

- viii. the date, time, and duration of any downtime** of the continuous opacity monitoring system and/or control equipment while the emissions unit was in operation; and
- ix. the reason (if known) and the corrective actions taken (if any) for each event in (b)(vii) and (viii).

Each report shall address the operations conducted and data obtained during the previous calendar quarter.

* where no exceedance of the opacity limit has occurred or the continuous monitoring system(s) has/have not been inoperative, repaired, or adjusted during the calendar quarter, such information shall be documented in the quarterly EER report

** each downtime and malfunction event shall be reported regardless if there is an exceedance of the opacity limit

- (3) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous PM monitoring system:

- a. The permittee shall submit reports within 30 days following the end of each calendar quarter via air services to the Portsmouth Local Air Agency documenting all instances of particulate values in excess of the limitations in b)(1)c of this permit when the emissions unit was operating and gases were passing through the desulfurization control device, detailing the date, commencement and completion times, duration, magnitude (pound per million BTU particulate), reason (if known), and corrective action(s) taken (if any) of each boiler operating day average above the applicable particulate limitation.

The reports shall also document any continuous particulate monitoring system downtime while the emissions unit was in operation and gases were passing through the desulfurization control device, (date, time, duration and reason), along with any corrective action(s) taken.

The report shall also include the date, time, reason, and corrective action(s) taken for each period of source or control equipment malfunction during periods when the emission unit was operating and the gases were passing through the desulfurization control device.

The total operating time that the emissions unit was operating and gases were passing through the desulfurization control device, and the total time of the analyzer shall also be included in this report.

If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect along with date, time, reason and corrective action(s) taken for each time period of source or control equipment malfunction. The report shall also include the total operating time that the emissions unit was operating and gases were passing through the desulfurization control device, and the total operating time of the analyzer.

- b. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall include the following:
 - i. The total of any continuous opacity monitoring system downtime while the emissions unit was on line and flue gases were not passing through the desulfurization control device, and any continuous particulate monitoring system downtime while the emission unit was operating and flue gases were passing through the desulfurization control device.
 - ii. The total time (hrs) that the emissions unit was in operation: the total of the operating time that the emission unit was operating and flue gases were not passing through the desulfurization control device and the total operating time that the emissions unit was operating and flue gases were passing through the desulfurization control device.
 - iii. The total excess emissions of particulate recorded for the quarter. Opacity excess emissions will be reported on a 6-minute block average basis while flue gases were not passing through the desulfurization control device. Particulate emissions will be reported when flue gases are passing through the desulfurization control device, and shall be reported on a boiler operating day average basis (arithmetic average of all operating one-hour periods). For limitations with other specified averaging periods, an average of the recorded hourly data in the specified units of the standard(s) shall be reported.
- (4) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous SO₂ monitoring system:
 - a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR Parts 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the Portsmouth Local Air Agency, documenting all instances of SO₂ emissions in excess of any applicable limit specified in this permit, 40 CFR Part 60, 40 CFR Part 75, OAC Chapter 3745-18, and any other applicable rules or regulations. The report shall document the date, commencement and completion times, duration, and magnitude of each exceedance, as well as the reason (if known) and the corrective actions taken (if any) for each exceedance. Excess emissions shall be reported in units of the applicable standard(s) on a rolling, 3-hour average basis.
 - b. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall include the following:
 - i. the facility name and address;
 - ii. the manufacturer and model number of the continuous SO₂ and other associated monitors;
 - iii. a description of any change in the equipment that comprises the continuous emission monitoring system (CEMS), including any change to

- the hardware, changes to the software that may affect CEMS readings, and/or changes in the location of the CEMS sample probe;
- iv. the excess emissions report (EER)*, i.e., a summary of any exceedances during the calendar quarter, as specified above;
 - v. the total SO₂ emissions for the calendar quarter (tons);
 - vi. the total operating time (hours) of the emissions unit;
 - vii. the total operating time of the continuous SO₂ monitoring system while the emissions unit was in operation;
 - viii. results and dates of quarterly cylinder gas audits;
 - ix. unless previously submitted, results and dates of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));
 - x. unless previously submitted, the results of any relative accuracy test audit showing the continuous SO₂ monitor out-of-control and the compliant results following any corrective actions;
 - xi. the date, time, and duration of any/each malfunction** of the continuous SO₂ monitoring system, emissions unit, and/or control equipment;
 - xii. the date, time, and duration of any downtime** of the continuous SO₂ monitoring system and/or control equipment while the emissions unit was in operation; and
 - xiii. the reason (if known) and the corrective actions taken (if any) for each event in (b)(xi) and (xii).

Each report shall address the operations conducted and data obtained during the previous calendar quarter. Data substitution procedures from 40 CFR 75 are not to be used for showing compliance with the short term OAC 3745-31-05(A)(3) rule-based or NSPS-based limitation(s) in this permit.

* where no excess emissions have occurred or the continuous monitoring system(s) has/have not been inoperative, repaired, or adjusted during the calendar quarter, such information shall be documented in the EER quarterly report

** each downtime and malfunction event shall be reported regardless if there is an exceedance of any applicable limit

- (5) The permittee shall collect, record, and maintain measurements, data, records, and reports for the continuous SO₂ monitoring system required per 40 CFR Part 75; and shall submit certification, recertification, notifications, applications, monitoring plans, petitions for alternative monitoring systems, electronic quarterly reports, and any other pertinent record and/or report to the Administrator (U.S. EPA), as required per 40 CFR Part 75.

- (6) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous NO_x monitoring system:
- a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the Portsmouth Local Air Agency, documenting all instances of NO_x emissions in excess of any applicable limit specified in this permit, 40 CFR Part 60, 40 CFR Parts 75 and 76, and OAC Chapters 3745-14, and any other applicable rules or regulations. The report shall document the date, commencement and completion times, duration, and magnitude of each exceedance, as well as the reason (if known) and the corrective actions taken (if any) for each exceedance. Excess emissions shall be reported in units of the applicable standard(s) on a rolling, 3-hour average basis.
 - b. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall include the following:
 - i. the facility name and address;
 - ii. the manufacturer and model number of the continuous NO_x and other associated monitors;
 - iii. a description of any change in the equipment that comprises the continuous emission monitoring system (CEMS), including any change to the hardware, changes to the software that may affect CEMS readings, and/or changes in the location of the CEMS sample probe;
 - iv. the excess emissions report (EER)*, i.e., a summary of any exceedances during the calendar quarter, as specified above;
 - v. the total NO_x emissions for the calendar quarter (tons);
 - vi. the total operating time (hours) of the emissions unit;
 - vii. the total operating time of the continuous NO_x monitoring system while the emissions unit was in operation;
 - viii. results and dates of quarterly cylinder gas audits or linearity checks;
 - ix. unless previously submitted, results and dates of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));
 - x. unless previously submitted, the results of any relative accuracy test audit showing the continuous NO_x monitor out-of-control and the compliant results following any corrective actions;
 - xi. the date, time, and duration of any/each malfunction** of the continuous NO_x monitoring system, emissions unit, and/or control equipment;

- xii. the date, time, and duration of any downtime** of the continuous NO_x monitoring system and/or control equipment while the emissions unit was in operation; and
- xiii. the reason (if known) and the corrective actions taken (if any) for each event in (b)(xi) and (xii).

Each report shall address the operations conducted and data obtained during the previous calendar quarter. Data substitution procedures from 40 CFR 75 are not to be used for showing compliance with the short term OAC 3745-31-05(A)(3) rule-based or NSPS-based limitation(s) in this permit.

* where no excess emissions have occurred or the continuous monitoring system(s) has/have not been inoperative, repaired, or adjusted during the calendar quarter, such information shall be documented in the EER quarterly report

** each downtime and malfunction event shall be reported regardless if there is an exceedance of any applicable limit

- (7) The permittee shall collect, record, and maintain measurements, data, records, and reports for the continuous NO_x monitoring system required per 40 CFR Part 75; and shall submit certification, recertification, notifications, applications, monitoring plans, petitions for alternative monitoring systems, electronic quarterly reports, and any other pertinent record and/or report to the Administrator (U.S. EPA), as required per 40 CFR Part 75.
- (8) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous CO monitoring system:
 - a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the Portsmouth Local Air Agency, documenting all instances of CO emissions in excess of any applicable limit specified in this permit, 40 CFR Part 60, OAC Chapter 3745-21, and any other applicable rules or regulations. The report shall document the date, commencement and completion times, duration, and magnitude of each exceedance, as well as, the reason (if known) and the corrective actions taken (if any) for each exceedance. Excess emissions shall be reported in units of the applicable standard(s) on a rolling, 24-hour average basis.
 - b. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall include the following:
 - i. the facility name and address;
 - ii. the manufacturer and model number of the continuous CO and other associated monitors;

- iii. a description of any change in the equipment that comprises the continuous emission monitoring system (CEMS), including any change to the hardware, changes to the software that may affect CEMS readings, and/or changes in the location of the CEMS sample probe;
- iv. the excess emissions report (EER)*, i.e., a summary of any exceedances during the calendar quarter, as specified above;
- v. the total CO emissions for the calendar quarter (tons);
- vi. the total operating time (hours) of the emissions unit;
- vii. the total operating time of the continuous CO monitoring system while the emissions unit was in operation;
- viii. results and dates of quarterly cylinder gas audits;
- ix. unless previously submitted, results and dates of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));
- x. unless previously submitted, the results of any relative accuracy test audit showing the continuous CO monitor out-of-control and the compliant results following any corrective actions;
- xi. the date, time, and duration of any/each malfunction** of the continuous CO monitoring system, emissions unit, and/or control equipment;
- xii. the date, time, and duration of any downtime** of the continuous CO monitoring system and/or control equipment while the emissions unit was in operation; and
- xiii. the reason (if known) and the corrective actions taken (if any) for each event in (b)(xi) and (xii).

Each report shall address the operations conducted and data obtained during the previous calendar quarter. Data substitution procedures from 40 CFR 75 are not to be used for showing compliance with the short term OAC 3745-31-05(A)(3) rule-based or NSPS-based limitation(s) in this permit.

* where no excess emissions have occurred or the continuous monitoring system(s) has/have not been inoperative, repaired, or adjusted during the calendar quarter, such information shall be documented in the EER quarterly report

** each downtime and malfunction event shall be reported regardless if there is an exceedance of any applicable limit

- (9) The permittee shall collect, record, and maintain measurements, data, records, and reports for the continuous CO monitoring system required per 40 CFR Part 75; and shall submit certification, recertification, notifications, applications, monitoring plans, petitions

for alternative monitoring systems, electronic quarterly reports, and any other pertinent record and/or report to the Administrator (U.S. EPA), as required per 40 CFR Part 75.

- (10) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous CO₂ monitoring system:
- a. Pursuant to the monitoring, record keeping, and reporting requirements for continuous monitoring systems contained in 40 CFR Parts 60.7 and 60.13(h) and the requirements established in this permit, the permittee shall submit reports within 30 days following the end of each calendar quarter to the appropriate Ohio EPA District Office or local air agency, documenting all instances of continuous CO₂ monitoring system downtime and malfunction while the emissions unit was on line.
 - b. These quarterly reports shall be submitted by January 30, April 30, July 30, and October 30 of each year and shall include the following:
 - i. the facility name and address;
 - ii. the manufacturer and model number of the continuous CO₂ and other associated monitors;
 - iii. a description of any change in the equipment that comprises the continuous emission monitoring system (CEMS), including any change to the hardware, changes to the software that may affect CEMS readings, and/or changes in the location of the CEMS sample probe;
 - iv. the total operating time (hours) of the emissions unit;
 - v. the total operating time of the continuous CO₂ monitoring system while the emissions unit was in operation;
 - vi. results and dates of quarterly cylinder gas audits or linearity checks;
 - vii. unless previously submitted, results and dates of the relative accuracy test audit(s) (during appropriate quarter(s));
 - viii. unless previously submitted, the results of any relative accuracy test audit showing the continuous CO₂ monitor out-of-control and the compliant results following any corrective actions;
 - ix. the date, time, and duration of any/each malfunction* of the continuous CO₂ monitoring system while the emissions unit was in operation;
 - x. the date, time, and duration of any downtime* of the continuous CO₂ monitoring system while the emissions unit was in operation; and
 - xi. the reason (if known) and the corrective actions taken (if any) for each event in (b)(ix) and (x).

Each report shall address the operations conducted and data obtained during the previous calendar quarter.

* each downtime and malfunction event shall be reported regardless if there is an exceedance of any applicable limit

- (11) The permittee shall collect, record, and maintain measurements, data, records, and reports for the continuous CO₂ monitoring system required per 40 CFR Part 75; and shall submit certification, recertification, notifications, applications, monitoring plans, petitions for alternative monitoring systems, electronic quarterly reports, and any other pertinent record and/or report to the Administrator (U.S. EPA), as required per 40 CFR Part 75.
 - (12) The permittee shall submit analytical results of the tests conducted on the liquid waste, pursuant to d)(17) above, to the Portsmouth Local Air Agency 5 days prior to the evaporation of the liquid waste in this emissions unit.
 - (13) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
 - (14) The permittee shall include any changes made to a parameter or value used in the dispersion model, that was used to demonstrate compliance with the Toxic Air Contaminant Statute, ORC 3704.03(F), through the predicted 1-hour maximum ground-level concentration, in the quarterly deviation (excursion) reports. If no changes to the emissions, emissions unit(s), or the exhaust stack have been made, then the report shall include a statement to this effect.
- f) Testing Requirements
- (1) Compliance with emission limitations in b)(1) of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emission Limitation:

PM emissions from the boiler stack shall not exceed 0.10 lb/mmBtu of actual heat input.

Applicable Compliance Method:

Compliance with the lb/mmBtu emission limitation shall be demonstrated through emission tests performed in accordance with the methods and procedures specified in 40 CFR Part 60, Appendix A, Methods 1 through 4 and Method 5 or 17 and the procedures in 40 CFR Part 60.46 and OAC rule 3745-17-03(B)(9).

Ongoing compliance with the PM limitation contained in this permit, 40 CFR Part 60, and any other applicable standard(s) shall be demonstrated through the data collected as required in the Monitoring and Record keeping Section of this permit; and through demonstration of compliance with the quality assurance/quality control plan, which shall meet the testing and recertification requirements of 40 CFR Part 60.

b. Emission Limitation:

The controlled PM from the chemical cleaning and evaporation process shall not exceed 0.73 lb/hr and 0.03 ton/year.

Applicable Compliance Method:

These emission limitations were established by dividing the estimated maximum amount of iron and copper removed from the boiler (15,270 lbs) by the time period during which the cleaning solution is evaporated in the boiler (84 hrs at a rate of 50 gallons/minute) and multiplying the resulting lbs/hr emission rate by the control efficiency of the ESP (99.6%).

If required, the permittee shall demonstrate compliance with the hourly emission limitation by either (1) re-conducting the tests that yielded the values used to establish the hourly emission limitation above, or (2) performing the particulate emission tests required in f)(2) during the cleaning process.

c. Emission Limitation:

Any gases discharged into the atmosphere from this emissions unit shall not exceed 20% opacity, as a 6-minute average, except for one 6-minute period per hour of not more than 27% opacity.

Applicable Compliance Method:

Ongoing compliance with the opacity limitation contained in this permit, 40 CFR Part 60, and any other applicable standard(s) shall be demonstrated through the data collected as required in the Monitoring and Record keeping Section of this permit; and through demonstration of compliance with the quality assurance/quality control plan, which shall meet the testing and recertification requirements of 40 CFR Part 60.

d. Emission Limitation:

SO₂ emissions from the boiler stack shall not exceed 1.2 lbs/mmBtu of actual heat input.

Applicable Compliance Method:

Ongoing compliance with the SO₂ emission limitations contained in this permit, 40 CFR Parts 60 and 75, and any other applicable standard(s) shall be demonstrated through the data collected as required in the Monitoring and Record keeping Section of this permit; and through demonstration of compliance with the quality assurance/quality control plan, which shall meet the testing and recertification requirements of 40 CFR Part 60 and 40 CFR Part 75.

If required, the permittee shall demonstrate compliance with the allowable mass emission rate for SO₂ in accordance with the methods and procedures specified in 40 CFR Part 60.46.

e. Emission Limitation:

NO_x emissions from the boiler stack shall not exceed 0.70 lb/mmBtu of actual heat input.

Applicable Compliance Method:

Ongoing compliance with the NO_x emission limitations contained in this permit, 40 CFR Parts 60 and 75, and any other applicable standard(s) shall be demonstrated through the data collected as required in the Monitoring and Record keeping Section of this permit; and through demonstration of compliance with the quality assurance/quality control plan, which shall meet the testing and recertification requirements of 40 CFR Part 60 and 40 CFR Part 75.

If required, the permittee shall demonstrate compliance with the allowable mass emission rate for NO_x in accordance with the methods and procedures specified in 40 CFR Part 60.46.

f. Emission Limitation:

When co-firing coal with wood/ grass briquettes or other approved clean cellulosic biomass:

CO emissions from the boiler stack shall not exceed 0.15 lb/mmBtu of actual heat input (as a 24-hour average), 889.2 lbs/hr (as a 24-hour average) and 3,895 tpy.

Applicable Compliance Method:

Compliance with the lb/mmBtu emission limitation shall be demonstrated based upon the applicable emissions tests specified in f)(2) and compliance with the co-firing operational limitation in c)(2).

Ongoing compliance with the CO emission limitations contained in this permit, 40 CFR Parts 60 and 75, and any other applicable standard(s) shall be demonstrated through the data collected as required in the Monitoring and Record keeping Section of this permit; and through demonstration of compliance with the quality assurance/quality control plan, which shall meet the testing and recertification requirements of 40 CFR Part 60 and 40 CFR Part 75.

The annual emission rate is based upon the emissions unit's maximum rated heat input capacity of 5,928 mmBtu per hour at the allowable CO emissions rate of 0.15 pound per mmBtu for 8,760 hours per year. Compliance with the annual CO emission limitation shall be demonstrated by the CO emissions record keeping as specified in d)(13).

g. Emission Limitation:

VOC emissions from the boiler stack shall not exceed 0.0034 lb/mmBtu of actual heat input.

Applicable Compliance Method:

Compliance with the lb/mmBtu emission limitation shall be demonstrated through the VOC emission testing required in f)(2) and compliance with the co-firing operational limitation in c)(2).

The emission limitation specified above is based on AP-42 emission factors found in Sections 1.1-19 and 1.6-3 and the co-firing fuel proportion of 95% coal and 5% wood/grass briquettes, or other approved clean cellulosic biomass.

(2) Emission Testing Requirements

The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:

- a. The emission testing shall be conducted within 6 months after commencing operation of this emissions unit while co-firing with wood/grass briquettes, or other approved clean cellulosic biomass as identified in this permit to install; unless otherwise approved by the Portsmouth Local Air Agency to coincide with the required periodic testing pursuant to the terms and conditions for this emissions unit contained in the permittee's Title V Operating Permit.
- b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rates for PM, CO and VOC when co-firing coal with wood/grass briquettes, or other approved clean cellulosic biomass as specified in b)(1)c, b)(1)h and b)(1)i.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s) and emission factors:
 - i. for PM: 40 CFR Part 60, Appendix A, Methods 1 through 4 and Method 5 or 17, and the procedures specified in OAC rule 3745-17-03(B)(9);
 - ii. for VOC: 40 CFR Part 60, Appendix A, Methods 1 through 4 and Method 25 or 25A; and
 - iii. for CO: 40 CFR Part 60, Appendix A, Methods 1 through 4 and Method 10.

Alternative U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

- d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity and combusting wood/grass briquettes, or other approved clean cellulosic biomass up to 5% of the lb/mmBtu capacity of the emissions unit, or up to 8 % by weight ratio unless otherwise specified or approved by the Portsmouth Local Air Agency.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Portsmouth Local Air Agency. 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 Portsmouth Local Air Agency's refusal to accept the results of the emission test(s).

- f. Personnel from the Portsmouth Local Air Agency 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 the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the Portsmouth Local Air Agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Portsmouth Local Air Agency.
- (3) Within 60 days of the effective date of this permit, the permittee shall conduct certification tests of the continuous CO monitoring system in units of the applicable standard(s), to demonstrate compliance with 40 CFR Part 60, Appendix B, Performance Specification 4 or 4a (as appropriate) and 6; and ORC section 3704.03(l).

Personnel from the Ohio EPA Central Office and the Portsmouth Local Air Agency shall be notified 30 days prior to initiation of the applicable tests and shall be permitted to examine equipment and witness the certification tests. Two copies of the test results shall be submitted to Ohio EPA, one copy to the Portsmouth Local Air Agency and one copy to Ohio EPA Central Office, and pursuant to OAC rule 3745-15-04, within 30 days after the test is completed.

Certification of the continuous CO monitoring system shall be granted upon determination by the Ohio EPA Central Office that the system meets the requirements of 40 CFR Part 60, Appendix B, Performance Specifications 4 or 4a (as appropriate) and 6 and ORC section 3704.03(l).

- (4) Ongoing compliance with the CO monitoring requirements contained in this permit, 40 CFR Parts 60 and 75, and any other applicable standard(s) shall be demonstrated through the data collected as required in the Monitoring and Record keeping Section of this permit; and demonstration of compliance with the quality assurance/quality control plan, which shall meet the testing and recertification requirements of 40 CFR Part 60 and 40 CFR Part 75.
- g) Miscellaneous Requirements
- (1) None.