



State of Ohio Environmental Protection Agency

STREET ADDRESS:

MAILING ADDRESS:

Lazarus Government Center
50 W. Town St., Suite 700
Columbus, Ohio 43215

TELE: (614) 644-3020 FAX: (614) 644-3184
www.epa.state.oh.us

P.O. Box 1049
Columbus, OH 43216-1049

11/20/2008

Certified Mail

Stephan Dopuch
Ohio River Clean Fuels LLC
9013 NE Highway 99, Suite S
Vancouver, WA 98665

No	TOXIC REVIEW
Yes	PSD
No	SYNTHETIC MINOR
Yes	CEMS
No	MACT
Yes	NSPS
No	NESHAPS
No	NETTING
No	MAJOR NON-ATTAINMENT
Yes	MODELING SUBMITTED

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 0215130393
Permit Number: 02-22896
Permit Type: Initial Installation
County: Columbiana

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.

The issuance of this PTI is a final action of the Director and may be appealed to the Environmental Review Appeals Commission ("ERAC") under Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and describe the action complained of and the grounds for the appeal. The appeal must be filed with the ERAC within thirty (30) days after notice of the Director's action. A filing fee of \$70.00 must be submitted to the ERAC with the appeal, although the ERAC, has discretion to reduce the amount of the filing fee if you can demonstrate (by affidavit) that payment of the full amount of the fee would cause extreme hardship. If you file an appeal of this action, you must notify Ohio EPA of the filing of the appeal (by providing a copy to the Director) within three (3) days of filing your appeal with the ERAC. Ohio EPA requests that a copy of the appeal also be provided to the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the ERAC 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 Ohio EPA DAPC, Northeast District Office. This permit has been posted to the Division of Air Pollution Control (DAPC) Web page <http://www.epa.state.oh.us/dapc>.

Sincerely,

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

Cc: U.S. EPA Region 5 Via E-Mail Notification
Ohio EPA DAPC, Northeast District Office

Ted Strickland, Governor
Lee Fisher, Lieutenant Governor
Chris Korleski, Director

Response to Comments

Project: Ohio River Clean Fuels Draft Air Permit

Ohio EPA Permit Number: 02-22896

Agency Contacts for this Project

Division of Air Pollution Control:

Ken Djukic, (330) 963-1247, ken.djukic@epa.state.oh.us

Public Involvement Coordinator:

Caroline Markworth, (614) 644-2160, caroline.markworth@epa.state.oh.us.

On August 4, 2008, Ohio Environmental Protection Agency (Ohio EPA) issued draft permit-to-operate to Ohio River Clean Fuels, LLC (ORCF) for their proposed coal-to-liquid facility to be located in Wellsville, Ohio.

An information session and public hearing were held on September 10, 2008, and written comments on the draft PTI were accepted until September 15, 2008. The following are responses to the questions and comments received during the hearing and comment period pertinent to the proposed draft permit for the facility. Comments are paraphrased in bold print, followed by Ohio EPA's responses.

Ohio EPA is not able to take into consideration comments made in support of or opposition of the permit, job growth as a result of the proposed facility, economic development, noise, truck traffic or union involvement, among other things. These comments are not responded to in this Response to Comments. Only the comments received that Ohio EPA is legally able to take into consideration are responded to in this document.

In an effort to help you review this document, the questions are grouped by topic and organized in a consistent format.

Form Comments

Ohio EPA received hundreds of comments that shared the same concerns regarding emission limits and carbon dioxide limits.

Comment 1: Ohio law gives Ohio EPA authority to regulate any air component that is injurious to human health or welfare, plant or animal life or property. Scientists have firmly established that carbon dioxide fits this definition.

In issuing a final air permit for the proposed Baard plant, Ohio EPA should set strict limits on all emissions, including carbon dioxide.

Response 1: Ohio EPA has proposed emission limits on air pollutants including particulate matter (PM), nitrogen oxides, sulfur dioxides, carbon monoxide, volatile organic compounds, sulfuric acid mist and hydrogen sulfide. Ohio EPA is not required to regulate CO₂ under any current state or federal law. Ohio EPA has not proposed or issued any rule or guidance that addresses greenhouse gas emissions, including CO₂.

While there are a number of important state and regional initiatives underway, Ohio EPA believes that federal climate change legislation is critical to accomplish the goal of substantially reducing greenhouse gas emissions. At this time U.S. EPA has not issued any regulation that would require states to include a review of CO₂ emissions as part of

this permit. In order for Ohio EPA to be required to regulate CO₂ under our rules, U.S. EPA must first regulate CO₂ under the Clean Air Act. U.S. EPA has not taken any action to regulate CO₂ under the Clean Air Act. Therefore, Ohio EPA is not required to do so under federal regulations. Ohio EPA believes that the emission limits for the pollutants contained in the permit are protective of human health and the environment.

Comment 2: I am concerned that the draft permit for the proposed Beard energy liquid coal plant does not do enough to limit air and global warming pollution, or consider the cumulative harms of increased pollution in the area.

The Beard facility would burn at least seven million tons of coal, and emit an estimated 14 to 18 million tons of carbon dioxide, every year. Beard has discussed the possibility of sequestering these carbon dioxide emissions, but the draft permit would not legally bind it to do so. I urge you to include a binding provision in any air pollution permit for the Beard facility that requires the plant to capture and sequester at least 90 percent of its carbon dioxide emissions.

I also urge you to require strict limits for the plant's fine particulate matter emissions and to carefully evaluate the cumulative harms of elevated pollution in the area. The Beard facility would represent a major new source of air and water pollution in an area that is already overburdened with pollution. For example, the facility would be located less than 10 miles from the largest coal-fired power plant in Ohio (the W.H. Sammis plant) and one of the largest hazardous waste incinerators in the world (the Waste Technologies Industries facility in East Liverpool).

Please carefully evaluate whether it is appropriate to burden this community with yet another major source of pollution. If you do decide to allow the plant to be built, I urge you to set strict limits on all plant emissions, including carbon dioxide.

Response 2: Ohio EPA has completed a detailed analysis of the impact of the expected emissions from the proposed ORCF plant. This analysis includes detailed computer modeling that calculated the maximum pollutant concentrations downwind of the plant. This modeling included the emissions from significant other sources of air pollution located in the area. Based on this analysis, the added air pollution as a result of the ORCF facility will not result in air pollution levels that could cause health impacts to citizens in the area.

Ohio EPA does not currently have the authority to include a binding provision in the air pollution permit requiring the facility to capture and sequester carbon dioxide emissions. Please see the response to Comment 1 above.

Comment 3: A number of comments urged the use of cleaner processes for the coal-to-fuel energy plant or using windmills as a source of cleaner energy.

Response 3: Ohio EPA's role is to review the application submitted by the company for the permits necessary for the project proposed by the company. Ohio EPA is not in a position to require the facility to alter the design of the facility, as long as the conditions of the permits from Ohio EPA are met. It would be the discretion of the company to incorporate a windmill or another source of energy.

General Comments

Comment 4: Ohio EPA failed to consider reasonable alternatives, including the no build alternative, to avoid the significant public health, environmental and economic impacts that the proposed Beard facility would have.

Response 4: The “no build” option is only considered when a proven adverse environmental or socio-economic consequence exists. Our analysis indicates that there will not be a significant adverse environmental consequence associated with the emissions from this proposed facility because it complies with all applicable air pollution requirements. In addition, Ohio EPA is not aware of any significant adverse socio-economic consequence due to the installation and operation of this facility.

Comment 5: Ohio EPA failed to directly regulate and evaluate the impacts of PM_{2.5} emissions from the Beard facility.

PM_{2.5} is a criteria pollutant and Ohio EPA wrongly used PM₁₀ as a surrogate for PM_{2.5} emissions, contrary to the law. Failure to properly regulate PM_{2.5} emissions from Beard will have an adverse impact on Jefferson County’s ability to reach attainment with the National Ambient Air Quality Standards (NAAQS) for PM_{2.5}.

Response 5: The proposed location of this facility is primarily in Columbiana County. Even though NAAQS and nonattainment areas have been set for PM_{2.5}, this pollutant does not appear in the applicable federal and Ohio permitting rules, OAC 3745-31. U.S. EPA instructed states with approved Prevention of Significant Deterioration (PSD) programs to have sources meet PM₁₀ emissions control and air quality impacts, as a surrogate approach for reducing PM_{2.5} emissions to protect air quality. Modeling and Best Available Control Technology (BACT) evaluations were conducted in accordance with the regulations, both for PM₁₀ directly and also to serve as a surrogate for PM_{2.5}, per U.S. EPA guidance.

Regarding concerns about impacts on air quality in areas surrounding Columbiana County, there are no nonattainment areas for PM₁₀ in this vicinity for the pollutants listed in OAC rule 3745-31-23. In addition, no significance levels for PM_{2.5} have been established by U.S. EPA to determine whether a PSD source will cause or contribute to a violation of NAAQS in a PM_{2.5} nonattainment area.

Comment 6: Ohio EPA must apply nonattainment New Source Review permitting requirements to Beard’s PM_{2.5} emission.

Response 6: Ohio EPA believes that nonattainment New Source Review does not apply in this case. Please see the above response to comment 5 for an explanation.

Comment 7: Ohio EPA failed to include condensable particulates in its regulation and evaluation of PM emissions from the Beard facility.

Response 7: Ohio EPA did not include condensable particulates in emission limits for several reasons. First, for the material handling emissions units, no condensable particulates will be created; therefore, there will be no condensable PM/PM₁₀ issues. Second, for the various sources that are likely to produce condensable emissions (for instance, any fuel combustion device like a boiler or heater), Ohio EPA did not include condensable emissions in emission limits because the current rules do not require the inclusion of condensables. In the New Source Review (NSR) program implementation rules (see the May 16, 2008, Federal Register, page 28321), U.S. EPA instructed states that they do not need to include condensable emissions in emission limits for major NSR projects.

U.S. EPA decided not to require condensable emissions in NSR permits because the current test method for condensable emissions is not reliable.

Comment 8: The draft permit fails to satisfy the Clean Air Act's Maximum Achievable Control Technology (MACT) requirements.

Response 8: In response to public comments, ORCF has redesigned the flaring processes so that the resulting emissions from all sources at the plant will result in significantly less hazardous air pollutants (HAPs). The permitted HAPs emissions are now below the trigger thresholds to required MACT requirements, so MACT requirements are not required.

Comment 9: Ohio EPA underestimated emissions from the flares and failed to require adequate monitoring of the flares. Ohio EPA failed to consider alternatives to minimize flaring, such as a flare gas recovery system that could recover, hold and recycle gas back through the facility from startups and shutdowns. This would have the effect of greatly cutting flaring emissions which are a large proportion of the facility-wide SO₂ and NO_x emissions.

Response 9: In response to comments concerning the flaring emissions, ORCF studied systems that could capture and utilize the flare emissions and methods that could reduce the need to flare unneeded gasses during startup operations. As a result, ORCF has committed to a sequential startup procedure that will first use natural gas, then use low sulfur coal and then finally switch to the normal coal/biomass material. This method will greatly reduce the amount of gas that must be burned in the flare and will subsequently reduce the amount of emissions as a result of flaring (for example, SO₂ emissions drop from 732.2 tons per year (tpy) to 78.31 tpy).

Comment 10: Ohio EPA and Baard must accurately estimate the emergency emissions from the high pressure flare and place stringent limits on those emissions.

Response 10: Ohio EPA sets limits in air permits for any non emergency operation of the facility. These limits are based on the maximum emissions allowed under the permit assuming the sources are operating at their maximum rate. If a malfunction occurred that caused emissions to be greater than those allowed in the permit, then the event would constitute a violation of the permit. If a malfunction occurred at the facility, then ORCF would have to follow the requirements of Ohio's malfunction rule: Ohio Administrative Code 3745-15-06.

Comment 11 The draft permit and permit application underestimate startup and shutdown flare emissions.

Response 11: Changes to the Gasifiers (P020-P025) operational procedures from the draft to final permit eliminated the need to flare syngas during shutdowns. Gasifier startup procedures were also changed to include startup on natural gas and low sulfur coal such that allowable permit listed SO₂ emissions were cut from 732.2 tpy to 78.3 tpy. Standard engineering calculations were used to determine the expected emissions during startup. Also, the final permit contains emission limits on Sulfuric Acid Mist emissions.

Comment 12 Ohio EPA failed to evaluate feasible control technologies.

Response 12: Ohio EPA reviewed Baard's study of alternatives for feasible control technologies. Based on this analysis, the startup and shutdown procedures were revised for the High Pressure Flare as outlined in Response 11.

Comment 13 **The draft permit does not include sufficient monitoring of flare emissions.**

Response 13: Ohio EPA believes the permit does contain sufficient monitoring of the flare emissions in that the monitoring meets all state and federal rules.

Comment 14 **The permit fails to include adequate limits regarding the F-T Catalyst Regenerator Flare.**

Response 14: Ohio EPA believes the limits established in the final permit meet all regulatory requirements. Also, please see the response to Comment 11 above.

Comment 15: **Ohio EPA failed to evaluate and require use of cleaner fuels, such as biomass and lower sulfur coal.**

Response 15: Ohio EPA disagrees. This permit application was for a facility whose purpose and location is to use regional coals for the production of synthetic fuels and gas (Syngas). Under the PSD rules, all emission limits were reviewed for conformance with BACT requirements.

The applicant has indicated that coal and biomass will be used as available. The emissions limits in the permit were based on 'worst case' of 100 percent coal use.

Comment 16: **Ohio EPA underestimated or ignored a number of emissions from the facility.**

Response 16: Ohio EPA's response to this comment has been divided into the individual emission units:

Acid Gas Removal Units

As noted in the comment details, the applicant identified COS and H₂S emissions, for which emissions limits are listed in the draft and final permits, however they did not estimate that the Rectisol Process/acid gas removal units would emit methanol based upon preliminary design work. Should 'detail design stage' determine otherwise, Baard will have to apply for a permit modification to include methanol emissions. Also, the permit application says that spent methanol will be shipped off-site.

Materials Handling

Ohio EPA believes that there will not be any significant particulate emissions issues related to the flares and that the fugitive dust control terms and conditions for emissions unit F028 in the draft permit are sufficient to address any fugitive emissions issues.

Wastewater Emissions

As stated in the comment and ORCF's permit application, potential emissions from wastewater storage and treatment will be determined after additional design studies are completed by ORCF. If it is determined that regulated emissions will be emitted, Ohio EPA will require ORCF to submit an application for a permit modification and comply with all applicable Ohio and federal rules.

Cooling Tower Emissions

Because hydrocarbons typically leak into water used for process cooling, cooling towers at refineries emit VOCs. This is equivalent to undisclosed emissions of 2 – 18 tpy of VOC.

Unlike many refineries, the cooling tower system will not be in VOC service. This means that the cooling tower heat exchangers or piping will not be exposed to VOC laden

pipng where leaks could contaminant the cooling water. Therefore, Ohio EPA does not believe the cooling towers will be a source of VOC, ammonia or H₂S emissions.

Startup, Shutdown & Malfunction Emissions

The issue of startup and shutdown emissions related to the Phase 1 Boiler and the Combined Cycle Units have been addressed in the final permit conditions. Also, emissions caused by malfunctions aren't limited by permit conditions, since a malfunction is an unpredictable and unplanned event.

Also, see the response to Comment 5 above.

Sulfuric Acid Mist

Sulfuric Acid Mist emissions were unaccounted for in the draft permit.

Sulfuric Acid Mist emissions limits have now been included in the final permit for the Phase 1 Boiler (B001), the Combined Cycle Plants (P018-P019) and the Sulfur Recovery Process Units (P011-P012). These sources account for the significant sulfuric acid mist sources.

Comment 17: Ohio EPA failed to evaluate an accurate analysis of the air quality impacts of the proposed Beard Facility.

Response 17: Ohio EPA required ORCF to conduct detailed computer modeling to determine the maximum air impacts of the emissions from the proposed facility. This modeling followed U.S. EPA approved models and methods. It also included any significant nearby sources of air pollution so that the total impact from all sources could be determined. Based on this modeling, no adverse impacts to health or welfare are expected from air emissions from this facility.

Modeling to determine the impact of the emissions on federal lands (Class I modeling) was not required because the resulting emissions were below the trigger levels for this type of modeling.

Comment 18: Ohio EPA failed to take steps necessary to ensure that the Beard facility would not constitute an improper odor nuisance.

Response 18: Odors typically do result from these types of industrial facilities, however it cannot be predicted that this facility would cause an odor-based nuisance, per OAC rule 3745-15-07. Ohio EPA has evaluated the maximum expected air impact of the pollutants expected from this facility. Based on this evaluation, Ohio EPA believes that public health will be protected. If odors do occur from this facility, Ohio EPA will investigate to determine if the odors qualify as a nuisance.

Comment 19: Ohio EPA has improperly not required the Phase 1 Boiler for the facility to shut down once the first combined cycle turbine comes on-line.

Response 19: The final permit conditions will be revised to address this issue such that the Phase 1 Boiler and Combined Cycle Unit are not both operated simultaneously at full capacity.

Comment 20: Ohio EPA failed to comply with its duty under the federal and state law to impose binding limits on the Beard facility's CO₂ emissions.

Response 20: Please see our response to Comment 1.

Natural Resources Defence Council (NRDC)/environmental advocacy groups, written comments received

Most comments received by NRDC or other environmental groups have been responded through the above comments. Unique comments not previously responded to are below.

Comment 21: Baard has not committed to using biomass as 30 percent of the facility's feed stock.

Response 21: ORCF has designed the facility to be able to use a variety of feed stocks including coal and various biomass materials. Other than the basic design of the facility, no specific commitment concerning the percentage of each feed stock has been made. Ohio EPA evaluated the various feed stocks based on worse case operating conditions related to air emissions and determined if the worse case conditions would meet all air pollution rules and requirements. Since all air pollution rules and requirements are met, no restriction on the amount of each feed stock is necessary.

Comment 22: The Baard plant would require the mining of 9.3 million tons of coal per year.

Response 22: Ohio EPA's air pollution evaluation does not include nor require an evaluation of the amount of coal mined. Therefore, it was not included in our evaluation for this permit.

Comment 23: The Baard facility would contribute to elevated fine PM levels in the area.

Response 23: Ohio EPA evaluated the impact of emissions of fine particulate following U.S. EPA approved rules and methods. No significant adverse effects to health and welfare are expected from the additional emissions from this facility. Please see the response to Comments #5, #6 and #7.

Comment 24: The Baard facility would emit more SO₂ than necessary.

Response 24: Ohio EPA has evaluated the amount of various pollutants expected to be emitted from this facility and has determined that the emission limits and control requirements established in the final permit meet all applicable air pollution rules and requirements and are protective of human health and the environment.

Comment 25: The Baard plant would be located in an area that is already overburdened with air pollution.

Response 25: Please see the response to Comments 2, 5 and 17.

Comment 26: Baard has likely not factored the full cost of CO₂ emissions into its financial analysis for this facility. The Baard Project would be faced with and contribute to increasing coal costs for U.S. companies. Fuel from the Baard Project could not be sold to the Department of Defense as it is not in compliance with federal law. The Columbiana Port Authority may not have the expertise to manage a project of this type and magnitude. A Blue-Green Alliance between the Sierra Club and AFL-CIO can bring jobs and clean green energy.

Response 26: Ohio EPA does not have the authority to evaluate these factors when doing a review for air pollution permitting.

U.S. EPA Comments

- Comment 27:** Use of a shorter range model such as CALPUF, rather than AERMOD would have shown whether the 3-hour and 24-hour Class 1 exceedences were minimized. The National Park Service letter raised other issues needing response, including the FLMs not being notified/consulted/provided information about the draft.
- Response 27:** ORCF has redesigned the flare processes such that the expected emissions have been reduced significantly. In addition, ORCF agreed to tighter limits on the combined cycle turbine control device (the SCR). As a result of the reduced emissions, the Federal Land Manager Q/d value for determining if Class 1 modeling is needed is now 7.9. Since the value is below 10, FLM draft guidance indicates that no adverse impacts on the federal lands are likely and no Class 1 modeling is required. We are working with the FLMs to improve permit coordination and the notification process for future permits.
- Comment 28:** For the PM/PM₁₀ limit, as part of the compliance assurance monitoring methodology, we suggest that bag leak detectors be used on the baghouses to assure continuous proper operation of the baghouses.
- Response 28:** As a result of the comment, the permit now requires baghouse leak detectors on the larger baghouses.
- Comment 29:** We suggest that emission units with a visible emission inspection requirement contain language requiring the recording of the time of the daily (or weekly) visible emission inspection (comment has been made for other Ohio permits).
- Response 29:** The permit will now require record keeping including the time of the reading, where appropriate.
- Comment 30:** Current SCR devices can achieve 90 percent or greater control. Can the control efficiency be increased to above 88 percent for NOx for the SCR devices for the B005 - Product Upgrade System and B006 - Fischer Tropsch Process Unit emission units?
- Response 30:** The exhaust from the normal operation of the Fisher Tropsch Process Unit is routed to the same SCR device utilized by the Combined Cycle Plant. ORCF has reviewed the issue in more detail and has determined they can meet 90 percent control. Ohio EPA has revised the emission limits down to reflect the 90 percent control requirement. Please see the response to Comment 32 for more details.
- Comment 31: Can the CO emissions be minimized for unit B005 - Product Upgrade System?**
- Response 31:** The CO emissions described in the permit come from multiple sources including the 154.0 mm Btu/hr F-T Fractionator Fired Heater, the 21.0 mm Btu/hr Hydrocracker Feed Oil Heater, the 20.0 mm Btu/hr Hydrocracker Feed Hydrogen Heater and the 24.0 mm Btu Production Fractionation Feed Heater. Please refer to the BACT analysis for B005, Module 6, "Product Upgrade System". Here, ORCF provided analysis which concludes that it would not be cost-effective to achieve any further control with catalytic oxidation. The CO emissions from the Process Heaters were considered to be minimized through good design, operation and engineering practices as well as the use of clean fuels. Please see the response to Comment 33 for more details.

Comment 32: The permit application shows that the control efficiency of the SCR for units P018 and P019 - Combined Cycle Turbines will operate at 80 percent efficiency as BACT and that operating at 90 percent efficiency was cost prohibitive. What is the cost (dollar per ton of pollutant removed) which is making the higher control efficiency cost prohibitive?

Response 32: Ohio EPA reviewed the cost effectiveness evaluation ORCF submitted and determined that ORCF had discounted the 90 percent control option because the incremental cost of increasing the control efficiency above 80 percent control was too high. Ohio EPA indicated to ORCF that Ohio EPA does not accept the incremental cost approach as a way of excluding a control option. Instead, we simply look at the total cost effectiveness for each control scenario. After discussing this with ORCF, ORCF decided to accept 90 percent control. Therefore, Ohio EPA has revised the emission limits down to reflect the 90 percent control requirement. This change resulted in a 246.5 tons/year reduction in allowable NOX emissions from the Combined Cycle Plant.

Comment 33: Can catalytic oxidation or some other means be used to minimize the emissions of CO and VOCs from unit B006 - F-T Process Units?

Response 33: Please refer to the ORCF permit application and the BACT analysis for B006; Module 6, page 6-19. Here, the BACT analysis provided by ORCF estimates that the catalytic oxidation option would cost an estimated \$12,937 per ton, to control CO from all four large heaters (B005 and B006). This is not cost-effective.

Comment 34: Under condition 4(b)(2)(a)(iv) Additional Terms and Conditions for unit F001 - Coal Storage Piles, unit F002 - Biomass Storage Piles, unit F009 - Coal Crusher House, and unit F027 - Slag Storage House (and any other similar terms in the permit), the use of chemical stabilization/dust suppressants and/or watering, "as required" should be better defined by addition of specific conditions which would bring about employment of these measures.

Response 34: The permit has been adjusted to better explain the requirements.

Comment 35: The visible emissions limit for unit F003 - Coal & Biomass Receiving Building and unit F010 - Biomass Crusher House allows for no greater than 20 percent opacity from the baghouse stack, which seems high for a stack of a baghouse capable of operating at 99 percent efficiency. A follow-up comment: we recommend deletion of the word "capable" so the 99 percent by weight control efficiency is a permit requirement for the unloading hopper building.

Response 35: The permit wording has been adjusted to clarify these requirements.

Comment 36: Condition 7(b)(2)(b)(ii) for unit F009 - Coal Crusher House, units P001 - P010 Coal or Biomass Drying and Milling and units F015 - F020 - Fly Ash Handling Systems requires a baghouse "capable" of achieving a stack outlet PE loading of 0.005 gr/dscf of exhaust gases. We recommend that the word "capable" be removed from the permit so that the 0.005 gr/dscf is a permit requirement.

We recommend the word "capable" be removed from Condition 7(b)(2)(b)(ii) for unit F009 - Coal Crusher House, units P001 - P010 Coal or Biomass Drying and Milling and units F015 - F020 - Fly Ash Handling Systems, so that the stack outlet PE loading of 0.005 gr/dscf of exhaust gases is a permit requirement.

Response 36: The permit wording has been adjusted to clarify the requirements.

Comment 37: Can the CO and NOx emissions be minimized for unit P029 - Three F-T Reactor Trains?

Response 37: Please refer to the ORCF permit application, Module 6, with the BACT analysis, pages 6-27. Here, no feasible alternatives for CO or NOx control were identified.

Comment 38: We recommend that a daily or weekly visible emission check requirement be added to the permit for the visible emissions limitation for units P020 - P025 - Gasifiers 1-6.

Response 38: All of the gassifiers operate as an enclosed system with no emission points. During startup operations, the High Pressure (HP) Flare will be used to control emissions. ORCF has determined that for all gassifiers combined, there will be no more than 90 startups per year. ORCF has also developed a startup sequence that will greatly minimize emissions. This startup sequence limits the amount of flaring to no more than one hour per startup. This means that the flares will operate no more than 90 hours per year. The HP flare must meet the requirement of 40 CFR 60.18, Condition 25.b.2.a.ii, which requires that it operate with no visible emissions except for periods not to exceed five minutes during any two consecutive hours. Visible emissions checks during startups will be added to the permit as a monitoring requirement.

Comment 39: Condition 17(a)(2)(b)(i) for Units P026 - P028 - The Acid Gas Removal Units mentions a waste CO₂ exhaust stack. Medicine Bow Fuel & Power coal-to-liquid facility in Wyoming has CO₂ recovery and compression to a pipeline. Has there been any consideration or are there any future plans for Ohio River Clean Fuels to recover the CO₂?

Response 39: ORCFs has indicated to Ohio EPA that in the future they plan to capture CO₂ and pipe it to the Canton, Ohio area for use in recovering underground oil. More information on their plans concerning CO₂ can be found on Beard Energy's Web site at: <http://www.baardenergy.com/index.html>.

Federal Land Manager (FLM) Comments

Comment 40: The proposed facility may effect several Class I areas, but the FLMs were not notified or provided application materials in advance of the draft PTI, as per 40 CFR and the OAC rules. Appendix A of the application used AERMOD (inappropriate for long-range) instead of a full Class I AQRV analysis, which should be conducted regardless of whether the Significant Impact Level (SIL) for Class I increment is triggered. Ohio EPA should rectify the Ohio SIP and rules related to FLM involvement, as provided by the Clean Air Act (CAA).

Response 40: The FLMs are correct in that Ohio failed to provide FLMs advanced notice of this project. However, after the draft permit was issued, ORCF committed to process improvements that greatly reduced expected emissions. Based on the reduced emissions, the project no longer meets the FLM criteria for review or for Class I modeling.

ORCF Public Hearing Comments

A public hearing was held in Wellsville on September 10, 2008. At the public hearing, 31 people testified. Below is a summary of the comments provided at the public hearing that Ohio EPA is able to consider for the air permit.

Comment 41: The NRDC is opposed to the ORCF PTI for two main reasons. First, CO₂ emissions resulting from the facility would contribute to global warming. Second, Jefferson County is a nonattainment area for PM_{2.5} and the draft PTI does not directly limit PM_{2.5} emissions as it should.

Response 41: See responses to Comment 1, 2 and 5.

Comment 42: Concerns were expressed about the amount of CO₂ the plant may produce, that carbon (CO₂) sequestration is not a proven safe technology and about how future requirements to control CO₂ will effect this plant. Concerns were expressed about the future health of residents, high cancer and respiratory disease rates and possible impact of mercury on leukemia and mental retardation. A concern was expressed that there is already a nearby power plant and hazardous waste incinerator. Alternate, cleaner means of electricity generation, wind mills and solar panel production, in the area would be preferred by some.

Response 42: Carbon sequestration is not required by the ORCF draft PTI. Also, see responses to Comments 1 through 4.

Comment 43: One commenter is concerned that the daily evaporation of 14 million gallons of water will have an impact on the local weather, that CO₂ emissions should be bound and had security concerns for a facility storing that much volatile fuels. The commenter suggests that some state agency should address this. The commenter believes ORCF should use BACT now and in the future, that everyone within a 10 mile radius of ORCF should get free electricity and that 20 percent of the makeup ventilation air for the executive offices should be taken from the effluent stacks.

Response 43: Weather impact of the facility is not part of PSD New Source Review Rules, nor are the other issues mentioned.

Comment 44: The Sierra Club believes the ORCF permit should require CO₂ sequestration as Baard says the company can and will do so. They believe the future is in wind, solar and promoting energy efficiency, and not in new coal plants, and that there will be good union jobs in manufacturing wind and solar electric generating equipment.

Response 44: See responses to Comment 1 and Comment 3.

End of Response to Comments



**State of Ohio Environmental Protection Agency
Division of Air Pollution Control**

FINAL

**Air Pollution Permit-to-Install
for
Ohio River Clean Fuels LLC**

Facility ID: 0215130393
Permit Number: 02-22896
Permit Type: Initial Installation
Issued: 11/20/2008
Effective: 11/20/2008



State of Ohio Environmental Protection Agency
 Division of Air Pollution Control

Air Pollution Permit-to-Install
 for
 Ohio River Clean Fuels LLC

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State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Final Permit-to-Install
Permit Number: 02-22896
Facility ID: 0215130393
Effective Date: 11/20/2008

Authorization

Facility ID: 0215130393
Facility Description: Coal to liquid fuel facility
Application Number(s): A0002157
Permit Number: 02-22896
Permit Description: Installation of a coal/biomass-to-liquid fuels facility, including gasification and related equipment.
Permit Type: Initial Installation
Permit Fee: \$81,500.00
Issue Date: 11/20/2008
Effective Date: 11/20/2008

This document constitutes issuance to:

Ohio River Clean Fuels LLC
Sixteen Scool Road
Wellsville, OH 43958

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:

Ohio EPA DAPC, Northeast District Office
2110 East Aurora Road
Twinsburg, OH 43087
(330)425-9171

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: 02-22896
Permit Description: Installation of a coal/biomass-to-liquid fuels facility, including gasification and related equipment.

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:	Phase 1 Boiler
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B002
Company Equipment ID:	Reduction Gas Heater (4.0 mmBtu/hr)
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B003
Company Equipment ID:	Oxidation Gas Heater (4.0 mmBtu/hr)
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B004
Company Equipment ID:	Hydrogen Stripping Heater (4.0 mmBtu/hr)
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B005
Company Equipment ID:	Product Upgrade System
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	B006
Company Equipment ID:	F-T Process Unit
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F001
Company Equipment ID:	Coal Storage Piles
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F002
Company Equipment ID:	Biomass Storage Piles
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F003
Company Equipment ID:	Coal & Biomass Receiving Building
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F004
Company Equipment ID:	Coal and Biomass Parallel Conveyors to transfer tower 1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F005
Company Equipment ID:	Coal and Biomass Parallel Conveyors to transfer tower 2
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



Emissions Unit ID:	F006
Company Equipment ID:	Coal and Biomass Parallel Conveyors to transfer tower 3
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F007
Company Equipment ID:	Coal and Biomass Parallel Conveyors to transfer tower 4
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F008
Company Equipment ID:	Coal and Biomass Parallel Conveyors to transfer tower 5
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F009
Company Equipment ID:	Coal Crusher House
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F010
Company Equipment ID:	Biomass Crusher House
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F011
Company Equipment ID:	Coal Silos 1 & 2 w/common dust collector
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F012
Company Equipment ID:	Coal Silos 3 & 4 w/common dust collector
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F013
Company Equipment ID:	Coal Silos 5 & 6 w/common dust collector
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F014
Company Equipment ID:	Biomass Silos 1 & 2 w/common dust collector
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F015
Company Equipment ID:	Flyash handling system 1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F016
Company Equipment ID:	Flyash handling system 2
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F017
Company Equipment ID:	Flyash handling system 3
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F018
Company Equipment ID:	Flyash handling system 4
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F019
Company Equipment ID:	Flyash handling system 5
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Final Permit-to-Install
Permit Number: 02-22896
Facility ID: 0215130393
Effective Date: 11/20/2008

Emissions Unit ID:	F020
Company Equipment ID:	Flyash handling system 6
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F021
Company Equipment ID:	Slag Dewatering Silo 1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F022
Company Equipment ID:	Slag Dewatering Silo 2
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F023
Company Equipment ID:	Slag Dewatering Silo 3
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F024
Company Equipment ID:	Slag Dewatering Silo 4
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F025
Company Equipment ID:	Slag Dewatering Silo 5
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F026
Company Equipment ID:	Slag Dewatering Silo 6
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F027
Company Equipment ID:	Slag Storage Pile
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	F028
Company Equipment ID:	Plant Roadways & Parking Areas
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	J001
Company Equipment ID:	Loading Rack for F-T fuels
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P001
Company Equipment ID:	Coal or Biomass Drying & Milling Line 1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P002
Company Equipment ID:	Coal or Biomass Drying & Milling Line 2
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P003
Company Equipment ID:	Coal or Biomass Drying & Milling Line 3
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P004
Company Equipment ID:	Coal or Biomass Drying & Milling Line 4
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



Emissions Unit ID:	P005
Company Equipment ID:	Coal or Biomass Drying & Milling Line 5
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P006
Company Equipment ID:	Coal or Biomass Drying & Milling Line 6
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P007
Company Equipment ID:	Coal or Biomass Drying & Milling Line 7
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P008
Company Equipment ID:	Coal or Biomass Drying & Milling Line 8
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P009
Company Equipment ID:	Coal or Biomass Drying & Milling Line 9
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P010
Company Equipment ID:	Coal or Biomass Drying & Milling Line 10
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P011
Company Equipment ID:	Sulfur Recovery Process Unit 1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P012
Company Equipment ID:	Sulfur Recovery Process Unit 2
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P013
Company Equipment ID:	Cooling Tower 1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P014
Company Equipment ID:	Cooling Tower 2
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P015
Company Equipment ID:	Emergency Generator
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P016
Company Equipment ID:	Fire Pump Engine 1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P017
Company Equipment ID:	Fire Pump Engine 2
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P018
Company Equipment ID:	Combined Cycle Plant 1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



Emissions Unit ID:	P019
Company Equipment ID:	Combined Cycle Plant 2
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P020
Company Equipment ID:	Gasifier No. 1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P021
Company Equipment ID:	Gasifier No. 2
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P022
Company Equipment ID:	Gasifier No. 3
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P023
Company Equipment ID:	Gasifier No. 4
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P024
Company Equipment ID:	Gasifier No. 5
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P025
Company Equipment ID:	Gasifier No. 6
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P026
Company Equipment ID:	Syngas Cleanup Train 1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P027
Company Equipment ID:	Syngas Cleanup Train 2
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P028
Company Equipment ID:	Syngas Cleanup Train 3
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P029
Company Equipment ID:	Three F-T Reactor Trains
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P030
Company Equipment ID:	F-T Catalyst Rotary Dryer
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	P031
Company Equipment ID:	Equipment Leaks
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	T001
Company Equipment ID:	3.0 MM Gallon Cap. F-T Diesel Fuel, Fixed Roof, Storage Tank
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



Emissions Unit ID:	T002
Company Equipment ID:	3.0 MM Gallon Cap. F-T Diesel Fuel, Fixed Roof, Storage Tank
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	T003
Company Equipment ID:	3.0 MM Gallon Cap. F-T Diesel Fuel, Fixed Roof, Storage Tank
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	T004
Company Equipment ID:	3.0 MM Gallon Cap. F-T Diesel Fuel, Fixed Roof, Storage Tank
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	T005
Company Equipment ID:	3.0 MM Gallon Cap. F-T Diesel Fuel, Fixed Roof, Storage Tank
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	T006
Company Equipment ID:	3.0 MM Gallon Cap. F-T Diesel Fuel, Fixed Roof, Storage Tank
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	T007
Company Equipment ID:	3.0 MM Gallon Cap. F-T Diesel Fuel, Fixed Roof, Storage Tank
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	T008
Company Equipment ID:	3.0 MM Gallon Cap. F-T Diesel Fuel, Fixed Roof, Storage Tank
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	T009
Company Equipment ID:	3.0 MM Gallon F-T Naphtha Tank 1
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	T010
Company Equipment ID:	3.0 MM Gallon F-T Naphtha Tank 2
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	T011
Company Equipment ID:	3.0 MM Gallon F-T Naphtha Tank 3
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	T012
Company Equipment ID:	3.0 MM Gallon F-T Naphtha Tank 4
Superseded Permit Number:	
General Permit Category and Type:	Not Applicable



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Final Permit-to-Install
Permit Number: 02-22896
Facility ID: 0215130393
Effective Date: 11/20/2008

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 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 Ohio EPA DAPC, Northeast District Office.



(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 Ohio EPA DAPC, Northeast District Office. 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 Ohio EPA DAPC, Northeast District Office 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 Ohio EPA DAPC, Northeast District Office 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.

1)

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:

2)



- (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)
- (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)
- (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.
- 5)
- d) The permittee shall submit progress reports to the Ohio EPA DAPC, Northeast District Office 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 Ohio EPA DAPC, Northeast District Office.
- 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 Ohio EPA DAPC, Northeast District Office. 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 through completion of the annual PER covering the last period of operation of the affected emissions unit(s).
 - 6)
- 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 PER covering the last period the emissions unit operated.



7)

8) 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.

9)

10) e) The permittee shall comply with any residual requirements related to this permit, such as the requirement to submit a PER, 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 Ohio EPA DAPC, Northeast District Office must be notified in writing of any transfer of this permit.

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.



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Final Permit-to-Install
Permit Number: 02-22896
Facility ID: 0215130393
Effective Date: 11/20/2008

B. Facility-Wide Terms and Conditions



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Final Permit-to-Install
Permit Number: 02-22896
Facility ID: 0215130393
Effective Date: 11/20/2008

30. 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.



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Final Permit-to-Install
Permit Number: 02-22896
Facility ID: 0215130393
Effective Date: 11/20/2008

C. Emissions Unit Terms and Conditions



31. B001, Phase 1 Boiler

Operations, Property and/or Equipment Description:

Phase 1 Boiler, with a rated maximum heat input capacity of 1,200 mmBtu/hour, firing natural gas or tailgas.

- 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) None.
- b) Applicable Emissions Limitations and/or Control Requirements
 - (1) The specific operations(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. 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.	OAC rule 3745-31-05(A)(3)	The requirements established pursuant to this rule are equivalent to the requirements of OAC rules 3745-31-10 through 3745-31-20. Visible particulate emissions from the stack serving this emissions unit shall not exceed 10% opacity, as a six-minute average.
b.	OAC rule 3745-31-05(A)(3)(a)(ii)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the SO2 emissions from this air contaminant source since the potential to emit of said pollutant is less than ten tons per year.
c.	OAC rule 3745-31-10 through 3745-31-20	PE/PM10: 18.7 lbs per hour (as a 3-hr average) and 81.9 tons per rolling 12-month period. NOx: 120.0 lbs per hour (as a 3-hr average) and 524.2 tons per rolling 12-month period. NOx during boiler startups: 473.8 lbs per hour and 5.7 tons per rolling 12-month period. CO: 36.0 lbs per hour (as a 3-hr average) and 157.2 tons



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>per rolling 12-month period.</p> <p>O.C.: 13.0 lbs per hour (as a 3-hr average) and 56.9 tons per rolling 12-month period.</p> <p>SO₂: 2.0 lbs per hour (as a 3-hr average) and 8.9 tons per rolling 12-month period.</p> <p>Sulfuric acid mist: 0.17 lb per hour (as a 3-hr average) and 0.75 tons per rolling 12-month period.</p> <p>Total HAPs: 0.178 lbs per hour (as a 3-hr average) and 0.779 tons per rolling 12-month period.</p> <p>Hexane: 0.12 lbs per hour (as a 3-hr average) and 0.532 tons per rolling 12-month period.</p> <p>(Hexane is the greatest single HAP emitted.)</p> <p>The visible particulate emissions limitations established pursuant to OAC rule 3745-31-05(A)(3) are equivalent to the requirements of these rules.</p> <p>See b)(2)a.</p>
d.	40 CFR Part 60, Subpart Db	The particulates and NO _x emissions limitations specified by this rule are equivalent to or less stringent than those established pursuant to the BACT requirements.
e.	OAC rule 3745-17-07	The visible emission limitations specified in this rule are less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A).
f.	OAC rule 3745-17-10(B)	The emission limitations specified in this rule are equivalent to the emission limitations established pursuant to OAC rule 3745-31-10 through 3745-31-20.
g.	OAC Chapter 3745-14 (NO _x Budget Trading Program)	The permittee shall comply with all applicable requirements under the NO _x Budget Trading Program in a



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		timely manner.
h.	OAC chapter 3745-109	On July 11, 2008, the Washington DC Circuit Court vacated U.S. EPA's CAIR. U.S. EPA is reviewing the court's decisions and evaluating its impacts. Because Ohio's CAIR was based on the above federal rule, its future implementation has yet to be determined.
i.	OAC Chapter 3745-108 (Clean Air Mercury Rule)	On Feb 8, 2008, the Washington DC Circuit Court vacated U.S. EPA's rule removing power plants from the CAA list of sources of HAPs. At the same time, they vacated CAMR. U.S. EPA is reviewing the court's decisions. Because Ohio's CAMR was based on the above federal rule, its future implementation has yet to be determined.
j.		

(2) Additional Terms and Conditions

- a. The BACT determination for this emissions unit includes:
 - i. use of only either natural gas or tailgas as fuel;
 - ii. employ Low-NOx burners in the boiler and a Selective Catalytic Reduction (SCR) unit emissions control device to reduce NOx emissions to 0.1 lb/mmBtu of actual heat input;
 - iii. burn only gaseous fuels, employ good combustion practices and employ a catalytic oxidation emission control device to limit CO emissions to 0.034 lb/mmBtu, and VOC emissions to 3.9 lbs per 1.0 million scf of gas fired; and
 - iv. burn only gaseous fuels, employ good combustion practices to limit SO2 emissions to 0.6 lb per 1.0 million scf of gas fired, Sulfuric Acid Mist emissions to 0.17 lb/hour and PE/PM10 emissions to 0.0156 lb/mmBtu.
- b. The permittee shall prepare and submit to the Ohio EPA Northeast District Office a unit-specific monitoring plan for each monitoring system (NOx, and CO2 or O2) at least 45 days before commencing certification testing of the monitoring



systems. The plan must address the requirements in 40 CFR 75 and 40 CFR Part 60, Subpart Db.

c) Operational Restrictions

- (1) The permittee shall only burn natural gas and/or other gaseous fuels in the identified boiler(s); no liquid or solid fuels shall be burned in the boilers identified above.

[This permittee shall cease operating this emissions unit, B001, the Phase 1 Boiler, upon startup of emissions units P018 and P019, the Phase 2 Combined Cycle Plants 1 and 2.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain monthly records of the total quantity and type of gaseous fuel(s) burned in each subject boiler during each reporting period.

- (2) See 40 CFR Part 60, Subpart Db.

- (3) Each continuous NO_x monitoring system shall be certified to meet the requirements of 40 CFR Part 60, Appendix B, Performance Specifications 2 and 6. At least 45 days before commencing certification testing of the continuous NO_x 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 NO_x emissions from the continuous monitor(s), in units of the applicable standard(s). 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 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 quarterly cylinder gas audits or relative accuracy audits as required in 40 CFR Part 60; and to conduct relative accuracy test audits in units of the standard(s), in accordance with and at the frequencies required per 40 CFR Part 60.

[40 CFR 60.13] and [40 CFR Part 60, Appendix F]

- (4) Prior to the installation of the continuous NO_x monitoring system, the permittee shall submit information detailing the proposed location of the sampling site in accordance with the siting requirements in 40 CFR Part 60, Appendix B, Performance Specification 2. The Ohio EPA, Central Office shall approve the proposed sampling site and certify that the continuous NO_x monitoring system meets the requirements of Performance Specifications 2 and 6. Once received, the letter(s)/document(s) of certification shall be maintained on-site and 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.

[40 CFR 60.13] and [40 CFR Part 60, Appendix B]



- (5) The permittee shall install, 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.

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 pounds per hour and in all units of the applicable standard(s) in the appropriate averaging period;
- 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 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 d)(5)g. and d)(5)h.

[40 CFR 60.13] and [40 CFR Part 60, Appendices B & F]

- (6) Prior to the installation of the continuous CO₂ or O₂ monitoring system, the permittee shall submit information detailing the proposed location of the sampling site in accordance with the siting requirements in 40 CFR Part 60, Appendix B, Performance Specification 3. The Ohio EPA, Central Office shall approve the proposed sampling site and certify that the continuous CO₂ or O₂ monitoring system meets the requirements of Performance Specification 3; and the U.S. EPA shall certify that the continuous CO₂ or O₂ monitoring system meets the requirements under 40 CFR Part 75, which may be approved through the recommendation for certification by Ohio EPA to U.S. EPA. Once received, the letter(s)/document(s) of certification under Part 60 and certification or recommendation for certification under Part 75 shall be maintain on-site and 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.

[40 CFR Part 60, Appendix B]; and [40 CFR Part 75]

- (7) The permittee shall operate and maintain equipment to continuously monitor and record CO₂ or O₂ emitted from this emissions unit in percent. The continuous monitoring and recording equipment shall comply with the requirements specified in 40 CFR Part 60 and Part 75.

The permittee shall maintain records of data obtained by the continuous CO₂ or O₂ monitoring system including, but not limited to:

- a. percent 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 or O₂ monitoring system;
- f. the date, time, and hours of operation of the emissions unit without the continuous CO₂ or O₂ monitoring system;
- g. the date, time, and hours of operation of the emissions unit during any malfunction of the continuous CO₂ or O₂ monitoring system; as well as,
- h. the reason (if known) and the corrective actions taken (if any) for each such event in d)(7)f. and d)(7)g.

[40 CFR 60.13]; [40 CFR Part 60, Appendices B & F]; and [40 CFR Part 75]

i. [

- (8) The permitted shall keep a record of any simultaneous operation of this emissions unit, B001, and emissions unit P018 and P019. The date, time, duration and operating rates of each emissions unit shall be recorded.



e) Reporting Requirements

- (1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas or tailgas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
- (2) See 40 CFR Part 60, Subpart Db.
- (3) 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 Ohio EPA, Northeast District Office, documenting all instances of NO_x emissions in excess of any applicable limitation specified in this permit, 40 CFR Part 60, 40 CFR Parts 75 and 76, OAC Chapters 3745-14 and 3745-23, 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). If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect.
 - 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. the location of the continuous NO_x monitor;
 - iv. the exceedance report as detailed in (a) 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. results and dates of the relative accuracy test audit(s), including results in units of the applicable standard(s), (during appropriate quarter(s));



- x. the results of any relative accuracy test audit showing the continuous NOx 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 NOx monitoring system, emissions unit, and/or control equipment;
- xii. the date, time, and duration of any downtime* of the continuous NOx 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 e)(3)b.xi. and e)(3)b.xii..

Each report shall address the operations conducted and data obtained during the previous calendar quarter. Data substitution procedures from 40 CFR Part 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.

* Each downtime and malfunction event shall be reported regardless if there is an exceedance of any applicable limitation.

[40 CFR 60.7] and [40 CFR Part 75]

- (4) The permittee shall comply with the following quarterly reporting requirements for the emissions unit and its continuous CO₂ or O₂ 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 Ohio EPA, Northeast District Office, documenting all instances of continuous CO₂ or O₂ 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 or O₂ and other associated monitors;
 - iii. the location of the continuous CO₂ or O₂ monitor;
 - iv. the total operating time (hours) of the emissions unit;
 - v. the total operating time of the continuous CO₂ or O₂ monitoring system while the emissions unit was in operation;
 - vi. results and dates of quarterly cylinder gas audits or linearity checks;



- vii. results and dates of the relative accuracy test audit(s) (during appropriate quarter(s));
- viii. the results of any relative accuracy test audit showing the continuous CO₂ or O₂ 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 or O₂ monitoring system while the emissions unit was in operation;
- x. the date, time, and duration of any downtime* of the continuous CO₂ or O₂ 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 e)(4)b.x. and e)(4)b.xi..

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 limitation.

[40 CFR 60.7] and [40 CFR Part 75]

- (5) The permittee shall collect, record, and maintain measurements, data, records, and reports 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 by 40 CFR Part 75.

[40 CFR Part 75]

- (6) Pursuant to the NSPS, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:
 - a. construction date (no later than 30 days after such date);
 - b. actual start-up date (within 15 days after such date); and
 - c. date of performance testing (if required, at least 30 days prior to testing).

Reports are to be sent to:

Ohio Environmental Protection Agency
DAPC - Permit Management Unit
50 West Town Street, Suite 700
P. O. Box 1049
Columbus, Ohio 43216-1049

and

Northeast District Office of the Ohio EPA
Division of Air Pollution Control



2110 E. Aurora Road
Twinsburg, Ohio 44087.

- (7) The permittee shall submit a signed statement with each required quarterly report indicating whether:
- a. The required continuous monitoring system calibration, span, and drift checks or other periodic audits have or have not been performed as specified.
 - b. The data used to show compliance was or was not obtained in accordance with approved methods and procedures of 40 CFR Part 60 (and/or 40 CFR Part 75) and is representative of plant performance.
 - c. The minimum data requirements have or have not been met; or, the minimum data requirements have not been met due to errors that were unavoidable.
 - d. compliance with the standards has or has not been achieved during the reporting period.

The permittee shall report each event during which simultaneous operation of this emissions unit, B001, and emissions unit P018 and P019 occurred. The date, time, duration and operating rates of each emissions unit shall be reported.

f) Testing Requirements

- (1) Within 60 days after achieving the maximum production rate at which the facility will be operated, but no later than 180 days after initial start-up at the facility, the permittee shall conduct certification tests of the continuous NO_x monitoring system in units of the applicable standard(s) to demonstrate compliance with 40 CFR Part 60, Appendix B, Performance Specification 2; ORC section 3704.03(I); and 40 CFR Part 75. The permittee may test the continuous NO_x monitoring system in accordance with requirements for monitoring systems subject to 40 CFR Part 75, Appendix B, if the test results are reported in units of the applicable standard(s) and approved by Ohio EPA.

Personnel from the Ohio EPA, Central Office and the Ohio EPA, Northeast District Office shall be notified 45 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 Ohio EPA, Central Office and one copy to the Ohio EPA, Northeast District Office, and pursuant to OAC rule 3745-15-04, within 30 days after the test is completed.

Certification, or recommendation for certification by Ohio EPA to U.S. EPA, of the continuous NO_x 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 Specification 2; ORC section 3704.03(I); and 40 CFR Part 75.

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 Recordkeeping 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.

[40 CFR 60.13]; [40 CFR Part 60, Appendices B & F]; and [40 CFR Part 75]

- (2) Within 60 days after achieving the maximum production rate at which the facility will be operated, but no later than 180 days after initial start-up at the facility, the permittee shall conduct certification tests of the continuous CO₂ or O₂ monitoring system to demonstrate compliance with 40 CFR Part 60, Appendix B, Performance Specification 3; ORC section 3704.03(I); and 40 CFR Part 75. The permittee may test the continuous CO₂ or O₂ monitoring system in accordance with requirements for monitoring systems subject to 40 CFR Part 75, Appendix B, if the test results are approved by Ohio EPA.

Personnel from the Ohio EPA, Central Office and the Ohio EPA, Northeast District Office shall be notified 45 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 Ohio EPA, Central Office and one copy to the Ohio EPA, Southeast District Office, and pursuant to OAC rule 3745-15-04, within 30 days after the test is completed.

Certification, or recommendation for certification by Ohio EPA to U.S. EPA, of the continuous CO₂ or O₂ 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 Specification 3; ORC section 3704.03(I); and 40 CFR Part 75.

Ongoing compliance with the CO₂ or O₂ 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 Recordkeeping 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.

[40 CFR 60.13]; [40 CFR Part 60, Appendices B & F]; and [40 CFR Part 75]

- (3) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following methods:

a. Emission Limitations:

Particulate matter less than ten microns (PM-10), filterable and condensable emissions, shall not exceed 0.015 pound per million Btu heat input(as a 3-hour average), 18.7 pounds per hour(as a 3-hour average) and 81.9 tons per rolling, 12-month period.

Applicable Compliance Methods:

Compliance with the pound per million Btu and pound per hour PM-10 emissions limitations shall be demonstrated based upon the applicable emissions tests specified in f)(4).

Compliance with the tons per rolling, 12-month period emission limitation shall be demonstrated by compliance with the hourly emissions limit.



b. Emission Limitation:

Sulfur dioxide (SO₂) emissions shall not exceed 0.6 lb per 1.0 million scf of gas fired, 2.0 lbs per hour(as a 3-hour average), and 8.9 tons per rolling, 12-month period.

Applicable Compliance Methods:

Compliance with the tons per rolling, 12-month period emission limitation shall be demonstrated by compliance with the hourly emissions limit.

c. Emission Limitations:

Nitrogen oxides (NO_x) emissions shall not exceed 0.10 pound per million Btu heat input(as a 3-hour average), 120.0 lbs per hour(as a 3-hour average), and 524.2 tons per rolling 12-month period.

NO_x during boiler startups: 473.8 lbs per hour and 5.7 tons per rolling 12-month period.

Applicable Compliance Methods:

Compliance with the pound per million Btu and pound per hour NO_x emissions limitations shall be demonstrated based upon the applicable emissions tests specified in f)(5), the monitoring and record keeping requirements in b)(3) and the reporting requirements in e).

Compliance with the tons per rolling, 12-month period emission limitation shall be demonstrated by the record keeping required pursuant to d), b)(3) and the associated emission factors derived from emissions testing as specified in d), and f)(5).

Compliance with the NO_x startup emissions limits shall be demonstrated by the record keeping required pursuant to d)(3) above.

d. Emission Limitations:

Carbon monoxide(CO) emissions shall not exceed 0.03 lb per million Btu heat input(as a 3-hour average), 36.0 lbs per hour(as a 3-hour average), and 157.2 tons per rolling, 12-month period.

Applicable Compliance Methods:

Compliance with the pound per million Btu and pound per hour CO emissions limitations shall be demonstrated based upon the applicable emissions tests specified f(4).

Compliance with the tons per rolling, 12-month period emission limitation shall be demonstrated by the record keeping required pursuant to d) and the associated emission factors derived from emissions testing as specified in f(4).

e. Emission Limitations:



Volatile organic compound(VOC) emissions shall not exceed 3.9 lbs per 1.0 million scf of gas fired, 13.0 lbs per hour(as a 3-hour average) and 56.9 tons per rolling, 12-month period.

Applicable Compliance Methods:

Compliance with the pound per million Btu and pound per hour VOC emissions limitations shall be demonstrated based upon the applicable emissions tests specified in f)(4).

Compliance with the tons per rolling, 12-month period emission limitation shall be demonstrated by the associated emission factors derived from emissions testing as specified in f(4).

f. Emission Limitations:

Total HAPs emissions shall not exceed, 4.5 lbs per hour(as a 3-hour average) and 19.6 tons per rolling, 12-month period.

Applicable Compliance Methods:

Compliance with the lbs per hour total HAPs emissions limitations shall be demonstrated based upon the applicable emissions tests specified in f)(5).

Compliance with the tons per rolling, 12-month period emission limitation shall be demonstrated by the associated emission factors derived from emissions testing as specified in f)(5)

g. Emission Limitations:

Hexane emissions shall not exceed, 4.3 lbs per hour(as a 3-hour average) and 18.6 tons per rolling, 12-month period.

Applicable Compliance Methods:

Compliance with the lbs per hour total HAPs emissions limitations shall be demonstrated based upon the applicable emissions tests specified in f)(5).

Compliance with the tons per rolling, 12-month period emission limitation shall be demonstrated by the associated emission factors derived from emissions testing as specified in f)(5).

h. Emission Limitations

Sulfuric acid mist emissions shall not exceed 0.17 lb per hour (as a 3-hr average) and 0.75 tons per rolling 12-month period.

Applicable Compliance Methods

Compliance with the lbs per hour sulfuric acid mist emissions limitations shall be demonstrated based upon the applicable emissions tests specified in f)(5).



Compliance with the tons per rolling, 12-month period emission limitation shall be demonstrated by the associated emission factors derived from emissions testing as specified in f)(5).

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

- a. The emissions testing shall be conducted within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial start-up of the emissions unit.
- b. The emissions testing shall be conducted to demonstrate compliance with the applicable emissions limitations for PM-10, NO_x, SO₂, VOC, CO, Sulfuric Acid Mist, Total HAPs, Hexane and opacity, in the appropriate averaging period(s).
- c. The following test methods shall be employed to demonstrate compliance with the applicable emissions limitations:

PM-10	Method 201(40 CFR Part 51, Appendix M) Method 202(40 CFR Part 51, Appendix M)
SO ₂	Methods 1 through 4 and 6C of 40 CFR Part 60, Appendix A
NO _x	Methods 1 through 4 and 7E of 40 CFR Part 60, Appendix A
CO	Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A
VOC	Methods 1 through 4 and 25, or Methods 1 through 4 and 25A (as appropriate), of 40 CFR Part 60, Appendix A
Sulfuric Acid Mist	Method 8 of 40 CFR Part60
Total HAPs	Methods 1 through 4 and Method 18 of 40 CFR Part 60, Appendix A.
Hexane	Methods 1 through 4 and Method 18 of 40 CFR Part 60, Appendix A.
Opacity	Method 9 of 40 CFR Part 60, Appendix A

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

- d. The test(s) shall be conducted while the emissions unit is operating at greater than 90% of the boiler heat input rating, unless otherwise specified or approved by the Ohio EPA Northeast District Office.



- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Northeast District Office. 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 Ohio EPA, Northeast District Office's refusal to accept the results of the emission test(s).
- f. Personnel from the Ohio EPA, Northeast District Office 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 emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Northeast District Office 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 Ohio EPA, Northeast District Office.

g) Miscellaneous Requirements

(1) None



32. B005, Product Upgrade System.

Operations, Property and/or Equipment Description:

Product Upgrade System w/21.0 mmBtu/hr Hydrocracker Feed Oil Heater, 20.0 mmBtu/hr Hydrocracker Feed Hydrogen Heater & 24.0 mmBtu/hr Product Fractionator Heater.

- 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) None.
- b) Applicable Emissions Limitations and/or Control Requirements
 - (1) The specific operations(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. 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.	OAC rule 3745-31-05(A)(3)	The requirements established pursuant to this rule are equivalent to the requirements of OAC rules 3745-31-10 through 3745-31-20.
b.	OAC rule 3745-31-10 through 3745-31-20	<p>Particulate emissions (PE) shall not exceed 4.7 pounds per hour and 20.7 tons per rolling, 12-month period from the SCR device controlling this emissions unit.</p> <p>Nitrogen oxides (NOx) emissions shall not exceed 16.8 pounds per hour and 73.6 tons per rolling, 12-month period from the SCR device controlling this emissions unit.</p> <p>Carbon monoxide (CO) emissions shall not exceed 51.9 pounds per hour and 227.3 tons per rolling, 12-month period from the SCR device controlling this emissions unit.</p> <p>Volatile organic compounds (VOC) emissions shall not exceed 3.4 pounds per hour and 14.9 tons per rolling, 12-month period from the SCR device controlling this emissions</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>unit.</p> <p>Sulfur dioxide (SO_x) emissions shall not exceed 0.4 pound per hour and 1.6 tons per rolling 12-month period from the SCR device controlling this emissions unit.</p> <p>The visible particulate emissions limitations established pursuant to OAC rule 3745-17-0(A)(1) are equivalent to the requirements of these rules.</p> <p>See b)(2)b.</p> <p>These limitations are the total allowable emissions for emissions unit B006, the 154.0 mm Btu/hr F-T Fractionator Fired Heater, the 21.0 mm Btu/hr Hydrocracker Feed Oil Heater, the 20.0 mm Btu/hr Hydrocracker Feed Hydrogen Heater, and the 24.0 mm Btu Production Fractionation Feed Heater, all of which vent to the SCR device.</p> <p>Note: For purposes of totaling the facility-wide emissions, the emissions from emissions units B005 and B006 represent the same set of emissions and shall not be twice counted.</p>
c.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the exhaust stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.
d.	OAC rule 3745-17-10	The emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
e.	OAC rule 3745-21-08(E)	See b)(2)a.
f.	40 CFR Part 60, Subpart Ja	The emission limitation required by this applicable rule is less stringent than the emission limitation



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		established pursuant to OAC rule 3745-31-05(A)(3).
g.	OAC rule 3745-31-05(D)	This permit to install takes into account the restrictions (including the use of any applicable air pollution control equipment) established pursuant to OAC rules 3745-31-10 through 3745-31-20 upon SO ₂ emissions as proposed by the permittee for the purpose of avoiding BAT requirements under OAC rule 3745-31-05(A)(3).

(2) Additional Terms and Conditions

- a. The waste gas stream shall be burned at 1,300 degrees Fahrenheit for 0.3 seconds or greater in a direct-flame afterburner or boiler equipped with an indicating pyrometer which is positioned in the working area at the operator's eye level.
- b. The BACT determination for this emissions unit includes:
 - i. use of only either natural gas or tailgas as fuel;
 - ii. employ ultra low-NO_x burners (ULNB) in the boiler and a Selective Catalytic Reduction (SCR) unit emissions control device to reduce NO_x emissions;
 - iii. burn only gaseous fuels and employ good combustion practices to limit CO emissions, VOC emissions, SO₂ emissions, H₂S emissions, and PE/PM₁₀ emissions.

c) Operational Restrictions

- (1) Each heater shall be designed and manufactured to meet the requirements of b)(2)a.

d) Monitoring and/or Recordkeeping Requirements

- (1) See 40 CFR Part 60, Subpart Ja.

Subpart Ja, Section 60.107a allows the permittee to choose to continuously monitor and record either the sulfur dioxide emissions into the atmosphere from this emissions unit or to continuously monitor and record the H₂S content of the fuel gas before being burned.

- (2) The permittee shall maintain monthly records of the total quantity and type of gaseous fuel(s) burned in this emissions unit during each reporting period.



(3) The permittee shall collect and record the following information for each day for the emissions unit and control equipment:

a. a log of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

e) Reporting Requirements

(1) See 40 CFR Part 60, Subpart Ja.

(2) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas or tailgas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

(3) The permittee shall submit quarterly summaries of the following records:

a. a log of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following methods:

a. Emission Limitation:

NOx emissions shall not exceed 16.8 pounds per hour.

Applicable Compliance Method:

Compliance with the hourly emission limitation may be demonstrated based on a one time calculation by using emission factors from AP-42, Section 1.4, Table 1.4-1 (1998) for Natural Gas Combustion, the maximum amount of the low Btu fuel gas entering the heaters, and the control efficiency of the SCR (88%).

$$E(\text{NOx})_{\text{FT Heater}} = 434,359 \text{ scf/hr} \times 280 \text{ lbs NOx}/10 \times 10^6 \text{ scf (AP-42 emission factor)} \times (1-0.88) = 14.6 \text{ lbs/hr}$$

$$E(\text{NOx})_{\text{HFOH, HFH, PFF Heaters}} = 183,334 \text{ scf/hr} \times 100 \text{ lbs NOx}/10 \times 10^6 \text{ scf (AP-42 EF)} \times (1-0.88) = 2.2 \text{ lbs/hr}$$

$$E(\text{NOx})_{\text{Total}} = 14.6 + 2.2 = 16.8 \text{ lbs/hr}$$

If required, the permittee shall demonstrate compliance with the hourly NOx emission limitation by means of physical testing of the effluent from this emissions unit in accordance with testing procedures listed in 40 CFR Part 60, "Standards of Performance for New Stationary Sources", Appendix A, Method 7 or 7E.

b. Emission Limitation:

NOx emissions shall not exceed 73.6 tons per rolling, 12-month period.



Applicable Compliance Method:

The tons per rolling 12-month period emission limitation was developed by multiplying the short-term allowable NOx emission limitation (16.8 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the rolling 12 month emission limitation.

c. Emission Limitation:

PE emissions shall not exceed 4.7 pounds per hour.

Applicable Compliance Method:

Compliance with the hourly emission limitation may be demonstrated based on a one time calculation by using emission factors from AP-42, Section 1.4, Table 1.4-1 (1998) for Natural Gas Combustion, and the maximum amount of the low Btu fuel gas entering the heaters .

$$E(PE) = 617,693 \text{ scf/hr} \times 7.6 \text{ lbs PE}/10 \times E6 \text{ scf (AP-42 emission factor)} = 4.7 \text{ lbs/hr}$$

If required, the permittee shall demonstrate compliance with the hourly PE emission limitation by means of physical testing of the effluent from this emissions unit in accordance with testing procedures listed in 40 CFR Part 60, "Standards of Performance for New Stationary Sources", Appendix A, Method 5.

d. Emission Limitation:

PE emissions shall not exceed 20.7 tons per rolling, 12-month period.

Applicable Compliance Method:

The tons per rolling 12-month period emission limitation was developed by multiplying the short-term allowable PE emission limitation (4.7 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the rolling 12 month emission limitation.

e. Emission Limitation:

CO emissions shall not exceed 51.9 pounds per hour.

Applicable Compliance Method:

Compliance with the hourly emission limitation may be demonstrated based on a one time calculation by using emission factors from AP-42, Section 1.4, Table 1.4-1 (1998) for Natural Gas Combustion, and the maximum amount of the low Btu fuel gas entering the heaters .



$$E(\text{CO}) = 617,693 \text{ scf/hr} \times 84 \text{ lbs CO}/10^6 \text{ scf (AP-42 emission factor)} = 51.9 \text{ lbs/hr}$$

If required, the permittee shall demonstrate compliance with the hourly CO emission limitation by means of physical testing of the effluent from this emissions unit in accordance with testing procedures listed in 40 CFR Part 60, "Standards of Performance for New Stationary Sources", Appendix A, Method 10.

f. Emission Limitation:

CO emissions shall not exceed 227.3 tons per rolling, 12-month period.

Applicable Compliance Method:

The tons per rolling 12-month period emission limitation was developed by multiplying the short-term allowable CO emission limitation (51.9 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the rolling 12 month emission limitation.

g. Emission Limitation:

VOC emissions shall not exceed 3.4 pounds per hour.

Applicable Compliance Method:

Compliance with the hourly emission limitation may be demonstrated based on a one time calculation by using emission factors from AP-42, Section 1.4, Table 1.4-1 (1998) for Natural Gas Combustion, and the maximum amount of the low Btu fuel gas entering the heaters .

$$E(\text{VOC}) = 617,693 \text{ scf/hr} \times 5.5 \text{ lbs VOC}/10^6 \text{ scf (AP-42 emission factor)} = 3.4 \text{ lbs/hr}$$

If required, the permittee shall demonstrate compliance with the hourly VOC emission limitation by means of physical testing of the effluent from this emissions unit in accordance with testing procedures listed in 40 CFR Part 60, "Standards of Performance for New Stationary Sources", Appendix A, Method 25 or 25A.

h. Emission Limitation:

VOC emissions shall not exceed 14.9 tons per rolling, 12-month period.

Applicable Compliance Method:

The tons per rolling 12-month period emission limitation was developed by multiplying the short-term allowable VOC emission limitation (3.4 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission



limitation, compliance shall also be shown with the rolling 12 month emission limitation.

i. Emission Limitation:

SOx emissions shall not exceed 0.4 pound per hour.

Applicable Compliance Method:

Compliance with the hourly emission limitation may be demonstrated based on a one time calculation by using emission factors from AP-42, Section 1.4, Table 1.4-1 (1998) for Natural Gas Combustion, and the maximum amount of the low Btu fuel gas entering the heaters .

$$E(\text{SOx}) = 617,693 \text{ scf/hr} \times 0.6 \text{ lbs SOx}/10 \times 10^6 \text{ scf (AP-42 emission factor)} = 0.4 \text{ lb/hr}$$

If required, the permittee shall demonstrate compliance with the hourly SOx emission limitation by means of physical testing of the effluent from this emissions unit in accordance with testing procedures listed in 40 CFR Part 60, "Standards of Performance for New Stationary Sources", Appendix A, Method 6.

j. Emission Limitation:

SOx emissions shall not exceed 1.6 tons per rolling 12-month period.

Applicable Compliance Method:

The tons per rolling 12-month period emission limitation was developed by multiplying the short-term allowable SOx emission limitation (0.4 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

g) Miscellaneous Requirements

- (1) None.



33. B006, F-T Process Unit.

Operations, Property and/or Equipment Description:

F-T Process w/154.0 mmBtu/hr Fractionator Fired heater fueled by natural gas/tailgas, controlled by a common SCR device.

- 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) None.
- b) Applicable Emissions Limitations and/or Control Requirements
 - (1) The specific operations(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. 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.	OAC rule 3745-31-05(A)(3)	The requirements established pursuant to this rule are equivalent to the requirements of OAC rules 3745-31-10 through 3745-31-20.
b.	OAC rule 3745-31-10 through 3745-31-20	<p>Particulate emissions (PE) shall not exceed 4.7 pounds per hour and 20.7 tons per rolling, 12-month period from the SCR device controlling this emissions unit.</p> <p>Nitrogen oxides (NOx) emissions shall not exceed 16.8 pounds per hour and 73.6 tons per rolling, 12-month period from the SCR device controlling this emissions unit.</p> <p>Carbon monoxide (CO) emissions shall not exceed 51.9 pounds per hour and 227.3 tons per rolling, 12-month period from the SCR device controlling this emissions unit.</p> <p>Volatile organic compounds (VOC) emissions shall not exceed 3.4 pounds per hour and 14.9 tons per rolling, 12-month period from the SCR device controlling this emissions unit.</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>Sulfur dioxide (SO_x) emissions shall not exceed 0.4 pound per hour and 1.6 tons per rolling 12-month period from the SCR device controlling this emissions unit.</p> <p>The visible particulate emissions limitations established pursuant to OAC rule 3745-17-0(A)(1) are equivalent to the requirements of these rules.</p> <p>See b)(2)b.</p> <p>These limitations are the total allowable emissions for emissions unit B006, the 154.0 mm Btu/hr F-T Fractionator Fired Heater, the 21.0 mm Btu/hr Hydrocracker Feed Oil Heater, the 20.0 mm Btu/hr Hydrocracker Feed Hydrogen Heater, and the 24.0 mm Btu Production Fractionation Feed Heater, all of which vent to the SCR device.</p> <p>Note: For purposes of totaling the facility-wide emissions, the emissions from emissions units B005 and B006 represent the same set of emissions and shall not be twice counted.</p>
c.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the exhaust stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.
d.	OAC rule 3745-17-10	The emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
e.	OAC rule 3745-21-08(E)	See b)(2)a.
f.	40 CFR Part 60, Subpart Ja	The emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to OAC rule



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		3745-31-05(A)(3).
9.	OAC rule 3745-31-05(D)	This permit to install takes into account the restrictions (including the use of any applicable air pollution control equipment) established pursuant to OAC rules 3745-31-10 through 3745-31-20 upon SO2 emissions as proposed by the permittee for the purpose of avoiding BAT requirements under OAC rule 3745-31-05(A)(3).

(2) Additional Terms and Conditions

- a. The waste gas stream shall be burned at 1,300 degrees Fahrenheit for 0.3 seconds or greater in a direct-flame afterburner or boiler equipped with an indicating pyrometer which is positioned in the working area at the operator's eye level.
- b. The BACT determination for this emissions unit includes:
 - i. use of only either natural gas or tailgas as fuel;
 - ii. employ ultra low-NOx burners (ULNB) in the boiler and a Selective Catalytic Reduction (SCR) unit emissions control device to reduce NOx emissions;
 - iii. burn only gaseous fuels and employ good combustion practices to limit CO emissions, VOC emissions, SO2 emissions, and PE/PM10 emissions.

c) Operational Restrictions

- (1) Each heater shall be designed and manufactured to meet the requirements of b)(2)a.

d) Monitoring and/or Recordkeeping Requirements

- (1) See 40 CFR Part 60, Subpart Ja.

Subpart Ja, Section 60.107a allows the permittee to choose to continuously monitor and record either the sulfur dioxide emissions into the atmosphere from this emissions unit or to continuously monitor and record the H2S content of the fuel gas before being burned.

- (2) The permittee shall maintain monthly records of the total quantity and type of gaseous fuel(s) burned in this emissions unit during each reporting period.
- (3) The permittee shall collect and record the following information for each day for the emissions unit and control equipment:



- a. a log of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

e) Reporting Requirements

- (1) See 40 CFR Part 60, Subpart Ja.
- (2) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas or tailgas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
- (3) The permittee shall submit quarterly summaries of the following records:
 - a. a log of operating time for the capture (collection) system, control device, monitoring equipment, and the associated emissions unit.

f) Testing Requirements

- (1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following methods:

a. Emission Limitation:

NOx emissions shall not exceed 16.8 pounds per hour.

Applicable Compliance Method:

Compliance with the hourly emission limitation may be demonstrated based on a one time calculation by using emission factors from AP-42, Section 1.4, Table 1.4-1 (1998) for Natural Gas Combustion, the maximum amount of the low Btu fuel gas entering the heaters, and the combined control efficiency of the ULNB and SCR (88%).

$$E(\text{NOx})_{\text{FT Heater}} = 434,359 \text{ scf/hr} \times 280 \text{ lbs NOx}/10^6 \text{ scf (AP-42 emission factor)} \times (1-0.88) = 14.6 \text{ lbs/hr}$$

$$E(\text{NOx})_{\text{HFOH, HFH, PFF Heaters}} = 183,334 \text{ scf/hr} \times 100 \text{ lbs NOx}/10^6 \text{ scf (AP-42 EF)} \times (1-0.88) = 2.2 \text{ lbs/hr}$$

$$E(\text{NOx})_{\text{Total}} = 14.6 + 2.2 = 16.8 \text{ lbs/hr}$$

If required, the permittee shall demonstrate compliance with the hourly NOx emission limitation by means of physical testing of the effluent from this emissions unit in accordance with testing procedures listed in 40 CFR Part 60, "Standards of Performance for New Stationary Sources", Appendix A, Method 7 or 7E.

b. Emission Limitation:

NOx emissions shall not exceed 73.6 tons per rolling, 12-month period.



Applicable Compliance Method:

The tons per rolling 12-month period emission limitation was developed by multiplying the short-term allowable NOx emission limitation (16.8 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the rolling 12 month emission limitation.

c. Emission Limitation:

PE emissions shall not exceed 4.7 pounds per hour.

Applicable Compliance Method:

Compliance with the hourly emission limitation may be demonstrated based on a one time calculation by using emission factors from AP-42, Section 1.4, Table 1.4-1 (1998) for Natural Gas Combustion, and the maximum amount of the low Btu fuel gas entering the heaters .

$$E(PE) = 617,693 \text{ scf/hr} \times 7.6 \text{ lbs PE}/10 \times E6 \text{ scf (AP-42 emission factor)} = 4.7 \text{ lbs/hr}$$

If required, the permittee shall demonstrate compliance with the hourly PE emission limitation by means of physical testing of the effluent from this emissions unit in accordance with testing procedures listed in 40 CFR Part 60, "Standards of Performance for New Stationary Sources", Appendix A, Method 5.

d. Emission Limitation:

PE emissions shall not exceed 20.7 tons per rolling, 12-month period.

Applicable Compliance Method:

The tons per rolling 12-month period emission limitation was developed by multiplying the short-term allowable PE emission limitation (4.7 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the rolling 12 month emission limitation.

e. Emission Limitation:

CO emissions shall not exceed 51.9 pounds per hour.

Applicable Compliance Method:

Compliance with the hourly emission limitation may be demonstrated based on a one time calculation by using emission factors from AP-42, Section 1.4, Table 1.4-1 (1998) for Natural Gas Combustion, and the maximum amount of the low Btu fuel gas entering the heaters.



$$E(\text{CO}) = 617,693 \text{ scf/hr} \times 84 \text{ lbs CO}/10^6 \text{ scf (AP-42 emission factor)} = 51.9 \text{ lbs/hr}$$

If required, the permittee shall demonstrate compliance with the hourly CO emission limitation by means of physical testing of the effluent from this emissions unit in accordance with testing procedures listed in 40 CFR Part 60, "Standards of Performance for New Stationary Sources", Appendix A, Method 10.

f. Emission Limitation:

CO emissions shall not exceed 227.3 tons per rolling, 12-month period.

Applicable Compliance Method:

The tons per rolling 12-month period emission limitation was developed by multiplying the short-term allowable CO emission limitation (51.9 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the rolling 12 month emission limitation.

g. Emission Limitation:

VOC emissions shall not exceed 3.4 pounds per hour.

Applicable Compliance Method:

Compliance with the hourly emission limitation may be demonstrated based on a one time calculation by using emission factors from AP-42, Section 1.4, Table 1.4-1 (1998) for Natural Gas Combustion, and the maximum amount of the low Btu fuel gas entering the heaters .

$$E(\text{VOC}) = 617,693 \text{ scf/hr} \times 5.5 \text{ lbs VOC}/10^6 \text{ scf (AP-42 emission factor)} = 3.4 \text{ lbs/hr}$$

If required, the permittee shall demonstrate compliance with the hourly VOC emission limitation by means of physical testing of the effluent from this emissions unit in accordance with testing procedures listed in 40 CFR Part 60, "Standards of Performance for New Stationary Sources", Appendix A, Method 25 or 25A.

h. Emission Limitation:

VOC emissions shall not exceed 14.9 tons per rolling, 12-month period.

Applicable Compliance Method:

The tons per rolling 12-month period emission limitation was developed by multiplying the short-term allowable VOC emission limitation (3.4 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission



limitation, compliance shall also be shown with the rolling 12 month emission limitation.

i. Emission Limitation:

SOx emissions shall not exceed 0.4 pound per hour.

Applicable Compliance Method:

Compliance with the hourly emission limitation may be demonstrated based on a one time calculation by using emission factors from AP-42, Section 1.4, Table 1.4-1 (1998) for Natural Gas Combustion, and the maximum amount of the low Btu fuel gas entering the heaters .

$$E(\text{SOx}) = 617,693 \text{ scf/hr} \times 0.6 \text{ lbs SOx}/10 \times 10^6 \text{ scf (AP-42 emission factor)} = 0.4 \text{ lb/hr}$$

If required, the permittee shall demonstrate compliance with the hourly SOx emission limitation by means of physical testing of the effluent from this emissions unit in accordance with testing procedures listed in 40 CFR Part 60, "Standards of Performance for New Stationary Sources", Appendix A, Method 6.

j. Emission Limitation:

SOx emissions shall not exceed 1.6 tons per rolling 12-month period.

Applicable Compliance Method:

The tons per rolling 12-month period emission limitation was developed by multiplying the short-term allowable SOx emission limitation (0.4 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

g) Miscellaneous Requirements

- (1) None.



34. F001, Coal Storage Piles.

Operations, Property and/or Equipment Description:

Coal Storage Piles, 16.6 acres with stocker/reclaimers.

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) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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.	OAC rule 3745-31-05(A)(3)	<p>The requirements established pursuant to this rule are equivalent to the requirements of OAC rules 3745-31-10 through 3745-31-20.</p> <p>There shall be no visible particulate emissions except for a period of time not to exceed one minute in any 60-minute observation period.</p> <p>The permittee shall implement best available control measures that are sufficient to minimize or eliminate visible particulate emissions of fugitive dust.</p> <p>See b)(2)c.</p>
b.	OAC rule 3745-17-07(B)(6)	The visible particulate emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rules 3745-31-10 through 3745-31-20.
c.	OAC rules 3745-31-10 through 3745-31-20	<p>Emissions of fugitive particulate matter of 10 microns or less (PM10) shall not exceed 12.3 tons per rolling, 12-month period.</p> <p>Fugitive particulate matter emissions</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>shall not exceed 25.7 tons per rolling, 12-month period.</p> <p>The visible particulate emissions limitations established pursuant to OAC rule 3745-31-05(A)(3) are equivalent to the requirements of these rules.</p> <p>See b)(2)a. through b)(2)b.</p>

(2) Additional Terms and Conditions

- a. The Best Available Control Technology (BACT) determination for this emissions unit includes:
 - i. installation and use of a 3-sided windscreen barrier, at all times, around the storage piles to minimize particulate matter and PM10 emissions caused by windblown erosion of the storage piles. Said wind barrier shall have a design, emission reduction efficiency of at least 75%;
 - ii. enclosed conveyors;
 - iii. reduced drop heights; and
 - iv. use of chemical stabilization/dust suppressants and/or watering, as required to comply with the visible particulate emissions limitations listed above.

Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

- b. The above-mentioned control measure(s) shall be employed for each load-in and load-out operation and for wind erosion at each storage pile if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measure(s) are necessary to ensure compliance with the above-mentioned applicable requirements. Any required implementation of the control measure(s) shall continue during any such operation until further observation confirms that use of the measure(s) is unnecessary. Implementation of the control measure(s) shall not be necessary for a storage pile that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements.
- c. Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the best available technology requirements of OAC rule 3745-31-05.



c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) Except as otherwise provided in this section, the permittee shall perform inspections of each load-in operation at each storage pile in accordance with the following frequencies:

<u>storage pile identification</u>	<u>minimum load-in inspection frequency</u>
all	daily

- (2) Except as otherwise provided in this section, the permittee shall perform inspections of each load-out operation at each storage pile in accordance with the following frequencies:

<u>storage pile identification</u>	<u>minimum load-out inspection frequency</u>
all	daily

- (3) Except as otherwise provided in this section, the permittee shall perform inspections of the wind erosion from pile surfaces associated with each storage pile in accordance with the following frequencies:

<u>storage pile identification</u>	<u>minimum wind erosion inspection frequency</u>
all	daily

- (4) No inspection shall be necessary for wind erosion from the surface of a storage pile when the pile is covered with snow and/or ice and for any storage pile activity if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Any required inspection that is not performed due to any of the above identified events shall be performed as soon as such event(s) has (have) ended, except if the next required inspection is within one week.

- (5) The purpose of the inspections is to determine the need for implementing the control measures specified in this permit for load-in and load-out of a storage pile, and wind erosion from the surface of a storage pile. The inspections shall be performed during representative, normal storage pile operating conditions.

- (6) The permittee shall maintain records of the following information:

- the date and reason any required inspection was not performed, including those inspections that were not performed due to snow and/or ice cover or precipitation;
- the date and time of each inspection where it was determined by the permittee that it was necessary to implement chemical stabilization/dust suppressants;
- the dates that chemical stabilization/dust suppressants were applied; and



- d. on a calendar quarter basis, the total number of days that chemical stabilization/dust suppressants were applied and, for wind erosion from pile surfaces, the total number of days where snow and/or ice cover or precipitation were sufficient to not require the control measure(s).

The information required in d)(6)d. shall be kept separately for (i) the load-in operations, (ii) the load-out operations, and (iii) the pile surfaces (wind erosion), and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

e) Reporting Requirements

- (1) The permittee shall submit semi-annual deviation reports that identify any of the following occurrences:
 - a. each day during which an inspection was not performed by the required frequency, excluding an inspection which was not performed due to an exemption for snow and/or ice cover or precipitation; and
 - b. each instance when chemical stabilization/dust suppressants, that were to be implemented as a result of an inspection, were not implemented.

f) Testing Requirements

- (1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following methods:

- a. Emissions Limitations:

Emissions of fugitive particulate matter of 10 microns or less (PM10) shall not exceed 12.3 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance with fugitive particulate matter and PM10 emissions limitations shall be determined by using the emission factor equations in U.S. EPA's 'Control of Open Fugitive Dust Sources' (EPA-450/3-88-008), Section 4.1.3 and Sections 13.2.4 and 13.2.5, in Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume 1 (revised 1/95), for load-in operations, load-out operations, and wind erosion. These emission limits were based on a maximum coal pile storage area of 16.6 acres of continuously active piles, an average silt content of 4.8%, a 28% time factor representing wind speeds of 12 miles per hour or greater on an annual basis and a 75% overall control efficiency for particulate emissions and PM10.

- b. Emission Limitation:

Particulate emissions shall not exceed 25.7 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance with fugitive particulate matter and PM10 emissions limitations shall be determined by using the emission factor equations in U.S. EPA's 'Control of



Open Fugitive Dust Sources' (EPA-450/3-88-008), Section 4.1.3 and Sections 13.2.4 and 13.2.5, in Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume 1 (revised 1/95), for load-in operations, load-out operations, and wind erosion. These emission limits were based on a maximum coal pile storage area of 16.6 acres of continuously active piles, an average silt content of 4.8%, a 28% time factor representing wind speeds of 12 miles per hour or greater on an annual basis and a 75% overall control efficiency for particulate emissions and PM10.

c. Emission Limitation:

There shall be no visible particulate emissions except for a period of time not to exceed one minute in any 60-minute observation period.

Applicable Compliance Method:

Compliance with the visible particulate emissions limitations for the storage piles identified above shall be determined in accordance with Test Method 22 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources").

g) Miscellaneous Requirements

- (1) None.



35. F002, Biomass Storage Piles.

Operations, Property and/or Equipment Description:

Biomass Storage Piles, 4.40 acres consisting of clean, untreated wood chips or sawdust, under roof.

- 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) None.
- b) Applicable Emissions Limitations and/or Control Requirements
 - (1) The specific operations(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. 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.	OAC rule 3745-31-05(A)(3)(a)(ii)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate emissions (PE) from this air contaminant source since the calculated annual emission rate for PE is less than ten tons per year taking into account the federally enforceable BACT emission limit of 2.71 tons per rolling, 12-month period.
b.	OAC rule 3745-17-07(B)(6)	There shall be no visible particulate emissions except for a period of time not to exceed thirteen minutes in any 60-minute observation period.
c.	OAC rules 3745-31-10 through 3745-31-20	Emissions of fugitive particulate matter of 10 microns or less (PM10) shall not exceed 1.0 tons per rolling, 12-month period. Fugitive particulate matter emissions shall not exceed 2.71 tons per rolling, 12-month period. The visible particulate emissions limitations established pursuant to OAC rule 3745-17-07(B)(6) are equivalent to the requirements of



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>these rules.</p> <p>See b)(2)a. and b)(2)b.</p>

(2) Additional Terms and Conditions

- a. The Best Available Control Technology (BACT) determination for this emissions unit includes:
 - i. installation and use of a 3-sided windscreen barrier, at all times, around the storage piles to minimize particulate matter and PM10 emissions caused by windblown erosion of the storage piles. Said wind barrier shall be designed for an, emission reduction efficiency, of at least 75%;
 - ii. enclosed conveyors;
 - iii. reduced drop heights; and
 - iv. use of chemical stabilization/dust suppressants and/or watering, as required to comply with the visible particulate emissions limitations listed above.

Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.

- b. The above-mentioned control measure(s) shall be employed for each load-in and load-out operation and for wind erosion at each storage pile if the permittee determines, as a result of the inspection conducted pursuant to the monitoring section of this permit, that the control measure(s) are necessary to ensure compliance with the above-mentioned applicable requirements. Any required implementation of the control measure(s) shall continue during any such operation until further observation confirms that use of the measure(s) is unnecessary. Implementation of the control measure(s) shall not be necessary for a storage pile that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) Except as otherwise provided in this section, the permittee shall perform inspections of each load-in operation at each storage pile in accordance with the following frequencies:

<u>storage pile identification</u>	<u>minimum load-in inspection frequency</u>
all	daily



- (2) Except as otherwise provided in this section, the permittee shall perform inspections of each load-out operation at each storage pile in accordance with the following frequencies:

<u>storage pile identification</u>	<u>minimum load-out inspection frequency</u>
all	daily

- (3) Except as otherwise provided in this section, the permittee shall perform inspections of the wind erosion from pile surfaces associated with each storage pile in accordance with the following frequencies:

<u>storage pile identification</u>	<u>minimum wind erosion inspection frequency</u>
all	daily

- (4) No inspection shall be necessary for wind erosion from the surface of a storage pile when the pile is covered with snow and/or ice and for any storage pile activity if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Any required inspection that is not performed due to any of the above identified events shall be performed as soon as such event(s) has (have) ended, except if the next required inspection is within one week.

- (5) The purpose of the inspections is to determine the need for implementing the control measures specified in this permit for load-in and load-out of a storage pile, and wind erosion from the surface of a storage pile. The inspections shall be performed during representative, normal storage pile operating conditions.

- (6) The permittee shall maintain records of the following information:

- a. the date and reason any required inspection was not performed, including those inspections that were not performed due to snow and/or ice cover or precipitation;
- b. the date and time of each inspection where it was determined by the permittee that it was necessary to implement chemical stabilization/dust suppressants;
- c. the dates that chemical stabilization/dust suppressants were applied; and
- d. on a calendar quarter basis, the total number of days that chemical stabilization/dust suppressants were applied and, for wind erosion from pile surfaces, the total number of days where snow and/or ice cover or precipitation were sufficient to not require the control measure(s).

The information required in d)(6) shall be kept separately for (i) the load-in operations, (ii) the load-out operations, and (iii) the pile surfaces (wind erosion), and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

e) Reporting Requirements

- (1) The permittee shall submit semi-annual deviation reports that identify any of the following occurrences:



- a. each day during which an inspection was not performed by the required frequency, excluding an inspection which was not performed due to an exemption for snow and/or ice cover or precipitation; and
 - b. each instance when chemical stabilization/dust suppressants, that were to be implemented as a result of an inspection, were not implemented.
- f) Testing Requirements
- (1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following methods:
 - a. Emissions Limitation:

Emissions of fugitive particulate matter of 10 microns or less (PM10) shall not exceed 1.0 ton per rolling, 12-month period.

Applicable Compliance Method:

Compliance with fugitive particulate matter and PM10 emissions limitations shall be determined by using the emission factor equations in U.S. EPA's 'Control of Open Fugitive Dust Sources' (EPA-450/3-88-008), Section 4.1.3, and Sections 13.2.4 and 13.2.5, in 'Compilation of Air Pollutant Emission Factors', AP-42, Fifth Edition, Volume 1 (revised 1/95), for load-in operations, load-out operations, and wind erosion. These emission limits were based on a maximum biomass storage pile area of 4.4 acres of continuously active piles, an average silt content of 8.0%, a 28% time factor representing wind speeds of 12 miles per hour or greater on an annual basis and a 75% overall control efficiency for particulate emissions and PM10.
 - b. Emission Limitation:

Particulate emissions shall not exceed 2.71 tons per rolling, 12-month period.

Applicable Compliance Method:

Compliance with fugitive particulate matter and PM10 emissions limitations shall be determined by using the emission factor equations in U.S. EPA's 'Control of Open Fugitive Dust Sources' (EPA-450/3-88-008), Section 4.1.3, and Sections 13.2.4 and 13.2.5, in 'Compilation of Air Pollutant Emission Factors', AP-42, Fifth Edition, Volume 1 (revised 1/95), for load-in operations, load-out operations, and wind erosion. These emission limits were based on a maximum biomass storage pile area of 4.4 acres of continuously active piles, an average silt content of 8.0%, a 28% time factor representing wind speeds of 12 miles per hour or greater on an annual basis and a 75% overall control efficiency for particulate emissions and PM10.
 - c. Emission Limitation:

There shall be no visible particulate emissions except for a period of time not to exceed thirteen minutes in any 60-minute observation period.



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Final Permit-to-Install
Permit Number: 02-22896
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Effective Date: 11/20/2008

Applicable Compliance Method:

Compliance with the visible particulate emissions limitations for the storage piles identified above shall be determined in accordance with Test Method 22 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources").

- g) Miscellaneous Requirements
 - (1) None.



36. F003, Coal & Biomass Receiving Building.

Operations, Property and/or Equipment Description:

Coal & Biomass Hopper, Truckload Receiving Building.

- 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) None.
- b) Applicable Emissions Limitations and/or Control Requirements
 - (1) The specific operations(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. 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.	OAC rules 3745-31-10 through 3745-31-20	PE/PM10 emissions shall not exceed 0.12 lb per hour and 0.6 ton per year from the baghouse exhaust stack. (It is assumed that the PE is 100% PM10.) The visible particulate emissions limitations established pursuant to OAC rule 3745-17-07(A) are equivalent to the requirements of these rules. See b)(2)b.
b.	OAC rule 3745-31-05(A)(3)(a)(ii)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate emissions (PE) from this air contaminant source since the calculated annual emission rate for PE is less than ten tons per year taking into account the federally enforceable BACT emission limit of 0.12 lb PE per hour.
c.	OAC rule 3745-17-07(A)	Visible PE from the baghouse exhaust stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
d.	OAC rule 3745-17-08(B)	See b)(2)a.
e.	40 CFR Part 60 Subpart Y	See b)(2)c.



(2) Additional Terms and Conditions

- a. The emissions limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rules 3745-31-10 through 3745-31-20.
- b. The BACT determination for this emissions unit includes:
 - i. Totally enclosing coal and biomass unloading hopper building, including all material transfer points;
 - ii. Equipping the unloading hopper building with a baghouse dust collector that reduces particulate emissions by 99%, by weight; and
 - iii. Totally enclosing coal and biomass exit conveyors from the building.
- c. In accordance with Section 60.252(c) of 40 CFR Part 60, the permittee shall not cause to be discharged into the atmosphere from any coal processing equipment, coal storage system or coal transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall perform weekly checks while the equipment is in operation for any visible particulate emissions from the baghouse stack. The presence or absence of any visible emissions from the baghouse stack, along with the date and time shall be noted in an operations log. If any visible emissions are observed from the stack, corrective actions shall be taken to eliminate the visible emissions and these actions shall also be noted in the operations log.

e) Reporting Requirements

- (1) The permittee shall submit on a semi-annual basis a report that (a) identifies all dates during which any visible particulate emissions were observed from the baghouse stack and (b) describes the corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted by January 31 and July 31 of each year to the Ohio EPA Northeast District Office.

f) Testing Requirements

- (1) 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 3 months after start-up.
 - b. The emission testing shall be conducted to demonstrate compliance with:
 - i. the allowable mass emission rate for PE of 0.12 lb/hour; and
 - ii. the visible PE limitation.



- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):
 - i. for particulates, Method 5 of 40 CFR Part 60, Appendix A; and
 - ii. for visible PE, Method 9 of 40 CFR Part 60, Appendix A.

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, unless otherwise specified or approved by the Ohio EPA Northeast District Office.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA Northeast District Office. 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 Ohio EPA Northeast District Office's refusal to accept the results of the emission test(s).
- f. Personnel from the Ohio EPA Northeast District Office 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 emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA Northeast District Office 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 Ohio EPA Northeast District Office.

(2) Emissions Limitation:

Particulate emissions shall not exceed 0.6 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance with the annual emission limit shall be assumed if compliance with the hourly emission limit is demonstrated.

(3) Emissions Limitation:

Visible PE from the baghouse exhaust stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.



Applicable Compliance Method:

Compliance with these emission limitations shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9. The initial performance test shall be conducted in accordance with the requirements listed in f)(1).

(4) Emissions Limitation:

In accordance with Section 60.252(c) of 40 CFR Part 60, the permittee shall not cause to be discharged into the atmosphere from any coal processing equipment, coal storage system, or coal transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.

Applicable Compliance Method:

Compliance with these emission limitations shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures in Section 60.11 of 40 CFR Part 60.

In accordance with Section 60.8, of 40 CFR Part 60, the permittee shall conduct initial performance tests within 60 days of achieving the maximum production rate at which the affected facility will be operated, but no longer than 180 days after initial startup.

The permittee shall comply with the requirements in f)(1)e. through f)(1)g., in regard to testing notice, Ohio EPA witness of testing, and submitting written reports on results.

g) Miscellaneous Requirements

(1) None.



37. F009, Coal Crusher House.

Operations, Property and/or Equipment Description:

Coal Crusher House, 2,000 tons per hr. maximum w/dust collector.

- 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) None.
- b) Applicable Emissions Limitations and/or Control Requirements
 - (1) The specific operations(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. 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.	OAC rules 3745-31-10 through 3745-31-20	PE/PM10 emissions shall not exceed 1.2 lbs per hour and 5.3 tons per rolling 12-month period the baghouse exhaust stack. (It is assumed that the PE is 100% PM10.) The visible particulate emissions limitations established pursuant to OAC rule 3745-17-07(A) are equivalent to the requirements of these rules. See b)(2)b.
b.	OAC rule 3745-31-05(A)(3)(a)(ii)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate emissions (PE) from this air contaminant source since the calculated annual emission rate for PE is less than ten tons per year taking into account the federally enforceable BACT emission limit of 1.2 lbs PE per hour.
c.	OAC rule 3745-17-07(A)	Visible PE from the baghouse exhaust stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
d.	OAC rule 3745-17-08(B)	See b)(2)a.
e.	40 CFR Part 60 Subpart Y	See b)(2)c.



(2) Additional Terms and Conditions

- a. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rules 3745-31-10 through 3745-31-20.
- b. The BACT determination for this emissions unit includes:
 - i. a totally enclosed coal crusher house, including all coal transfer points;
 - ii. equipping the coal crusher house with a baghouse dust collector that limits stack outlet PE loading to 0.005 gr/dscf of exhaust gases; and
 - iii. totally enclosed inlet and exit coal conveyors to the coal crusher house.
- c. In accordance with Section 60.252(c) of 40 CFR Part 60, the permittee shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.

c) Operational Restrictions

- (1) A bag leak detector shall be properly installed, calibrated, operated and maintained on the control equipment serving this emissions unit. An audible alarm shall be installed to sound should emissions above the percent saturation, determined during the calibration testing, be exceeded.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain records of the details of each event where an audible alarm sounds on the bag leak detector. These records shall include the date, time, duration, cause, and the action taken in response to the alarm.

e) Reporting Requirements

- (1) The permittee shall submit on a semi annual basis a report that identifies each event where an audible alarm sounds on the bag leak detector. These reports shall include a summary of the date, time, duration, cause, and the action taken in response to the alarm. These reports shall be submitted by January 31 and July 31 of each year to the Ohio EPA Northeast District Office.

f) Testing Requirements

- (1) 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 3 months after start-up.
 - b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for PE of 1.2 lbs/hour.
 - c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):



for particulates, Method 5 of 40 CFR Part 60, Appendix A.

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, unless otherwise specified or approved by the Ohio EPA Northeast District Office.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA Northeast District Office. 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 Ohio EPA Northeast District Office's refusal to accept the results of the emission test(s).
- f. Personnel from the Ohio EPA Northeast District Office 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 emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA Northeast District Office 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 Ohio EPA Northeast District Office.

(2) Emissions Limitation:

Particulate emissions shall not exceed 5.3 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance with the annual emission limit shall be assumed if compliance with the hourly emission limit is demonstrated.

(3) Emissions Limitation:

Visible PE from the baghouse exhaust stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance with these emission limitations shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.



(4) Emissions Limitation:

In accordance with Section 60.252(c) of 40 CFR Part 60, the permittee shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.

Applicable Compliance Method:

If, required, compliance with these emission limitations shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures in Section 60.11 of 40 CFR Part 60.

In accordance with Section 60.8, of 40 CFR Part 60, the permittee shall conduct initial performance tests within 60 days of achieving the maximum production rate at which the affected facility will be operated, but no longer than 180 days after initial startup.

The permittee shall comply with the requirements in f)(1)e. through f)(1)g., in regard to testing notice, Ohio EPA witness of testing, and submitting written reports on results.

g) Miscellaneous Requirements

(1) None.



38. F010, Biomass Crusher House.

Operations, Property and/or Equipment Description:

Biomass Crusher House, 2,000 tons per hour maximum w/dust collector.

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) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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.	OAC rules 3745-31-10 through 3745-31-20	PE/PM10 emissions shall not exceed 1.2 lbs per hour and 5.3 tons per rolling 12-month period the baghouse exhaust stack. (It is assumed that the PE is 100% PM10.) The visible particulate emissions limitations established pursuant to OAC rule 3745-17-07(A) are equivalent to the requirements of these rules. See b)(2)b.
b.	OAC rule 3745-31-05(A)(3)(a)(ii)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate emissions (PE) from this air contaminant source since the calculated annual emission rate for PE is less than ten tons per year taking into account the federally enforceable BACT emission limit of 1.2 lbs PE per hour.
c.	OAC rule 3745-17-07(A)	Visible PE from the baghouse exhaust stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
d.	OAC rule 3745-17-08(B)	See b)(2)a.



(2) Additional Terms and Conditions

- a. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rules 3745-31-10 through 3745-31-20.
- b. The BACT determination for this emissions unit includes:
 - i. a totally enclosed biomass crusher house, including all transfer points;
 - ii. equipping the biomass crusher house with a baghouse dust collector that limits stack outlet PE loading to 0.005 gr/dscf of exhaust gases; and
 - iii. totally enclosed inlet and exit biomass conveyors to the biomass crusher house.

c) Operational Restrictions

- (1) A bag leak detector shall be properly installed, calibrated, operated and maintained on the control equipment serving this emissions unit. An audible alarm shall be installed to sound should emissions above the percent saturation, determined during the calibration testing, be exceeded.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain records of the details of each event where an audible alarm sounds on the bag leak detector. These records shall include the date, time, duration, cause, and the action taken in response to the alarm.

e) Reporting Requirements

- (1) The permittee shall submit on a semi annual basis a report that identifies each event where an audible alarm sounds on the bag leak detector. These reports shall include a summary of the date, time, duration, cause, and the action taken in response to the alarm. These reports shall be submitted by January 31 and July 31 of each year to the Ohio EPA Northeast District Office.

f) Testing Requirements

- (1) 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 3 months after start-up.
 - b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for PE of 1.2 lbs/hour.
 - c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

for particulates, Method 5 of 40 CFR Part 60, Appendix A.

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, unless otherwise specified or approved by the Ohio EPA Northeast District Office.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA Northeast District Office. 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 Ohio EPA Northeast District Office's refusal to accept the results of the emission test(s).
- f. Personnel from the Ohio EPA Northeast District Office 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 emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA Northeast District Office 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 Ohio EPA Northeast District Office.

(2) Emissions Limitation:

Particulate emissions shall not exceed 5.3 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance with the annual emission limit shall be assumed if compliance with the hourly emission limit is demonstrated.

(3) Emissions Limitation:

Visible PE from the baghouse exhaust stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance with these emission limitations shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

g) Miscellaneous Requirements

- (1) None.



39. F027, Slag Storage Pile.

Operations, Property and/or Equipment Description:

Slag Storage Pile.

- 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) None.
- b) Applicable Emissions Limitations and/or Control Requirements
 - (1) The specific operations(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. 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.	OAC rules 3745-31-10 through 3745-31-20	<p>Emissions of fugitive particulate matter of 10 microns or less (PM10) shall not exceed 0.8 ton per rolling 12-month period from wind erosion on the storage pile.</p> <p>Emissions of fugitive particulate matter (PE) shall not exceed 1.6 tons per rolling 12-month period from wind erosion on the storage pile.</p> <p>Emissions of fugitive PE from load out to trucks shall not exceed 11.7 ton per rolling 12-month period.</p> <p>Emissions of fugitive PM10 from load out to trucks shall not exceed 11.5 ton per rolling 12-month period.</p> <p>The visible particulate emissions limitations established pursuant to OAC rule 3745-31-05(A)(3) are equivalent to the requirements of these rules.</p> <p>See b)(2)a.</p>



b.	OAC rule 3745-17-07(B)(6)	The emissions limitations established by this rule are less stringent than those established pursuant to OAC rule 3745-31-05(A)(3).
c.	OAC rule 3745-31-05(A)(3)	<p>The requirements established pursuant to this rule are equivalent to the requirements of OAC rules 3745-31-10 through 3745-31-20.</p> <p>There shall be no visible particulate emissions except for a period of time not to exceed one minute in any 60-minute observation period.</p> <p>The permittee shall implement best available control measures that are sufficient to minimize or eliminate visible particulate emissions of fugitive dust.</p> <p>See b)(2)c.</p>
d.	OAC rule 3745-17-08(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-10 through 3745-31-20.

(2) Additional Terms and Conditions

- a. The BACT determination for this emissions unit includes:
 - i. the use of a dust control program (use of water trucks and/or fire hoses as needed to reduce fugitive dust) to maintain a high moisture content in the slag;
 - ii. water will be applied as needed for load out from the slag storage pile;
 - iii. minimize free fall distances; and
 - iv. the haul trucks shall be covered before exiting the slag storage area;
- b. The above BACT determination notwithstanding, should any visible emissions be observed, except for a period of time not to exceed thirteen minutes during any 60-minute observation period, the permittee shall implement additional measures as required to comply with the visible particulate emissions limitations listed above.



c. Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the best available technology requirements of OAC rule 3745-31-05(A)(3).

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) Except as otherwise provided in this section, the permittee shall perform observations for visible emissions in accordance with the following frequencies:

<u>storage pile identification</u>	<u>minimum load-in inspection frequency</u>
all slag storage piles	daily
storage pile front end	
loading to trucks	daily

Notwithstanding the frequency of inspection requirements specified above, the permittee may reduce the frequency of inspections for the slag storage piles from daily to weekly if the following conditions are met:

- a. for 1 full quarter the inspections of the slag storage piles indicate no need for implementing the above-mentioned control measures; and
- b. The permittee continues to comply with all the record keeping and monitoring requirements specified in d).
- c. The permittee shall revert to daily inspections of the slag storage piles if the inspections of the slag storage piles indicate the need for implementing the above-mentioned control measures. The permittee may again reduce the frequency of inspections from daily to weekly after obtaining 1 full quarter of inspections of the slag storage piles that indicate no need for implementing the above-mentioned control measures.

(2) No inspection shall be necessary for wind erosion from the surface of a storage pile when the pile is covered with snow and/or ice if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements.

(3) The purpose of the inspections is to determine the need for implementing the control measures specified in this permit for wind erosion from the surface of a storage pile and from load out of the pile into trucks. The inspections shall be performed during representative, normal storage pile operating conditions.

(4) The permittee shall maintain records of the following information:

- a. the date and reason any required inspection was not performed, including those inspections that were not performed due to snow and/or ice cover or precipitation;



- b. the date and the time of each inspection where it was determined by the permittee that it was necessary to implement the control measures;
- c. the dates the control measures were implemented; and
- d. on a calendar quarter basis, the total number of days the control measures were implemented and, for wind erosion from pile surfaces, the total number of days where snow and/or ice cover or precipitation were sufficient to not require the control measure(s).

The information required in d)(4)d. shall be kept separately for (i) wind erosion from the storage pile and (ii) load out of the pile into trucks and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

e) Reporting Requirements

- (1) The permittee shall submit semi-annual deviation reports that identify any of the following occurrences:
 - a. each day during which an inspection was not performed by the required frequency, excluding an inspection which was not performed due to an exemption for snow and/or ice cover or precipitation; and
 - b. each instance when a control measure, that was to be implemented as a result of an inspection, was not implemented.

f) Testing Requirements

- (1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following methods:
 - a. Emissions Limitations:

Emissions of fugitive PM10 shall not exceed 0.8 ton per rolling 12-month period from wind erosion on the storage pile.

Emissions of fugitive PE shall not exceed 1.6 tons per rolling 12-month period from wind erosion on the storage pile.

Applicable Compliance Method:

Compliance with fugitive particulate matter and PM10 emissions limitations shall be determined by using the emission factor equations in U.S. EPA's 'Control of Open Fugitive Dust Sources' (EPA-450/3-88-008), Section 4.1.3 and Sections 13.2.4 and 13.2.5, in Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume 1 (revised 1/95), for wind erosion. These emission limits were based on a maximum slag storage pile area of 1.2 acres of continuously active piles, an average silt content of 7.3%, a 28% time factor representing wind speeds of 12 miles per hour or greater on an annual basis, 150 days/year with \geq 0.01 inch of precipitation per year and 50% overall control efficiency for particulate emissions and PM10.



b. Emissions Limitations:

Emissions of fugitive PE from load out to trucks shall not exceed 0.4 ton per rolling 12-month period.

Emissions of fugitive PM10 from load out to trucks shall not exceed 0.2 ton per rolling 12-month period.

Applicable Compliance Method:

Compliance with fugitive particulate matter and PM10 emissions limitations shall be determined by using the emission factor 0.02 lb PE/ton slag in Sections 13.2.4.3 in Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume 1 (revised 1/95), for loading slag out of the pile onto trucks. These emission limits were based on a slag generation rate of 255.42 tons per hour slag generation, a 15% moisture content, wind speed of 10 mph and particle size multipliers of 0.74 for PE and 0.35 for PM10.

c. Emission Limitation:

There shall be no visible particulate emissions except for a period of time not to exceed one minute in any 60-minute observation period.

Applicable Compliance Method:

Compliance with the visible particulate emissions limitations for the storage piles identified above shall be determined in accordance with Test Method 22 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources").

g) Miscellaneous Requirements

- (1) None.



40. F028, Plant Roadways & Parking Areas.

Operations, Property and/or Equipment Description:

Plant Roadways & Parking Areas.

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) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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.	OAC rule 3745-31-05(A)(3)	There shall be no visible particulate emissions except for a period of time not to exceed one minute in any 60-minute observation period. The requirements established pursuant to this rule are equivalent to the requirements of OAC rules 3745-31-10 through 3745-31-20. See b)(2)e.
b.	OAC rule 3745-17-07(B)(7)	The visible particulate emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
c.	OAC rules 3745-31-10 through 3745-31-20	Emissions of fugitive particulate matter of 10 microns or less (PM10) shall not exceed 15.39 tons per rolling 12-month period. Fugitive particulate matter emissions shall not exceed 79.0 tons per rolling 12-month period. The permittee shall implement best available control measures that are sufficient to minimize or eliminate visible particulate emissions of fugitive dust. The visible particulate emissions limitations established pursuant to OAC



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>rule 3745-31-05(A)(3) are equivalent to the requirements of these rules.</p> <p>See. b)(2).a through. b)(2)d.</p>

(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 use of reduced speed limits, sweeping, watering and good housekeeping for control measures constitutes BACT for this emissions unit. The emissions limits based on the BACT requirements are listed under OAC rules 3745-31-10 through 3745-31-20 above. Nothing in this paragraph shall prohibit the permittee from employing other control measures to ensure compliance.
- b. The needed frequencies of implementation of the control measures shall be determined by the permittee's inspections pursuant to the monitoring.
- c. Implementation of the control measures shall not be necessary for paved roadways and parking areas that are covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Implementation of any control measure may be suspended if unsafe or hazardous driving conditions would be created by its use.
- d. The permittee shall promptly remove, in such a manner as to minimize or prevent resuspension, earth and/or other material from paved streets onto which such material has been deposited by trucking or earth moving equipment or erosion by water or other means.
- e. Open-bodied vehicles transporting materials likely to become airborne shall have such materials covered at all times if the control measure is necessary for the materials being transported.
- f. Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the best available technology requirements of OAC rule 3745-31-05.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) Except as otherwise provided in this section, the permittee shall perform inspections of each of the roadway segments and parking areas in accordance with the following frequencies:



paved roadways and parking areas	minimum inspection frequency
all paved roads and parking areas	daily

(2) The purpose of the inspections is to determine the need for implementing the above-mentioned control measures. The inspections shall be performed during representative, normal traffic conditions. No inspection shall be necessary for a roadway or parking area that is covered with snow and/or ice or if precipitation has occurred that is sufficient for that day to ensure compliance with the above-mentioned applicable requirements. Any required inspection that is not performed due to any of the above-identified events shall be performed as soon as such event(s) has (have) ended, except if the next required inspection is within one week.

(3) The permittee shall maintain records of the following information:

- a. the date and reason any required inspection was not performed, including those inspections that were not performed due to snow and/or ice cover or precipitation;
- b. the date and the time of each inspection where it was determined by the permittee that it was necessary to implement the control measures;
- c. the dates the control measures were implemented; and
- d. on a calendar quarter basis, the total number of days the control measures were implemented and the total number of days where snow and/or ice cover or precipitation were sufficient to not require the control measures.

(4) The information required in d)(3)d. shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

e) Reporting Requirements

(1) The permittee shall submit semi-annual deviation reports that identify any of the following occurrences:

- a. each day during which an inspection was not performed by the required frequency, excluding an inspection which was not performed due to an exemption for snow and/or ice cover or precipitation; and
- b. each instance when a control measure, that was to be implemented as a result of an inspection, was not implemented.

(2) The deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) permit shall be determined in accordance with the following methods:



a. Emissions Limitations:

Emissions of fugitive particulate matter of 10 microns or less (PM10) shall not exceed 15.39 tons per rolling 12-month period.

Fugitive particulate matter emissions shall not exceed 79.0 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance with fugitive particulate emissions and PM10 limitations shall be determined by using the emission factor equations in Section 13.2.1, in Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume 1 (revised 12/03) for paved roadways. These emission limits were based on 736,205 vehicle miles traveled per year, and a 90 % control efficiency for particulate emissions and PM10.

b. Emission Limitation:

There shall be no visible particulate emissions except for a period of time not to exceed one minute in any 60-minute observation period.

Applicable Compliance Method:

If required, compliance with the visible particulate emissions limitation listed above shall be determined in accordance with Test Method 22 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources").

g) Miscellaneous Requirements

- (1) None.



41. J001, Loading Rack for F-T fuels.

Operations, Property and/or Equipment Description:

Loading Rack for F-T fuels.

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) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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.	OAC rule 3745-31-05(A)(3)(a)(ii)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the VOC from this air contaminant source since the calculated annual emission rate for VOC is less than ten tons per year taking into account the federally enforceable BACT emission limit of 1.7 tons per rolling 12-month period.
b.	OAC rules 3745-31-10 through 3745-31-20	See Section b)(2)a. and b)(2)b below. VOC emissions shall not exceed 1.7 tons per rolling 12-month period.

(2) Additional Terms and Conditions

a. The BACT determination for this emissions unit includes the following emissions limitations and control requirements:



- (3) The loading rack shall be provided with a means to prevent drainage of F-T naphtha from the loading device when it is not in use or to accomplish complete drainage before the loading device is disconnected.
 - (4) All F-T naphtha loading lines and vapor lines shall be equipped with fittings which are vapor tight.
 - (5) The permittee shall not permit F-T naphtha to be spilled, discarded into sewers, stored in open containers, or handled in any other manner that would result in evaporation.
 - (6) The permittee shall repair any leak from the vapor collection system or vapor control system within 15 days of detection, when such leak is equal to or greater than 100 percent of the lower explosive limit as propane, as determined under paragraph (K) of OAC rule 3745-21-10.
- d) Monitoring and/or Recordkeeping Requirements
- (1) The permittee shall keep monthly records of the volumes of F-T naphtha and F-T diesel fuel loaded to transport vehicles for the purposes of calculating monthly emissions of VOC.
 - (2) The permittee shall keep records of the 12-month rolling volumes of F-T naphtha and F-T diesel fuel loaded to transport vehicles for the purposes of calculating the 12-month rolling emissions of VOC to demonstrate compliance with the annual emission limit in b)(1)b above.
 - (3) While F-T naphtha is being loaded, the permittee shall monitor the vapor collection system for leaks . If vapor leaks are detected, the permittee shall maintain a record of the following information:
 - a. the date the leak was detected;
 - b. the findings of the inspection for the leak, which shall indicate the location, nature, and severity of the leak;
 - c. the leak detection method;
 - d. the corrective action(s) taken to repair each leak and the date of final repair;
 - e. the reasons for any repair interval exceeding 15 calendar days (from the time of detection to the date of final repair) for each leak equal to or greater than one hundred per cent of the lower explosive limit as propane, as determined under paragraph (K) of OAC rule 3745-21-10; and
 - f. the inspector's name and signature.
- These records shall be retained and accessible for a period of 5 years.
- e) Reporting Requirements
- (4) Any leaks in the vapor collection system or vapor control system equal to or greater than 100 percent of the lower explosive limit as propane, as determined under paragraph (K) of OAC rule 3745-21-10 of the Administrative Code, that are not repaired within 15 days



after identification, shall be reported to the director (Ohio EPA Northeast District Office) within 30 days after the repair is completed. This report shall include the date the leak was detected and the date the leak was repaired.

f) Testing Requirements

(5) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following methods:

a. Emissions Limitations:

VOC emissions shall not exceed 0.01 lb per 1,000 gallons of F-T diesel fuel loaded.

Applicable Compliance Method:

Compliance shall be demonstrated using formulae and emission factors specified in USEPA reference document AP-42, Fifth Edition, 'Compilation of Air Pollution Emission Factors', Section 5-2 (1/95).

b. Emissions Limitations:

VOC emissions shall not exceed 0.06 lb per 1,000 gallons of F-T naphtha loaded.

Applicable Compliance Method:

Compliance shall be demonstrated using formulae and emission factors specified in USEPA reference document AP-42, Fifth Edition, 'Compilation of Air Pollution Emission Factors', Section 5-2 (1/95).

c. Emissions Limitations:

VOC emissions shall not exceed 1.7 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated using formulae and emission factors specified in USEPA reference document AP-42, Fifth Edition, 'Compilation of Air Pollution Emission Factors', Section 5-2 (1/95), and then multiplying by the maximum throughput of F-T diesel fuel and F-T naphtha, as listed in A.2.b, above.

g) Miscellaneous Requirements

(1) None.



42. P015, Emergency Generator.

Operations, Property and/or Equipment Description:

Emergency Generator-Engine Set, 2,000 KW compression ignition diesel engine with a displacement of 4 liters per cylinder (40 CFR Part 60 IIII and 40 CFR Part 89 Table 1).

- 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) None.
- b) Applicable Emissions Limitations and/or Control Requirements
 - (1) The specific operations(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. 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.	OAC rules 3745-31-10 through 3745-31-20	The BACT determination for this emissions unit is equivalent to the requirements specified in 40 CFR Part 60, Subpart IIII. The visible particulate emissions limitations established pursuant to OAC rule 3745-17-07(A)(3) and 40 CFR, Part 89 are equivalent to the requirements of these rules. Also see b)(2)a., b)(2)b. and c)(4).
b.	OAC rule 3745-31-05(D)	See b)(2)d.
c.	OAC rule 3745-17-07(A)	Visible particulate emissions (PE) shall not exceed 20% as a 6-minute average, except as provided by rule. This limitation applies any time the limitations specified in 40 CFR 89.113 are not applicable for the acceleration and lugging modes. (This limit does not apply during peaks in either acceleration or lugging modes.)
d.	OAC rule 3745-17-11 (B)(5)	The emissions limitation specified by this rule is less restrictive than the emissions limitation specified under 40 CFR 89.112.
e.	OAC rule 3745-18-06(F)	The emissions limitation specified by this rule is less restrictive than the



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		emissions limitation specified under 40 CFR 80.510(b).
f.		
g.	40 CFR Part 89, Section 112	Emissions of non-methane hydrocarbons (NMHC) and nitrogen oxides (NOx) combined shall not exceed 6.4 grams/kW-hr. Emissions of carbon monoxide (CO) shall not exceed 3.5 grams/kW-hr. Particulate emissions (PE) shall not exceed 0.20 gram/kW-hr.
h.	40 CFR Part 89, Section 113	The exhaust opacity from the engine must not exceed 20 percent during the acceleration mode and 15 percent during the lugging mode. During the peaks in either the acceleration or lugging modes, this rule is less restrictive (50% opacity is permitted) than the requirements specified in OAC rule 3745-17-07(A), (20% opacity as a six-minute average).

(2) Additional Terms and Conditions

- a. The emissions limitations established as BACT are:
 - PE: 0.87 lb/hour and 0.22 ton per rolling 12-month period;
 - CO: 15.18 lbs/hour and 3.80 tons per rolling 12-month period;
 - NOx: 26.47 lbs/hour and 6.61 tons per rolling 12-month period; and
 - NMHC: 1.39 lbs/hour and 0.35 ton per rolling 12-month period.
- b. The BACT determination for this emissions unit also includes:
 - i. good combustion practices;
 - ii. good engine design;
 - iii. ignition timing retard;
 - iv. turbocharger; and
 - v. low-temperature aftercooler.
- c. The permittee shall install a non-resettable hour meter prior to startup of the engine, per 40 CFR 60.4209(a).



d. Permit-to-install (PTI) 02-22896 takes into account the restrictions (including the use of any applicable air pollution control equipment) established pursuant to OAC rules 3745-31-10 through 3745-31-20 as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC 3756-31-05(A)(3).

c) Operational Restrictions

- (1) Per 40 CFR 60.4211 (c) the permittee shall purchase an engine certified to the emissions standards specified in 40 CFR 89.112 and 40 CFR 89.113. The engine must be installed and configured according to the manufacturer's specifications.
- (2) Per 40 CFR 60.4211 (a) the permittee shall operate and maintain the engine and control device according to the manufacturer's written instructions or procedures developed by the permittee that are approved by the engine manufacturer. In addition, the permittee may only change those settings that are permitted by the manufacturer.
- (3) Per 40 CFR 60.4211(e) the engine may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of the engine in emergency situations. The permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the permittee maintains records indicating that Federal, State or local standards require maintenance and testing of the engine beyond 100 hours per year. Any operation other than emergency operation, and maintenance and testing as permitted in this section is prohibited.
- (4) The maximum annual operating hours for this emissions unit shall not exceed 500, based upon a rolling, 12-month summation of the operating hours.
- (5) The permittee shall combust only diesel fuel which meets the following specifications, as detailed in 40 CFR 80.510(b) and required by 40 CFR 60.4207(b):
 - a. sulfur content of 15 ppm, maximum; and
 - b. cetane index of 40, minimum or
 - c. aromatic content of 35 volume percent, maximum.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall perform daily checks, when the emissions unit is undergoing maintenance or readiness testing and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. These checks are not required when operating under emergency conditions. The presence or absence of any visible emissions, along with the date and time, shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:



- a. The color of the emissions;
- b. Whether the emissions are representative of normal operations;
- c. If the emissions are not representative of normal operations, the cause of the abnormal emissions;
- d. The total duration of any visible emission incident; and
- e. Any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under item (d) above or continue the daily check until the incident has ended. The observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

- f. The permittee shall retain records of:
 - i. hours of operation recorded in the non-resettable hour meter;
 - ii. the hours of operation over each rolling 12-month period;
 - iii. time of operation of the engine; and
 - iv. the reason the engine operated.

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports which identify all exceedances of the rolling, 12-month limitation on the hours of operation. These reports shall be submitted in accordance with the reporting requirements specified in the Standard Terms and Conditions of this permit.
- (2) The permittee shall submit semi-annual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to minimize or eliminate the visible particulate emissions. These reports shall be submitted to the Director (the Ohio EPA Northeast District Office) by January 31 and July 31 of each year and shall cover the previous six-month periods.

f) Testing Requirements

Compliance with the emission limitations in b)(1) shall be determined in accordance with the following methods:



(1) Emission Limitation:

Visible particulate emissions (PE) shall not exceed 20% as a 6-minute average, except as provided by rule, except for the acceleration and lugging modes.

Applicable Compliance Method:

Compliance with these emission limitations shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

(2) Emission Limitation:

The exhaust opacity from the engine must not exceed 20 percent during the acceleration mode and 15 percent during the lugging mode. During the peaks in either the acceleration and lugging modes, this rule is less restrictive (50% opacity is permitted).

Applicable Compliance Method:

The permittee shall comply with this requirement by following the procedures specified in 40 CFR Part 86, Subpart I.

(3) Emission Limitation:

0.87 lb PE/hour and 0.22 ton per rolling 12-month period

Applicable Compliance Method:

Compliance with the above emission limits for the products of combustion shall be determined by multiplying the engine's rating of 2,650 hp by the emission factor of 0.20 gram/hp-hr taken from Table 1 of 40 CFR Part 89, Section 112 and the conversion factor of 1 gram equals 0.0022 lb.

Compliance with the annual emission limits shall be assumed if compliance with the hourly emission limits is demonstrated and compliance with the rolling 12-month hours of operation limitation is demonstrated.

(4) Emission Limitation:

15.18 lbs CO/hour and 3.80 tons per rolling 12-month period

Applicable Compliance Method:

Compliance with the above emission limits for the products of combustion shall be determined by multiplying the engine's rating of 2,650 hp by the emission factor of 3.5 grams/hp-hr taken from Table 1 of 40 CFR Part 89, Section 112 and the conversion factor of 1 gram equals 0.0022 lb.

Compliance with the annual emission limit shall be assumed if compliance with the hourly emission limit is demonstrated and compliance with the rolling 12-month hours of operation limitation is demonstrated.



(5) Emission Limitation:

26.43 lbs NO_x/hour and 6.61 tons per rolling 12-month period

Applicable Compliance Method:

Compliance with the above emission limits for the products of combustion shall be determined by multiplying the engine's rating of 2,650 hp by the factor in Table 1 of 40 CFR Part 89, Section 112 of 6.4 grams/kW-hr and the conversion factor of 1 gram equals 0.0022 lb. 95% of the NMHC + NO_x is assumed to be NO_x.

Compliance with the annual emission limit shall be assumed if compliance with the hourly emission limit is demonstrated and compliance with the rolling 12-month hours of operation limitation is demonstrated.

(6) Emission Limitation:

1.39 lbs NMHC/hour and 0.35 ton per rolling 12-month period

Applicable Compliance Method:

Compliance with the above emission limits for the products of combustion shall be determined by multiplying the engine's rating of 2,650 hp by the factor of 6.4 grams/kW-hr from Table 1 of 40 CFR Part 89, Section 112 and the conversion factor of 1 gram equals 0.0022 lb. 5% of the NMHC + NO_x is assumed to be NMHC.

Compliance with the annual emission limit shall be assumed if compliance with the hourly emission limit is demonstrated and compliance with the rolling 12-month hours of operation limitation is demonstrated.

(7) Emission Limitation:

Diesel fuel specifications: sulfur content of 15 ppm, maximum; and cetane index of 40, minimum or aromatic content of 35 volume percent, maximum.

Applicable Compliance Method:

Compliance with the fuel specifications shall be determined by any method allowed under 40 CFR Part 80 Subpart I.

g) Miscellaneous Requirements

(1) None.



43. P029, Three F-T Reactor Trains.

Operations, Property and/or Equipment Description:

Three F-T Reactor Trains, with tailgas sent to the sponge oil column, catalyst regeneration and process vent emissions controlled by 150 mmBtu per hr. low pressure flare.

- 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) None.
- b) Applicable Emissions Limitations and/or Control Requirements
 - (1) The specific operations(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. 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.	OAC rule 3745-31-10 through 3745-31-20	<p>Particulate emissions (PE) shall not exceed 2.3 pounds per hour and 10.0 tons per rolling, 12-month period.</p> <p>Nitrogen oxides (NOx) emissions shall not exceed 30.0 pounds per hour and 131.4 tons per rolling, 12-month period.</p> <p>Carbon monoxide (CO) emissions shall not exceed 25.2 pounds per hour and 110.3 tons per rolling, 12-month period.</p> <p>Volatile organic compounds (VOC) emissions shall not exceed 0.03 pound per hour and 0.1 ton per rolling 12-month period.</p> <p>Sulfur dioxide (SOx) emissions shall not exceed 0.2 pounds per hour and 0.8 ton per rolling 12-month period.</p> <p>The total HAPs emissions shall not exceed 0.067 ton per rolling 12-month period.</p> <p>Hexane emissions shall not exceed 0.056 ton per rolling 12-month period.</p> <p>The visible particulate emissions</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		limitations established pursuant to OAC rule 3745-17-07(A)(1) are equivalent to the requirements of these rules. See b)(2)a. through b)(2)c.
b.	OAC rule 3745-31-05(A)(3)	The requirements established pursuant to this rule are equivalent to the requirements of OAC rules 3745-31-10 through 3745-31-20.
c.	OAC rule 3745-31-05(D)	This permit to install takes into account the restrictions (including the use of any applicable air pollution control equipment) established pursuant to OAC rules 3745-31-10 through 3745-31-20 upon VOC and SO ₂ emissions as proposed by the permittee for the purpose of avoiding BAT requirements under OAC rule 3745-31-05(A)(3).
d.	OAC rule 3745-17-07(A)(1)	The visible particulate emissions from the exhaust stack serving this emissions unit shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
e.	OAC rule 3745-21-07(M)	The emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-10 through 3745-31-20.
f.	OAC rule 3745-21-09(E)	See b)(2)a.

(2) Additional Terms and Conditions

- a. The permittee shall operate and maintain a low pressure flare emission capture system capable of capturing and controlling VOC emissions from this emissions unit.

The VOC control equipment (low pressure flare) shall provide an efficiency (percent destruction) of not less than 98%, by weight, for VOC emissions vented to the control equipment.

- b. The permittee shall properly install, operate, and maintain a device to continuously monitor the pilot flame when the emissions unit is in operation. The



monitoring device and any recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

- c. The BACT determination for this emissions unit includes the use of a low pressure flare using only natural gas or tailgas as fuel.

c) Operational Restrictions

- (1) A pilot flame shall be maintained at all times in the flare's pilot light burner.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall record the following information each day for the flare and process operations:
 - a. all periods during which there was no pilot flame ; and
 - b. the operating times for the flare, monitoring equipment, and the associated emissions unit.

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation reports that identify all periods of time during which the pilot flame was not functioning properly or the flare was not maintained as required in this permit. The reports shall include the date, time, and duration of each such period.

f) Testing Requirements

- (1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following methods:

- a. Emission Limitation:

NOx emissions shall not exceed 30.0 pounds per hour.

Applicable Compliance Method:

Compliance with the hourly emission limitation may be demonstrated based on a one time calculation by using emission factors from AP-42, Section 1.4, Table 1.4-1 (1998) for Natural Gas Combustion, and the maximum amount of the low Btu fuel gas entering the flare from the pilot burner and F-T catalyst regeneration process.

$$E(\text{NOx}) = 0.301 \text{ mm scf/hr} \times 100 \text{ lbs NOx}/10 \times 10^6 \text{ scf (AP-42 emission factor)} = 30.0 \text{ lbs/hr}$$

- b. Emission Limitation:

NOx emissions shall not exceed 131.4 tons per rolling, 12-month period.



Applicable Compliance Method:

The rolling 12 month emission limitation shall be determined by multiplying the short-term allowable NOx emission limitation (30.0 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the rolling 12 month emission limitation.

c. Emission Limitation:

PE emissions shall not exceed 2.3 pounds per hour.

Applicable Compliance Method:

Compliance with the hourly emission limitation may be demonstrated based on a one time calculation by using emission factors from AP-42, Section 1.4, Table 1.4-1 (1998) for Natural Gas Combustion, and the maximum amount of the low Btu fuel gas entering the flare from the pilot burner and F-T catalyst regeneration process.

$$E(PE) = 0.301 \text{ mm scf/hr} \times 7.6 \text{ lbs PE}/10 \times E6 \text{ scf (AP-42 emission factor)} = 2.3 \text{ lbs/hr}$$

d. Emission Limitation:

PE emissions shall not exceed 10.0 tons per rolling, 12-month period.

Applicable Compliance Method:

The rolling 12 month emission limitation was developed by multiplying the short-term allowable PE emission limitation (2.3 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the rolling 12 month emission limitation.

e. Emission Limitation:

CO emissions shall not exceed 25.2 pounds per hour.

Applicable Compliance Method:

Compliance with the hourly emission limitation may be demonstrated based on a one time calculation by using emission factors from AP-42, Section 1.4, Table 1.4-1 (1998) for Natural Gas Combustion, and the maximum amount of the low Btu fuel gas entering the flare from the pilot burner and F-T catalyst regeneration process.

$$E(CO) = 0.301 \text{ mm scf/hr} \times 84 \text{ lbs CO}/10 \times E6 \text{ scf (AP-42 emission factor)} = 25.2 \text{ lbs/hr}$$



f. Emission Limitation:

CO emissions shall not exceed 110.3 tons per rolling, 12-month period.

Applicable Compliance Method:

The rolling 12 month emission limitation was developed by multiplying the short-term allowable CO emission limitation (25.2 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the rolling 12 month emission limitation.

g. Emission Limitation:

VOC emissions shall not exceed 0.01 pound per hour.

Applicable Compliance Method:

Compliance with the hourly emission limitation may be demonstrated based on a one time calculation by using emission factors from AP-42, Section 1.4, Table 1.4-1 (1998) for Natural Gas Combustion, and the maximum amount of the low Btu fuel gas entering the flare from the pilot burner and F-T catalyst regeneration process.

$$E(\text{VOC}) = 0.301 \text{ mm scf/hr} \times 5.5 \text{ lbs VOC}/10 \times 10^6 \text{ scf (AP-42 emission factor)} \times 0.02 = 0.03 \text{ lb/hr}$$

h. Emission Limitation:

VOC emissions shall not exceed 0.10 ton per rolling 12-month period.

Applicable Compliance Method:

The tons per rolling 12-month period emission limitation was developed by multiplying the short-term allowable VOC emission limitation (0.03 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

i. Emission Limitation:

SOx emissions shall not exceed 0.2 pound per hour.

Applicable Compliance Method:

Compliance with the hourly emission limitation may be demonstrated based on a one time calculation by using emission factors from AP-42, Section 1.4, Table 1.4-1 (1998) for Natural Gas Combustion, and the maximum amount of the low Btu fuel gas entering the flare from the pilot burner and F-T catalyst regeneration process.



$$E(\text{SO}_x) = 0.301 \text{ mm scf/hr} \times 0.6 \text{ lb SO}_x/10 \times 10^6 \text{ scf (AP-42 emission factor)} = 0.2 \text{ lb/hr}$$

j. Emission Limitation:

SO_x emissions shall not exceed 0.8 ton per rolling 12-month period.

Applicable Compliance Method:

The tons per rolling 12-month period emission limitation was developed by multiplying the short-term allowable SO_x emission limitation (0.2 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

k. Emission Limitation:

Total HAPs emissions shall not exceed 0.067 ton per rolling 12-month period.

Applicable Compliance Method:

The tons per rolling 12-month period emission limitation was developed by multiplying the calculated hourly emission rate of 0.0153 lb/hour by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. The calculated hourly emission rate was derived by summing the HAP emissions factors listed in Table 1.4-3 of Section 1.4 of AP-42 (1998).

l. Emission Limitation:

Hexane emissions shall not exceed 0.056 ton per rolling 12-month period.

Applicable Compliance Method:

The tons per rolling 12-month period emission limitation was developed by multiplying the calculated hourly emission rate of 0.0108 lb/hour by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. The calculated hourly emission rate was derived from the hexane emissions factor listed in Table 1.4-3 of Section 1.4 of AP-42 (1998).

- (2) The net heating value of the gas being combusted at the flare shall be calculated as follows:

$$H_T = k \sum_{i=1}^n C_i H_i$$

where:

H_T = net heating value of the sample, MJ/scm; where the net enthalpy per mole of off gas is based on combustion at 25 degrees Celsius and 760 mm Hg, but the standard temperature of 20 degrees Celsius is used for determining the volume corresponding to one mole;



$k = \text{constant}, 1.740 \times 10^{-7} \text{ (1/ppm) (g mole/scm) (MJ/kcal)}$, where the standard temperature for “g mole/scm” is 20 degrees Celsius;

$C_i = \text{concentration of sample component “i” in ppm on a wet basis, as measured for organics by Reference Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946-90; and}$

$H_i = \text{net heat of combustion of sample component “i”, kcal/g mole at 25 degrees Celsius and 760 mm Hg. The heats of combustion may be determined using ASTM D4809-95 if published values are not available or cannot be calculated.}$

The conversion factor of “26.84 Btu scm/MJ scf” can be used to convert the net heating value of the gas (H_T) from MJ/scm to Btu/scf.

- (3) The actual exit velocity of the flare shall be determined by dividing the volumetric flow rate (in units of standard temperature and pressure) of the flare header or headers that feed the flare, as determined by Reference Methods 2, 2A, 2C, or 2D (found in 40 CFR 60, Appendix A), as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

The conversion factor of “3.281 ft/m” can be used to convert the velocity from m/sec to ft/sec.

g) Miscellaneous Requirements

- (1) None.



44. P030, F-T Catalyst Rotary Dryer.

Operations, Property and/or Equipment Description:

F-T Catalyst Rotary Dryer, with nitrogen heater and hot oil heater (4.0 mmBtu per hr. each)

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.

(2) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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.	OAC rule 3745-31-10 through 3745-31-20	<p>Particulate emissions (PE) shall not exceed 0.18 pound per hour and 0.8 ton per rolling 12-month period.</p> <p>Nitrogen oxides (NOx) emissions shall not exceed 2.26 pounds per hour and 9.8 tons per rolling 12-month period.</p> <p>Carbon monoxide (CO) emissions shall not exceed 1.8 pounds per hour and 8.4 tons per rolling 12-month period.</p> <p>Volatile organic compounds (VOC) emissions shall not exceed 0.12 pound per hour and 0.6 ton per rolling 12-month period.</p> <p>Sulfur dioxide (SOx) emissions shall not exceed 0.02 pounds per hour and 0.08 ton per rolling 12-month period.</p> <p>These limitations are the total allowable emissions for the 4.0 mm Btu/hr Nitrogen Heater and the 4.0 mm Btu/hr Hot Oil Heater.)</p> <p>The visible particulate emissions limitations established pursuant to OAC rule 3745-17-07(A)(1) are equivalent to the requirements of</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		these rules.
b.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the exhaust stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.
c.	OAC rule 3745-17-10	The emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
d.	OAC rule 3745-31-05(D)	This permit to install takes into account the restrictions (including the use of any applicable air pollution control equipment) established pursuant to OAC rules 3745-31-10 through 3745-31-20 upon PE, NOx, CO, VOC and SO2 emissions as proposed by the permittee for the purpose of avoiding BAT requirements under OAC rule 3745-31-05(A)(3).

(2) Additional Terms and Conditions

a. The BACT determination for this emissions unit includes:

- i. use of only either natural gas or tailgas as fuel; and
- ii. burn only gaseous fuels and employ good combustion practices to limit NOx emissions, CO emissions, VOC emissions, SO2 emissions, and PE/PM10 emissions.

c) Operational Restrictions

(1) None

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain monthly records of the total quantity and type of gaseous fuel(s) burned in this emissions unit during each reporting period.

e) Reporting Requirements

(1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas or tailgas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.



f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following methods:

a. Emission Limitation:

NO_x emissions shall not exceed 2.26 pounds per hour.

Applicable Compliance Method:

Compliance with the hourly emission limitation may be demonstrated based on a one time calculation by using emission factors from AP-42, Section 1.4, Table 1.4-1 (1998) for Natural Gas Combustion, and the maximum amount of the low Btu fuel gas entering the heaters.

$$E(\text{NO}_x) = 22,564 \text{ scf/hr} \times 100 \text{ lbs NO}_x/10^6 \text{ scf (AP-42 emission factor)} = 2.26 \text{ lbs/hr}$$

If required, the permittee shall demonstrate compliance with the hourly NO_x emission limitation by means of physical testing of the effluent from this emissions unit in accordance with testing procedures listed in 40 CFR Part 60, "Standards of Performance for New Stationary Sources", Appendix A, Method 7 or 7E.

b. Emission Limitation:

NO_x emissions shall not exceed 9.8 tons per rolling 12-month period.

Applicable Compliance Method:

The tons per rolling 12-month period emission limitation was developed by multiplying the short-term allowable NO_x emission limitation (2.26 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

c. Emission Limitation:

PE emissions shall not exceed 0.18 pound per hour.

Applicable Compliance Method:

Compliance with the hourly emission limitation may be demonstrated based on a one time calculation by using emission factors from AP-42, Section 1.4, Table 1.4-1 (1998) for Natural Gas Combustion, and the maximum amount of the low Btu fuel gas entering the heaters.

$$E(\text{PE}) = 22,564 \text{ scf/hr} \times 7.6 \text{ lbs PE}/10^6 \text{ scf (AP-42 emission factor)} = 0.18 \text{ lb/hr}$$



If required, the permittee shall demonstrate compliance with the hourly PE emission limitation by means of physical testing of the effluent from this emissions unit in accordance with testing procedures listed in 40 CFR Part 60, "Standards of Performance for New Stationary Sources", Appendix A, Method 5.

d. Emission Limitation:

PE emissions shall not exceed 0.8 ton per rolling 12-month period.

Applicable Compliance Method:

The tons per rolling 12-month period emission limitation was developed by multiplying the short-term allowable PE emission limitation (0.18 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

e. Emission Limitation:

CO emissions shall not exceed 1.8 pounds per hour.

Applicable Compliance Method:

Compliance with the hourly emission limitation may be demonstrated based on a one time calculation by using emission factors from AP-42, Section 1.4, Table 1.4-1 (1998) for Natural Gas Combustion, and the maximum amount of the low Btu fuel gas entering the heaters.

$$E(\text{CO}) = 22,564 \text{ scf/hr} \times 84 \text{ lbs CO}/10^6 \text{ scf (AP-42 emission factor)} = 1.8 \text{ lbs/hr}$$

If required, the permittee shall demonstrate compliance with the hourly CO emission limitation by means of physical testing of the effluent from this emissions unit in accordance with testing procedures listed in 40 CFR Part 60, "Standards of Performance for New Stationary Sources", Appendix A, Method 10.

f. Emission Limitation:

CO emissions shall not exceed 8.4 tons per rolling 12-month period.

Applicable Compliance Method:

The tons per rolling 12-month period emission limitation was developed by multiplying the short-term allowable CO emission limitation (1.8 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

g. Emission Limitation:

VOC emissions shall not exceed 0.12 pound per hour.



Applicable Compliance Method:

Compliance with the hourly emission limitation may be demonstrated based on a one time calculation by using emission factors from AP-42, Section 1.4, Table 1.4-1 (1998) for Natural Gas Combustion, and the maximum amount of the low Btu fuel gas entering the heater.

$$E(\text{VOC}) = 22,564 \text{ scf/hr} \times 5.5 \text{ lbs VOC}/10^6 \text{ scf (AP-42 emission factor)} = 0.12 \text{ lb/hr}$$

If required, the permittee shall demonstrate compliance with the hourly VOC emission limitation by means of physical testing of the effluent from this emissions unit in accordance with testing procedures listed in 40 CFR Part 60, "Standards of Performance for New Stationary Sources", Appendix A, Method 25 or 25A.

h. Emission Limitation:

VOC emissions shall not exceed 0.60 ton per rolling 12-month period.

Applicable Compliance Method:

The tons per rolling 12-month period emission limitation was developed by multiplying the short-term allowable VOC emission limitation (0.12 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

i. Emission Limitation:

SOx emissions shall not exceed 0.02 pound per hour.

Applicable Compliance Method:

Compliance with the hourly emission limitation may be demonstrated based on a one time calculation by using emission factors from AP-42, Section 1.4, Table 1.4-1 (1998) for Natural Gas Combustion, and the maximum amount of the low Btu fuel gas entering the heaters.

$$E(\text{SOx}) = 22,564 \text{ scf/hr} \times 0.6 \text{ lb SOx}/10^6 \text{ scf (AP-42 emission factor)} = 0.02 \text{ lb/hr}$$

If required, the permittee shall demonstrate compliance with the hourly SOx emission limitation by means of physical testing of the effluent from this emissions unit in accordance with testing procedures listed in 40 CFR Part 60, "Standards of Performance for New Stationary Sources", Appendix A, Method 6.

j. Emission Limitation:

SOx emissions shall not exceed 0.08 tons per rolling 12-month period.



State of Ohio Environmental Protection Agency
Division of Air Pollution Control

Final Permit-to-Install
Permit Number: 02-22896
Facility ID: 0215130393
Effective Date: 11/20/2008

Applicable Compliance Method:

The tons per rolling 12-month period emission limitation was developed by multiplying the short-term allowable SO_x emission limitation (0.02 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

g) Miscellaneous Requirements

(1) None



45. P031, Equipment Leaks

Operations, Property and/or Equipment Description:

Equipment Leaks from Pumps, Compressors, Devices, Sampling Valves, Connections, Closed Vent Systems, and Control Devices.

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) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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, Subpart GGGa	See b)(2)a.
b.	OAC rule 3745-21-09(T)	The emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to 40 CFR Part 60, Subpart GGGa.
c.	OAC rule 3745-31-10 through 3745-31-20	Volatile Organic Compound (VOC) emissions shall not exceed 1.7 tons per rolling 12-month period from this emissions unit.
d.	OAC rule 3745-31-05(A)(3)(a)(ii)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the VOC emissions from this air contaminant source since the calculated annual emission rate for VOC is less than ten tons per year taking into account the federally enforceable BACT emission limit of 1.7 tons per rolling, 12-month period.

(2) Additional Terms and Conditions

a. The facility shall meet the requirements of 40 CFR 60.592a and 40 CFR 60.482-1a to 60.482-10a.

b. The BACT determination for this emissions unit includes:

i. the use of leakless/sealless or low-emission pumps, valves and compressors; and



- ii. the use of a Leak Detection and Repair (LDAR) program for flanges.
- c) Operational Restrictions
 - (1) None
- d) Monitoring and/or Recordkeeping Requirements
 - (1) See 40 CFR 60.592a (40 CFR60.486a)
- e) Reporting Requirements
 - (1) See 40 CFR 60.592a (40 CFR60.487a)
- f) Testing Requirements
 - (1) See 40 CFR 60.592a (40 CFR60.485a)
 - (2) Compliance with emission limitations in b)(1) shall be determined in accordance with the following methods:

Emissions Limitation:

VOC emissions shall not exceed 1.7 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance with the emission limitation may be demonstrated based on a one time calculation by using emission factors obtained from Table 2-2 of EPA's Protocol for Equipment Leak Emission Estimates (EAP-453/R-95-017) and the summation of the following equation for each component type:

$$\text{Emissions(VOC)} = \text{EF} \times \text{Wf} \times \text{No. of Components} \times \text{control efficiency}$$

where: Ef = component specific emission factor.

Wf = the wt. fraction of worst case total organic carbon within the liquids used, assumed to be 100%.

Control eff. credit for use of leakless/seatless or low-emission pumps, valves and compressors = 99%

Control eff. for flanges under LDAR = 68%



The calculated and component summed results are as follows:

Component	Quantity	EFxWF in lb/hr	Potential TONS PER ROLLING 12-MONTH PERIOD @ 8760/2000	Control Eff.	Actual TONS PER ROLLIN G 12- MONTH PERIOD
Pump Seals	20	0.2513	22.0	99%	0.2
Valves	250	0.0240	26.3	99%	0.3
Flanges	540	0.00055	1.3	68%	0.4
Compressors seals	13	1.4021	79.8	99%	0.8
Total					1.7

g) Miscellaneous Requirements

(1) None



46. Emissions Unit Group - 4.0 mmBtu/hr gas-fired Heaters: B002, B003, B004

EU ID	Operations, Property and/or Equipment Description
B002	Reduction Gas Heater (4.0 mmBtu/hr) fueled by natural gas/tailgas.
B003	Oxidation Gas Heater (4.0 mmBtu/hr) fueled by natural gas/tailgas.
B004	Hydrogen Stripping Heater (4.0 mmBtu/hr) fueled by natural gas/tailgas.

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) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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.	OAC rule 3745-31-10 through 3745-31-20	<p>Particulate emissions (PE) shall not exceed 0.09 pound per hour and 0.4 ton per rolling 12-month period.</p> <p>Nitrogen oxides (NOx) emissions shall not exceed 1.13 pounds per hour and 4.9 tons per rolling 12-month period.</p> <p>Carbon monoxide (CO) emissions shall not exceed 0.9 pound per hour and 4.2 tons per rolling 12-month period.</p> <p>Volatile organic compounds (VOC) emissions shall not exceed 0.06 pound per hour and 0.3 ton per rolling 12-month period.</p> <p>Sulfur dioxide (SOx) emissions shall not exceed 0.01 pounds per hour and 0.04 ton per rolling 12-month period.</p> <p>The visible particulate emissions limitations established pursuant to OAC rule 3745-17-07(A)(1) are equivalent to the requirements of these rules.</p>
b.	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from the exhaust stack serving this emissions unit shall not exceed 20% opacity, as a



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		6-minute average, except as provided by the rule.
c.	OAC rule 3745-17-10	The emission limitation required by this applicable rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
d.	OAC rule 3745-31-05(D)	This permit to install takes into account the restrictions (including the use of any applicable air pollution control equipment) established pursuant to OAC rules 3745-31-10 through 3745-31-20 upon PE, NOx, CO, VOC and SO2 emissions as proposed by the permittee for the purpose of avoiding BAT requirements under OAC rule 3745-31-05(A)(3).

(2) Additional Terms and Conditions

a. The BACT determination for this emissions unit includes:

- i. use of only either natural gas or tailgas as fuel; and
- ii. burn only gaseous fuels and employ good combustion practices to limit NOx emissions, CO emissions, VOC emissions, SO2 emissions, and PE/PM10 emissions.

c) Operational Restrictions

- (1) None

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain monthly records of the total quantity and type of gaseous fuel(s) burned in this emissions unit during each reporting period.

e) Reporting Requirements

- (1) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas or tailgas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.

f) Testing Requirements

- (1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following methods:



a. Emission Limitation:

NOx emissions shall not exceed 1.13 pounds per hour.

Applicable Compliance Method:

Compliance with the hourly emission limitation may be demonstrated based on a one time calculation by using emission factors from AP-42, Section 1.4, Table 1.4-1 (1998) for Natural Gas Combustion, and the maximum amount of the low Btu fuel gas entering the heater.

$$E(\text{NOx}) = 11,282 \text{ scf/hr} \times 100 \text{ lbs NOx} / 1 \times 10^6 \text{ scf (AP-42 emission factor)} = 1.13 \text{ lbs/hr}$$

If required, the permittee shall demonstrate compliance with the hourly NOx emission limitation by means of physical testing of the effluent from this emissions unit in accordance with testing procedures listed in 40 CFR Part 60, "Standards of Performance for New Stationary Sources", Appendix A, Method 7 or 7E.

b. Emission Limitation:

NOx emissions shall not exceed 4.9 tons per rolling 12-month period.

Applicable Compliance Method:

The tons per rolling 12-month period emission limitation was developed by multiplying the short-term allowable NOx emission limitation (1.13 lbs/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

c. Emission Limitation:

PE emissions shall not exceed 0.09 pound per hour.

Applicable Compliance Method:

Compliance with the hourly emission limitation may be demonstrated based on a one time calculation by using emission factors from AP-42, Section 1.4, Table 1.4-1 (1998) for Natural Gas Combustion, and the maximum amount of the low Btu fuel gas entering the heater.

$$E(\text{PE}) = 11,282 \text{ scf/hr} \times 7.6 \text{ lbs PE} / 1 \times 10^6 \text{ scf (AP-42 emission factor)} = 0.09 \text{ lb/hr}$$

If required, the permittee shall demonstrate compliance with the hourly PE emission limitation by means of physical testing of the effluent from this emissions unit in accordance with testing procedures listed in 40 CFR Part 60, "Standards of Performance for New Stationary Sources", Appendix A, Method 5.



d. Emission Limitation:

PE emissions shall not exceed 0.4 ton per rolling 12-month period.

Applicable Compliance Method:

The tons per rolling 12-month period emission limitation was developed by multiplying the short-term allowable PE emission limitation (0.09 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

e. Emission Limitation:

CO emissions shall not exceed 0.9 pound per hour.

Applicable Compliance Method:

Compliance with the hourly emission limitation may be demonstrated based on a one time calculation by using emission factors from AP-42, Section 1.4, Table 1.4-1 (1998) for Natural Gas Combustion, and the maximum amount of the low Btu fuel gas entering the heater.

$$E(\text{CO}) = 11,282 \text{ scf/hr} \times 84 \text{ lbs CO}/1 \times 10^6 \text{ scf (AP-42 emission factor)} = 0.9 \text{ lb/hr}$$

If required, the permittee shall demonstrate compliance with the hourly CO emission limitation by means of physical testing of the effluent from this emissions unit in accordance with testing procedures listed in 40 CFR Part 60, "Standards of Performance for New Stationary Sources", Appendix A, Method 10.

f. Emission Limitation:

CO emissions shall not exceed 4.2 tons per rolling 12-month period.

Applicable Compliance Method:

The tons per rolling 12-month period emission limitation was developed by multiplying the short-term allowable CO emission limitation (0.9 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

g. Emission Limitation:

VOC emissions shall not exceed 0.06 pound per hour.

Applicable Compliance Method:

Compliance with the hourly emission limitation may be demonstrated based on a one time calculation by using emission factors from AP-42, Section 1.4, Table



1.4-1 (1998) for Natural Gas Combustion, and the maximum amount of the low Btu fuel gas entering the heater.

$$E(\text{VOC}) = 11,282 \text{ scf/hr} \times 5.5 \text{ lbs VOC}/1 \times 10^6 \text{ scf (AP-42 emission factor)} = 0.06 \text{ lb/hr}$$

If required, the permittee shall demonstrate compliance with the hourly VOC emission limitation by means of physical testing of the effluent from this emissions unit in accordance with testing procedures listed in 40 CFR Part 60, "Standards of Performance for New Stationary Sources", Appendix A, Method 25 or 25A.

h. Emission Limitation:

VOC emissions shall not exceed 0.30 ton per rolling 12-month period.

Applicable Compliance Method:

The tons per rolling 12-month period emission limitation was developed by multiplying the short-term allowable VOC emission limitation (0.06 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

i. Emission Limitation:

SOx emissions shall not exceed 0.01 pound per hour.

Applicable Compliance Method:

Compliance with the hourly emission limitation may be demonstrated based on a one time calculation by using emission factors from AP-42, Section 1.4, Table 1.4-1 (1998) for Natural Gas Combustion, and the maximum amount of the low Btu fuel gas entering the heater.

$$E(\text{SOx}) = 11,282 \text{ scf/hr} \times 0.6 \text{ lb SOx}/1 \times 10^6 \text{ scf (AP-42 emission factor)} = 0.01 \text{ lb/hr}$$

If required, the permittee shall demonstrate compliance with the hourly SOx emission limitation by means of physical testing of the effluent from this emissions unit in accordance with testing procedures listed in 40 CFR Part 60, "Standards of Performance for New Stationary Sources", Appendix A, Method 6.

j. Emission Limitation:

SOx emissions shall not exceed 0.04 ton per rolling 12-month period.

Applicable Compliance Method:

The tons per rolling 12-month period emission limitation was developed by multiplying the short-term allowable SOx emission limitation (0.01 lb/hr) by the maximum annual hours of operation (8,760 hours), and then dividing by 2,000 lbs



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per ton. Therefore, if compliance is shown with the short-term allowable emission limitation, compliance shall also be shown with the annual emission limitation.

g) Miscellaneous Requirements

(1) None



47. Emissions Unit Group - Acid Gas Removal Units: P026, P027, P028

EU ID	Operations, Property and/or Equipment Description
P026	Syngas Cleanup Train 1.
P027	Syngas Cleanup Train 2.
P028	Syngas Cleanup Train 3.

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) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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.	OAC rule 3745-31-10 through 3745-31-20	CO: 308.7 lbs per hour and 1,351.7 tons per rolling 12-month period. H ₂ S: 0.93 lbs per hour and 4.0 tons per rolling 12-month period.
b.	OAC rule 3745-31-05(D)	COS: 0.67 lbs per hour and 2.87 tons per rolling 12-month period. (COS is the greatest single HAP emitted.)
c.	OAC rule 3745-31-05(A)(3)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-10 through 3745-31-20.

(2) Additional Terms and Conditions

a. Each Syngas Cleanup Train, consists of 2 fly ash filter units, 2 wet scrubber units, a sour CO shift unit, 2 mercury guard beds, an acid gas removal unit (Rectisol Process) and a sulfur guard bed.

b. The BACT determination for this emissions unit includes:

i. the only emission point from Syngas Cleanup Train No. 1 shall be the acid gas removal units' waste CO₂ exhaust stack;

ii. limiting the carbon monoxide concentration of the acid gas removal units' waste CO₂ exhaust stream to 406 ppm; and



- iii. limiting the total H₂S emissions of the acid gas removal units's waste CO₂ exhaust stream to 1.0 ppm.
- c) Operational Restrictions
 - (1) None
- d) Monitoring and/or Recordkeeping Requirements
 - (1) The permittee shall 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, Appendix B.

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) in the appropriate averaging period;
 - 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).
- (2) Prior to the installation of the continuous carbon monoxide (CO) monitoring system, the permittee shall submit information detailing the proposed location of the sampling site in accordance with the siting requirements in 40 CFR Part 60, Appendix B, Performance Specification 4 or 4a (as appropriate). The Ohio EPA, Central Office shall approve the proposed sampling site and certify that the continuous CO monitoring system meets the requirements of Performance Specifications 4 or 4a and 6. Once received, the letter(s)/document(s) of certification shall be maintained on-site and 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.

- (3) Each continuous carbon monoxide (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). 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 quarterly cylinder gas audits or relative accuracy audits as required in 40 CFR Part 60, Appendix F; and to conduct relative accuracy test audits in units of the standard(s), in accordance with and at the frequencies required per 40 CFR Part 60, Appendix F.

e) Reporting Requirements

- (1) 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 appropriate Ohio EPA District Office or 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). If there are no excess emissions during the calendar quarter, the permittee shall submit a statement to that effect.
 - 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.

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

f) Testing Requirements

- (1) Within 60 days of installing the CEMs system required in d), 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 appropriate Ohio EPA District Office or 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 appropriate Ohio EPA District Office or 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).

Ongoing compliance with the CO emission limitations 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 requirements of 40 CFR Part 60.

[40 CFR 60.13] and [40 CFR Part 60, Appendices B & F]

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

- a. The emissions testing shall be conducted within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial start-up of the emissions unit.
- b. The emissions testing shall be conducted to demonstrate compliance with the applicable emissions limitations for CO, COS and H₂S, in the appropriate averaging period(s).
- c. The following test methods shall be employed to demonstrate compliance with the applicable emissions limitations:

CO	Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A
COS	Methods 1 through 4 and Method 15 of 40 CFR Part 60, Appendix A.
H ₂ S	Methods 1 through 4 and Method 15 of 40 CFR Part 60, Appendix A.

(3) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following methods:

a. Emission Limitations:

CO emissions shall not exceed 308.7 lbs per hour and 1,351.7 tons per rolling, 12-month period.

Applicable Compliance Methods:

Compliance with the pound per hour CO emissions limitation shall be demonstrated based upon the applicable emissions tests specified in f)(1).

Compliance with the tons per rolling, 12-month period emission limitation shall be demonstrated by the associated emission factors derived from emissions testing as specified in f)(1).



b. Emission Limitations:

H₂S emissions shall not exceed 0.93 lb per hour and 4.0 tons per rolling, 12-month period.

Applicable Compliance Methods:

Compliance with the pound per hour H₂S emissions limitation shall be demonstrated based upon the applicable emissions tests specified in f)(1).

Compliance with the tons per rolling, 12-month period emission limitation shall be demonstrated by the associated emission factors derived from emissions testing as specified in f)(1).

c. Emission Limitations:

COS emissions shall not exceed 0.67 lbs per hour and 2.87 tons per rolling, 12-month period.

Applicable Compliance Methods:

Compliance with the pound per hour COS emissions limitation shall be demonstrated based upon the applicable emissions tests specified in f)(1)

Compliance with the tons per rolling, 12-month period emission limitation shall be demonstrated by the associated emission factors derived from emissions testing as specified in f)(1).

g) Miscellaneous Requirements

(1) None



48. Emissions Unit Group - Coal or Biomass Drying and Milling: P001, P002, P003, P004, P005, P006, P007, P008, P009, P010

EU ID	Operations, Property and/or Equipment Description
P001	Coal or Biomass Drying & Milling Line 1, 200 tons per hr. includes Bunker 1, Hot Gas Generator 1 and Filling Vessel Vent 1.
P002	Coal or Biomass Drying & Milling Line 2, 200 tons per hr. includes Bunker 2, Hot Gas Generator 2 and Filling Vessel Vent 2.
P003	Coal or Biomass Drying & Milling Line 3, 200 tons per hr. includes Bunker 3, Hot Gas Generator 3 and Filling Vessel Vent 3.
P004	Coal or Biomass Drying & Milling Line 4, 200 tons per hr. includes Bunker 4, Hot Gas Generator 4 and Filling Vessel Vent 4.
P005	Coal or Biomass Drying & Milling Line 5, 200 tons per hr. includes Bunker 5, Hot Gas Generator 5 and Filling Vessel Vent 5.
P006	Coal or Biomass Drying & Milling Line 6, 200 tons per hr. includes Bunker 6, Hot Gas Generator 6 and Filling Vessel Vent 6.
P007	Coal or Biomass Drying & Milling Line 7, 200 tons per hr. includes Bunker 7, Hot Gas Generator 7 and Filling Vessel Vent 7.
P008	Coal or Biomass Drying & Milling Line 8, 200 tons per hr. includes Bunker 8, Hot Gas Generator 8 and Filling Vessel Vent 8.
P009	Coal or Biomass Drying & Milling Line 9, 200 tons per hr. includes Bunker 9, Hot Gas Generator 9 and Filling Vessel Vent 9.
P010	Coal or Biomass Drying & Milling Line 10, 200 tons per hr. includes Bunker 10, Hot Gas Generator 10 and Filling Vessel Vent 10.

- 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) None.
- b) Applicable Emissions Limitations and/or Control Requirements
 - (1) The specific operations(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. 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.	OAC rules 3745-31-10 through 3745-31-20	From the Bunker Stack - PE/PM10 emissions shall not exceed 0.43 lb per hour and 1.9 tons per rolling 12-month period from the baghouse exhaust stack. From the Hot Gas Generator Stack - PE/PM10 emissions shall not exceed 0.6 lb per hour and 2.62 tons per rolling 12-month period. From the Hot Gas Generator Stack - Sulfur dioxide emissions: 0.24 lb/hour and



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>1.06 tons pr year.</p> <p>From the Hot Gas Generator Stack - Nitrogen oxide emissions: 1.32 lbs/hour and 5.8 tons per rolling 12-month period.</p> <p>From the Hot Gas Generator Stack - Carbon monoxide emissions: 2.23 lbs/hour and 9.75 tons per rolling 12-month period.</p> <p>From the Hot Gas Generator Stack - Organic compound emissions: 0.15 lbs/hour and 0.64 tons per rolling 12-month period.</p> <p>From the Filling Vessel - PE/PM10 emissions shall not exceed 0.07 lb per hour and 0.32 ton per rolling 12-month period from the baghouse exhaust stack. (It is assumed that all the PE is 100% PM10.)</p> <p>The combined annual emission rate of total HAPs from the Hot Gas Generator Stacks of P001-P010 shall not exceed 2.913 tons per rolling 12-month period.</p> <p>The combined annual emission rate of hexane from the Hot Gas Generator Stacks of P001-P010 shall not exceed 2.09 tons per rolling 12-month period.</p> <p>The visible particulate emissions limitations established pursuant to 40 CFR Part 60, Subpart Y are equivalent to the requirements of these rules. See b)(2)b.</p>
b.	OAC rule 3745-31-05(A)(3)(a)(ii)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the emissions from this air contaminant source since the potential to emit of each pollutant is less than ten tons per year.
c.	OAC rule 3745-17-07(A)	The visible PE limitations established by this rule are less stringent than those specified in Subpart Y.
d.	40 CFR Part 60, Subpart Ja, Section 60.102a(g)(1)	The permittee shall not discharge from any fuel gas combustion device any gases that contain SO2 in excess of 20 ppmv (dry basis, corrected to 0% excess air) determined on a 3-hour rolling



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		average basis and SO2 in excess of 8 ppmv (dry basis, corrected to 0% excess air) determined daily on a 365 successive day rolling average basis; or The permittee shall not burn in any fuel gas combustion device any fuel gas that contains H2S in excess of 162 ppmv determined hourly on a 3-hour rolling average basis and H2S in excess of 60 ppmv determined daily on a 365 successive day rolling average basis.
e.	40 CFR Part 60 Subpart Y, Section 60.252(a)(1)	Visible PE from the hot gas generator exhaust stack and the coal filling vessel baghouse exhaust stack shall not exhibit 20% opacity or greater.
f.	40 CFR Part 60 Subpart Y, Section 60.252(a)(2)	The PE limitation of this rule is less stringent than the limit required by OAC rule 3745-31-10 thru -20.
g.	40 CFR Part 60 Subpart Y, Section 60.252(c)	Visible PE from the Coal Bunker Stack shall not exhibit 20% opacity or greater. See b)(2)c.

(2) Additional Terms and Conditions

- a. Milling and Drying Line 1 includes; a Bunker with baghouse, Hot Gas Generator and Filling Vessel with baghouse, as shown in Figure 6, Module 2, of the permit application.
- b. The BACT determination for this emissions unit includes:
 - i. a totally enclosed bunker, including all coal transfer points;
 - ii. equipping the bunker and the filling vessel each with a baghouse dust collector that limits stack outlet PE loading to 0.005 gr/dscf of exhaust gases; and
 - iii. totally enclosed inlet and exit conveyors to the milling and drying line.
 - iv. use of a low NOx burner (rated heat input of 31.0 mmBtu/hr) in the Hot Gas Generator limiting emissions to 50 lbs NOx per 1.0 MMscf of gas burnt.
- c. In accordance with Section 60.252(c) of 40 CFR Part 60, the permittee shall not cause to be discharged into the atmosphere from any coal processing equipment, coal storage system, or coal transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.



SO ₂	Methods 1 through 4 and 6C of 40 CFR Part 60, Appendix A
NO _x	Methods 1 through 4 and 7E of 40 CFR Part 60, Appendix A
CO	Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A
OC	Methods 1 through 4 and 25 or 25A of 40 CFR Part 60, Appendix A

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

- d. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA Northeast District Office.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA Northeast District Office. 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 Ohio EPA Northeast District Office's refusal to accept the results of the emission test(s).
- f. Personnel from the appropriate Ohio EPA Northeast District Office 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 emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA Northeast District Office 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 appropriate Ohio EPA Northeast District Office.

(2) Emission Limitation:

Bunker Stack - PE/PM₁₀ emissions shall not exceed 0.43 lb per hour.

Applicable Compliance Method:

Compliance shall be determined by multiplying the baghouse grain loading emission limit of 0.005 gr/dscf by the design exhaust flow rate of 10,000 scfm and the conversion factors; 1.0 lb/7,000 gr and 60 min./hour.



(3) Emission Limitations

(Hot Gas Generator Stack):

Sulfur dioxide emissions: 0.24 lb/hour and 1.06 tons per rolling 12-month period.

Nitrogen oxide emissions: 1.32 lbs/hour and 5.8 tons per rolling 12-month period.

Carbon monoxide emissions: 2.23 lbs/hour and 9.75 tons per rolling 12-month period.

Organic compound emissions: 0.15 lbs/hour and 0.64 tons per rolling 12-month period.

(4) Total HAPs: The combined annual emission rate of total HAPs from the Hot Gas Generator Stacks of P001-P010 shall not exceed 2.913 tons per rolling 12-month period.

(5) Hexane: The combined annual emissions rate of hexane from the the Hot Gas Generator Stacks of P001-P010 shall not exceed 2.09 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance with the above emission limits for the products of combustion of natural gas or fuel gas shall be determined by multiplying the volume (scf) of fuel burned in the Hot Gas Generator's burner by the emission factors in AP-42 Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Tables 1.4-1 and 1.4-2 (7/98), and appropriate conversion factors.

Compliance with the annual emission limits shall be assumed if compliance with the hourly emission limits is demonstrated.

(6) Emission Limitations:

a. Particulate emissions from the bunker baghouse stack shall not exceed 1.9 tons per rolling 12-month period

b. Particulate emissions from the hot gas generator stack baghouse stack shall not exceed 2.62 tons per rolling 12-month period.

c. Particulate emissions from the filling vessel baghouse stack shall not exceed 0.32 ton per rolling 12-month period

Applicable Compliance Method:

Compliance with the annual emission limits shall be assumed if compliance with the hourly emission limits is demonstrated.

(7) Emission Limitations:

The permittee shall not discharge from any fuel gas combustion device any gases that contain SO₂ in excess of 20 ppmv (dry basis, corrected to 0% excess air) determined on a 3-hour rolling average basis and SO₂ in excess of 8 ppmv (dry basis, corrected to 0% excess air) determined daily on a 365 successive day rolling average basis; or



The permittee shall not burn in any fuel gas combustion device any fuel gas that contains H₂S in excess of 162 ppmv determined hourly on a 3-hour rolling average basis and H₂S in excess of 60 ppmv determined daily on a 365 successive day rolling average basis.

Applicable Compliance Method:

Comply with the applicable testing requirements in Section 60.104a of Subpart Ja.

(8) Emission Limitations:

Visible PE from the Hot Gas Generator exhaust stack and the Coal Filling Vessel baghouse exhaust stack shall not exhibit 20% opacity or greater.

Applicable Compliance Method:

Compliance with these emission limitations shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

(9) Emission Limitations:

Visible PE from the Coal Bunker Stack shall not exhibit 20% opacity or greater.

Applicable Compliance Method:

Compliance with these emission limitations shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

g) Miscellaneous Requirements

- (1) None



49. Emissions Unit Group - Coal or Biomass Silos: F011, F012, F013, F014

EU ID	Operations, Property and/or Equipment Description
F011	Coal Silos 1 & 2 w/common dust collector.
F012	Coal Silos 3 & 4 w/common dust collector.
F013	Coal Silos 5 & 6 w/common dust collector.
F014	Biomass Silos 1 & 2 w/common dust collector.

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) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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.	OAC rules 3745-31-10 through 3745-31-20	PE/PM10 emissions shall not exceed 0.7 lb per hour and 3.0 tons per rolling 12-month period (for F011) and 0.9 lb per hour and 3.8 tons (for F012, F013, and F014) per year from the baghouse exhaust stack. (It is assumed that the PE is 100% PM10.) The visible particulate emissions limitations established pursuant to OAC rule 3745-17-07(A)(1) and 40 CFR Part 60, Subpart Y are equivalent to the requirements of these rules. See b)(2)b.
b.	OAC RULE 3745-31-05(A)(3)(a)(ii)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate emissions (PE) from this air contaminant source since the calculated annual emission rate for PE is less than ten tons per year taking into account the federally enforceable BACT emission limits of 0.7 and 0.9 lb PE per hour.
c.	OAC rule 3745-17-07(A)	Visible PE from the baghouse exhaust



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.
d.	OAC rule 3745-17-08(B)	See b)(2)a.
e.	40 CFR Part 60 Subpart Y	See b)(2)c

(2) Additional Terms and Conditions

- a. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-10 through 3745-31-20.
- b. The BACT determination for this emissions unit includes:
 - i. totally enclosed silos, including all transfer points;
 - ii. equipping the silos with a common baghouse dust collector that limits stack outlet PE loading to 0.005 gr/dscf of exhaust gases; and
 - iii. totally enclosed fill and exit conveyors to the silos.
- c. In accordance with Section 60.252(c) of 40 CFR Part 60, the permittee shall not cause to be discharged into the atmosphere from any coal processing equipment, coal storage system, or coal transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.

c) Operational Restrictions

- (1) For emissions units F012, F013, and F014, a bag leak detector shall be installed, calibrated, operated and maintained on the control equipment serving this emissions unit. An audible alarm shall be installed to sound, should emissions above the percent saturation be determined during the calibration testing, be exceeded.

d) Monitoring and/or Recordkeeping Requirements

- (1) For emissions unit F011, the permittee shall perform weekly checks while the equipment is in operation for any visible particulate emissions from the baghouse stack. The presence or absence of any visible emissions from the baghouse stack, along with the date and time, shall be noted in an operations log. If any visible emissions are observed from the stack, corrective actions shall be taken to eliminate the visible emissions and these actions shall also be noted in the operations log.
- (2) The permittee shall maintain records of the details of each event where an audible alarm sounds on the bag leak detector. These records shall include the date, time, duration, cause and the action taken in response to the alarm.
- (3) For emissions unit F012, F013 and F014, the permittee shall submit on a semi annual basis a report that identifies each event where an audible alarm sounds on the bag leak detector. These reports shall include a summary of the date, time, duration, cause, and



the action taken in response to the alarm. These reports shall be submitted by January 31 and July 31 of each year to the Ohio EPA Northeast District Office.

e) Reporting Requirements

- (1) For emissions unit F011, the permittee shall submit on a semi-annual basis a report that (a) identifies all dates during which any visible particulate emissions were observed from the baghouse stack and (b) describes the corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted by January 31 and July 31 of each year to the Ohio EPA Northeast District Office.
- (2) The permittee shall submit on a semi annual basis a report that identifies each event where an audible alarm sounds on the bag leak detector. These reports shall include a summary of the date, time, duration, cause, and the action taken in response to the alarm. These reports shall be submitted by January 31 and July 31 of each year to the Ohio EPA Northeast District Office.

f) Testing Requirements

- (1) 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 3 months after start-up.
 - b. The emission testing shall be conducted to demonstrate compliance with:
 - i. the allowable mass emission rate for PE of 0.7 or 0.9 lb/hour; and
 - ii. the visible PE limitation.
 - c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):
 - i. for particulates, Method 5 of 40 CFR Part 60, Appendix A; and
 - ii. for visible PE, Method 9 of 40 CFR Part 60, Appendix A.

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, unless otherwise specified or approved by the Ohio EPA Northeast District Office.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA Northeast District Office. 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 Ohio EPA Northeast District Office's refusal to accept the results of the emission test(s).



- f. Personnel from the Ohio EPA Northeast District Office 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 emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA Northeast District Office 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 Ohio EPA Northeast District Office.

(2) Emission Limitations:

Particulate emissions shall not exceed 3.0 (from F011) or 3.8 (each from F012-F014) tons per rolling 12-month period.

Applicable Compliance Method:

Compliance with the annual emission limit shall be assumed if compliance with the hourly emission limit is demonstrated.

(3) Emission Limitations:

Visible PE from the baghouse exhaust stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

Compliance with these emission limitations shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9. The initial performance test shall be conducted in accordance with the requirements listed in f)(1).

(4) Emission Limitations:

In accordance with Section 60.252(c) of 40 CFR Part 60, the permittee shall not cause to be discharged into the atmosphere from any coal processing equipment, coal storage system, or coal transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.

Applicable Compliance Method

Compliance with these emission limitations shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures in Section 60.11 of 40 CFR Part 60.

In accordance with Section 60.8, of 40 CFR Part 60, the permittee shall conduct initial performance tests within 60 days of achieving the maximum production rate at which the affected facility will be operated, but no longer than 180 days after initial startup.



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Division of Air Pollution Control

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The permittee shall comply with the requirements in f)(1)e. through f)(1)g. above, in regard to testing notice, Ohio EPA witness of testing and submitting written reports on results.

- g) Miscellaneous Requirements
 - (1) None.



50. Emissions Unit Group - Combined Cycle Turbines: P018, P019

EU ID	Operations, Property and/or Equipment Description
P018	Combined Cycle Plant 1
P019	Combined Cycle Plant 2

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) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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.	OAC rule 3745-31-10 through 3745-31-20	<p>PE/PM10: 18.21 lbs per hour (as a 3-hr average) and 78.67 tons per rolling 12-month period.</p> <p>NOx: 28.53 lbs per hour (as a 3-hr average) and 123.3 tons per rolling 12-month period.</p> <p>CO: 23.1 lbs per hour (as a 3-hr average) and 99.78 tons per rolling 12-month period.</p> <p>VOC: 26.62 lbs per hour (as a 3-hr average) and 114.99 tons per rolling 12-month period.</p> <p>SO₂: 21.06 lbs per hour (as a 3-hr average) and 90.97 tons per rolling 12-month period.</p> <p>Sulfuric acid mist: 1.07 lb per hour (as a rolling 3-hr average) and 4.34 tons per rolling 12-month period.</p> <p>During startup and shutdown the combined emissions from P018 and P019 shall not exceed:</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>PE/PM10:65.0 lbs per hour and 3.1 tons per rolling 12-month period.</p> <p>NOx: 370.0 lbs per hour and 17.3 tons per rolling 12-month period.</p> <p>CO: 870.0 lbs per hour and 43.5 tons per rolling 12-month period.</p> <p>VOC: 65.0 lbs per hour and 3.1 tons per rolling 12-month period.</p> <p>SO₂: 2.5 lbs per hour and 0.1 tons per rolling 12-month period.</p> <p>The visible particulate emissions limitations established pursuant to OAC rule 3745-31-05(A)(3) are equivalent to the requirements of these rules.</p> <p>Total HAPs emissions shall not exceed 0.8 ton per rolling 12-month period.</p> <p>Formaldehyde emissions shall not exceed 0.68 ton per rolling 12-month period.</p>
b.	OAC rule 3745-31-05(A)(3)	<p>Visible particulate emissions from the stack serving this emissions unit shall not exceed 10% opacity, as a six-minute average.</p> <p>Mercury: 43.45 lbs per year.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-10 through 3745-31-20.</p>
c.	40 CFR Part 60, Subpart Da	<p>The PE/PM10, NOx and SO₂ emissions limitations of this rule are less stringent than those established in accordance with the BACT requirements of OAC rules 3745-31-10 through 3745-31-20.</p> <p>Mercury (Hg) emissions shall not exceed 0.020 lb/GWh (20 X 10E -06 lb/MWh), as a 12-month rolling average.</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	40 CFR Part 60, Subpart GG	Not applicable. See b)(2)b.
e.	40 CFR Part 60, Subpart KKKK	Not applicable. See b)(2)b.
f.	OAC rule 3745-17-07(A)	The visible emission limitations specified in this rule are less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A).
g.	OAC rule 3745-17-11(B)(4)	The emission limitations specified in this rule are less stringent than the emission limitations established pursuant to OAC rule 3745-31-10 through 3745-31-20.
h.	OAC chapter 3745-14 (NOx Budget Trading Program)	The permittee shall comply with all applicable requirements under the NOx Budget Trading Program in a timely manner.
i.	OAC chapter 3745-109 (Clean Air Interstate Rule (CAIR))	On July 11, 2008, the Washington DC Circuit Court vacated U.S. EPA's CAIR. U.S. EPA is reviewing the court's decisions and evaluating it's impacts.. Because Ohio's CAIR was based on the above federal rule, it's future implementation has yet to be determined.
j.	OAC chapter 3745-108 (Clean Air Mercury Rule (CAMR))	On Feb 8, 2008, the Washington DC Circuit Court vacated U.S. EPA's rule removing power plants from the CAA list of sources of HAPs. At the same time, the vacated CAMR. U.S. EPA is reviewing the court's decisions. Because Ohio's CAMR was based on the above federal rule, it's future implementation has yet to be determined.
k.		

(2) Additional Terms and Conditions

- a. The BACT determination for this emissions unit includes:
 - i. use of only tailgas or natural gas as fuel;



- ii. employ a Selective Catalytic Reduction (SCR) emissions control device to reduce NOx emissions to 2.5 ppmvd (at 15% O2) with a 10.0 ppmvd NH3 slip, when firing tail gas;
- iii. employ water or steam injection in the combustion turbine in combination with the SCR emissions control device to reduce NOx emissions to 2.5 ppmvd (at 15% O2) when firing natural gas;
- iv. employ a Catalytic Oxidation emissions control device along with good combustion practices to reduce CO emissions to 0.008 lb/mmBtu (as a rolling 24-hour average);
- v. employ a Catalytic Oxidation emissions control device along with good combustion practices to reduce VOC emissions to 0.012 lb/mmBtu (as a rolling 24-hour average);
- vi. employ good combustion practices in firing only gaseous fuels to reduce PM/PM10 emissions to 0.008 lb/mmBtu; and
- vii. tailgas fired in this emissions unit shall contain no more than 0.006 grains H2S per 100 dscf or firing pipeline quality natural gas.
- viii. Sulfuric acid mist emissions shall be limited to 4.45 X 10E -04 lb/mmBtu.

b. This emissions unit is subject to 40 CFR Part 60, Subpart Da and not subject to Subpart GG or Subpart KKKK, of Part 60. This emissions unit is a combined cycle gas turbine (both stationary combustion turbine and associated duct burner) that meets all of the applicability requirements of Section 60.40 Da(b).

c. The permittee shall prepare and submit to the Ohio EPA Northeast District Office a unit-specific monitoring plan for each monitoring system (opacity, SO₂, NO_x, CO₂ or O₂ and Hg) at least 45 days before commencing certification testing of the monitoring systems. The plan must address the requirements in 40 CFR 75 and paragraphs (s)(1) through (s)(6) of 40 CFR 60.49Da.

[40 CFR 60.13]; [40 CFR Part 60, Appendix F]; and [40 CFR Part 75]

c) Operational Restrictions

- (1) The permittee shall only burn natural gas and/or other gaseous fuels in this emissions unit.

d) Monitoring and/or Recordkeeping Requirements

- (1) See 40 CFR Part 60, Subpart Da.
- (2) The permittee shall maintain monthly records of the total quantity and type of gaseous fuel(s) burned in this emissions unit.

e) Reporting Requirements

- (1) See 40 CFR Part 60, Subpart Da.



- (2) The permittee shall submit deviation (excursion) reports that identify each day when a fuel other than natural gas or tailgas was burned in this emissions unit. Each report shall be submitted within 30 days after the deviation occurs.
- (3) Pursuant to the NSPS, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:
 - a. construction date (no later than 30 days after such date);
 - b. actual start-up date (within 15 days after such date); and
 - c. date of performance testing (if required, at least 30 days prior to testing).

Reports are to be sent to:

Ohio Environmental Protection Agency
DAPC - Permit Management Unit
50 West Town Street, Suite 700
P. O. Box 1049
Columbus, Ohio 43216-1049

and

Northeast District Office of the Ohio EPA
Division of Air Pollution Control
2110 E. Aurora Road
Twinsburg, Ohio 44087

f) Testing Requirements

- (1) Compliance with the emission limitations in b) shall be determined in accordance with the following methods:
 - a. Emission Limitations:

Particulate matter less than ten microns (PM-10), filterable and condensable emissions, shall not exceed 0.008 pound per million Btu heat input(as a 3-hour average),18.21 pounds per hour(as a 3-hour average) and 78.67 tons per rolling, 12-month period.

Applicable Compliance Methods:

Compliance with the pound per million Btu and pound per hour PM-10 emissions limitations shall be demonstrated based upon the applicable emissions tests specified in f)(2).

Compliance with the tons per rolling, 12-month period emission limitation shall be demonstrated by compliance with the hourly emissions limit.
 - b. Emission Limitation:

Tailgas fired in this emissions unit shall contain no more than 0.006 grains H₂S per 100 dscf or firing pipeline quality natural gas: and sulfur dioxide(SO₂)



emissions shall not exceed, 21.06 lbs per hour(as a 3-hour average), and 90.97 tons per rolling,12-month period.

Applicable Compliance Methods:

Compliance with the pound per hour SO₂ emissions limitations shall be demonstrated based upon the applicable emissions tests specified in f)(2), the monitoring and record keeping requirements in d) and the reporting requirements in e).

Compliance with the tons per rolling, 12-month period emission limitation shall be demonstrated by the monitoring and record keeping required pursuant to d), and the associated emission factors derived from emissions testing as specified in d), and f)(2).

c. Emission Limitations:

Nitrogen oxides(NO_x) emissions shall not exceed 2.5ppmvd at 15% O₂, 28.53 lbs per hour(as a 3-hour average),and 123.3 tons per rolling 12-month period.

Applicable Compliance Methods:

Compliance with the ppmvd and pound per hour NO_x emissions limitations shall be demonstrated based upon the applicable emissions tests specified in f)(2), the monitoring and record keeping requirements in d) and the reporting requirements in e).

Compliance with the tons per rolling, 12-month period emission limitation shall be demonstrated by the monitoring and record keeping required pursuant to d) and the associated emission factors derived from emissions testing as specified in f)(2).

d. Emission Limitations:

Carbon monoxide(CO) emissions shall not exceed 0.008 lb per million Btu heat input, 23.01 lbs per hour(as a 3-hour average), and 99.78 tons per rolling, 12-month period.

Applicable Compliance Methods:

Compliance with the pound per million Btu and pound per hour CO emissions limitations shall be demonstrated based upon the applicable emissions tests specified in f)(2), the monitoring and record keeping requirements in d) and the reporting requirements in e).

Compliance with the tons per rolling, 12-month period emission limitation shall be demonstrated by the monitoring and record keeping required pursuant to d)and the associated emission factors derived from emissions testing as specified in f)(2).



e. Emission Limitations:

Volatile organic compound(VOC) emissions shall not exceed 0.012 lb per mmBtu actual heat input, 26.62 lbs per hour(as a 3-hour average) and 114.99 tons per rolling, 12-month period.

Applicable Compliance Methods:

Compliance with the pound per million Btu and pound per hour VOC emissions limitations shall be demonstrated based upon the applicable emissions tests specified in f)(2).

Compliance with the tons per rolling, 12-month period emission limitation shall be demonstrated by the associated emission factors derived from emissions testing as specified in f)(2).

f. Emission Limitations:

Total HAPs emissions shall not exceed 0.8 ton per rolling, 12-month period.

Applicable Compliance Methods:

Compliance with the tons per rolling, 12-month period emission limitation shall be demonstrated by the monitoring and record keeping required pursuant to d) and the associated emission factors derived from emissions testing as specified in f)(2).

g. Emission Limitations:

Formaldehyde emissions shall not exceed 0.68 ton per rolling, 12-month period.

Applicable Compliance Methods:

Compliance with the tons per rolling, 12-month period emission limitation shall be demonstrated by the associated emission factors derived from emissions testing as specified in f)(2).

h. Emission Limitations:

Mercury emissions shall not exceed 0.02 lb/GWh (20×10^{-6} lb/MWh), as a rolling 12-month average, and 43.45 lbs per year.

Applicable Compliance Methods:

Compliance with the lb/GWh emissions limitations shall be demonstrated based upon the applicable emissions tests specified in f)(2), the monitoring and record keeping requirements in d) and the reporting requirements in e).

Compliance with the pounds per year emission limitation shall be demonstrated by the monitoring and record keeping required pursuant to d) and the associated emission factors derived from emissions testing as specified in f)(2)



i. Emission Limitations:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 10% opacity, as a six-minute average.

Applicable Compliance Methods:

Compliance with the visible particulate emissions limitations shall be demonstrated based upon the applicable emissions tests specified in f)(2), the monitoring and record keeping requirements in e) and the reporting requirements in e).

j. Emission Limitations

Sulfuric acid mist shall exceed 1.07 lb per hour (as a rolling 3-hr average) and 4.34 tons per rolling 12-month period.

Applicable Compliance Methods

Compliance with the lbs per hour sulfuric acid mist emissions limitation shall be demonstrated base upon the applicable test method in f)(2) above.

Compliance with the tons per rolling, 12-month period emission limitation shall be demonstrated by the associated emission factors derived from emissions testing as specified in f)(2).

k. Emission Limitations

During startup and shutdown:

PE/PM10:65.0 lbs per hour and 3.1 tons per rolling 12-month period.

NOx: 370.0 lbs per hour and 17.3 tons per rolling 12-month period.

CO: 870.0 lbs per hour and 43.5 tons per rolling 12-month period.

VOC: 65.0 lbs per hour and 3.1 tons per rolling 12-month period.

SO₂: 2.5 lbs per hour and 0.1 tons per rolling 12-month period.

Applicable Compliance Methods

Compliance with the PE/PM10, VOC and SO₂ emissions limits shall be based on the f)(1)a, f)(1)e and f)(1)b testing requirements above.

Compliance with the NO_x emissions limit shall be determined base on the d(1) NO_x continuous monitoring requirements above.

Compliance with the CO emissions limit shall determined based upon the uncontrolled rate of CO emissions calculated from Table 3.1-1, Section 3.1 of AP-42.



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

- a. The emissions testing shall be conducted within 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial start-up of the emissions unit.
- b. The emissions testing shall be conducted to demonstrate compliance with the applicable emissions limitations for PM-10, NO_x, SO₂, VOC, CO, H₂SO₄ Mist, Total HAPs, Formaldehyde, Mercury and opacity, in the appropriate averaging period(s).
- c. The following test methods shall be employed to demonstrate compliance with the applicable emissions limitations:

PM-10	Method 201(40 CFR Part 51, Appendix M) Method 202(40 CFR Part 51, Appendix M)
SO ₂	Methods 1 through 4 and 6C of 40 CFR Part 60, Appendix A
NO _x	Methods 1 through 4 and 7E of 40 CFR Part 60, Appendix A
CO	Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A
VOC	Methods 1 through 4 and 25, or Methods 1 through 4 and 25A (as appropriate), of 40 CFR Part 60, Appendix A
H ₂ SO ₄ Mist	Method 8 of 40 CFR Part 60, Appendix A
Total HAPs	Methods 1 through 4 and Method 18 of 40 CFR Part 60, Appendix A.
Formaldehyde	Methods 1 through 4 and Method 18 of 40 CFR Part 60, Appendix A
Mercury	40 CFR Part 60, Subpart Da, Section 60.50Da
Opacity	Method 9 of 40 CFR Part 60, Appendix A

g) Miscellaneous Requirements

(1) None.



51. Emissions Unit Group - Cooling Towers: P013, P014

EU ID	Operations, Property and/or Equipment Description
P013	Cooling Tower 1.
P014	Cooling Tower 2.

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) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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)	OAC rules 3745-31-10 through 3745-31-20	PM10 emissions shall not exceed 2.4 lbs per hour and 10.5 tons per rolling 12-month period. [PE is assumed to be 100% PM10.] The permittee shall install a drift eliminator with a maximum drift rate of 0.0005%, by weight, onto this emissions unit. Visible particulate emissions shall not exceed 10% opacity as a 6-minute average. The presence of condensed water vapor shall not be deemed a violation for failure of stack emissions meeting this visible emission limitation.
(b)	OAC rule 3745-31-05(A)(3)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-10 through 3745-31-20.
	OAC rule 3745-17-07(A)	See b)(2)a.
	OAC rule 3745-17-11(B)	See b)(2)a.

(2) Additional Terms and Conditions

a. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-10 through 3745-31-20.



b. The provisions of 40 CFR Part 63, Subpart Q, apply to all new and existing industrial process cooling towers that are operated with chromium-based water treatment chemicals and are either major sources or are integral parts of facilities that are major sources as defined in 40 CFR 63.401. Since chromium-based water treatment chemicals will not be used in this emissions unit, the provisions of this subpart do not apply to this emissions unit.

c) Operational Restrictions

- (1) The permittee shall maintain an average total dissolved solids (TDS) concentration of the cooling water less than or equal to 2,000 milligrams per liter.
- (2) The permittee shall not use chromium-based water treatment chemicals in this emissions unit.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall monitor the TDS content of the circulating cooling water on a daily basis.
- (2) The permittee shall maintain daily records of the daily TDS content of the circulating cooling water, in mg/L.

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify all exceedances of the average TDS limitation. The reports shall identify corrective action taken to reduce the TDS concentration. These reports shall be submitted to the Ohio EPA Northeast District Office by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarter.

f) Testing Requirements

- (1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following method(s):

a. Emission Limitation:

PM10 emissions shall not exceed 2.4 lbs per hour.

Applicable Compliance Method:

Compliance with this emission limitation shall be demonstrated by the following one-time calculation.

$$PM10 = Q \times (TDS / 10^6 \text{ ppm}) \times (\text{Drift}/100) \times (\text{Density}) \times (60 \text{ min/hr})$$

where:

Q = maximum cooling tower circulating water flow rate (481,000 gallons/min)

TDS = the maximum TDS concentration in the circulating water 2,000 mg/L (2,000 ppm by weight);



Drift = the maximum drift loss, 0.0005%; and

Density = Density of water, 8.34 lb/gal

b. Emission Limitation:

PM10 emissions shall not exceed 10.5 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance with this emission limitation shall be demonstrated by the following one-time calculation.

Multiply the allowable hourly emissions (2.4 lbs/hr) by the maximum annual hours of operation (8,760 hours per year) and divide by 2000 lbs per ton.

c. Emission Limitation:

The maximum drift rate shall not exceed 0.0005%.

Applicable Compliance Method:

Manufacturer's emissions data shall be used to demonstrate compliance with this limitation.

Within 90 days of startup, the permittee shall submit to the Ohio EPA-Northeast District Office written documentation provided by the vendor/manufacturer, of the maximum drift rate of 0.0005% for the drift eliminator and the premise, basis, and justification for the drift rate.

d. Emission Limitation:

Visible particulate emissions from any stack shall not exceed 10% opacity as a six-minute average.

Applicable Compliance Method:

If required, compliance shall be determined through visible emission observations performed in accordance with 40 CFR Part 60 ("Standards of Performance for New Stationary Sources"), Appendix A, U.S. EPA Reference Method 9 and the procedures specified in OAC rule 3745-17-03(B)(1).

e. Emission Limitation:

The permittee shall maintain the average TDS concentration of the cooling water less than or equal to 2,000 milligrams per liter.

Applicable Compliance Method:

The monitoring and recordkeeping requirements under d) shall serve as demonstration of compliance.



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If required, compliance shall be demonstrated using test procedures that conform to regulation 40 CFR 136, "Test Procedures For The Analysis of Pollutants". Alternative U.S. EPA approved test methods may be used with prior written approval from the Ohio EPA.

- g) Miscellaneous Requirements
 - (1) None



52. Emissions Unit Group - Diesel Fuel Tanks: T001, T002, T003, T004, T005, T006, T007, T008

EU ID	Operations, Property and/or Equipment Description
T001	3.0 MM Gallon Cap. F-T Diesel Fuel, Fixed Roof, Storage Tank 1.
T002	3.0 MM Gallon Cap. F-T Diesel Fuel, Fixed Roof, Storage Tank 2.
T003	3.0 MM Gallon Cap. F-T Diesel Fuel, Fixed Roof, Storage Tank 3.
T004	3.0 MM Gallon Cap. F-T Diesel Fuel, Fixed Roof, Storage Tank 4.
T005	3.0 MM Gallon Cap. F-T Diesel Fuel, Fixed Roof, Storage Tank 5.
T006	3.0 MM Gallon Cap. F-T Diesel Fuel, Fixed Roof, Storage Tank 6.
T007	3.0 MM Gallon Cap. F-T Diesel Fuel, Fixed Roof, Storage Tank 7.
T008	3.0 MM Gallon Cap. F-T Diesel Fuel, Fixed Roof, Storage Tank 8.

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) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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.	OAC rule 3745-31-05(A)(3)(a)(ii)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the VOC emissions from this air contaminant source since the uncontrolled potential to emit for VOC is less than ten tons per year.
b.	OAC rule 3745-21-09(L)	Exempt. See b)(2)a.
c.	OAC rules 3745-31-10 through 3745-31-20	VOC emissions shall not exceed 0.8 tons per rolling 12-month period. See b)(2)c.
d.	40 CFR Part 60, Subpart Kb	See b)(2)b.

(2) Additional Terms and Conditions

a. The permittee shall not place, store, or hold in this fixed roof tank any petroleum liquid which, as stored, has a true vapor pressure greater than 1.52 pounds per square inch absolute, unless the tank is equipped with an internal floating roof (or equivalent control approved by the Director) in accordance with the requirements



of paragraph (L)(1) of OAC rule 3745-21-09 prior to storing a petroleum liquid with a higher vapor pressure.

- b. NSPS Subpart Kb does not apply to storage vessels with a capacity greater than 151 cubic meters (39,890 gallons) storing a liquid with a true maximum vapor pressure less than 3.5 kilopascals (0.508 psia), per Section 60.110b(b).
- c. Implementation of the above-mentioned control measures in accordance with the terms and conditions of this permit is appropriate and sufficient to satisfy the best available control technology requirements of OAC rules 3745-31-10 thru 3745-31-20.

c) Operational Restrictions

- (1) The permittee shall not store a petroleum liquid with a true vapor pressure equal to or greater than 3.5 kilopascals (0.508 psia).

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain records of the following information for the fixed roof tank:
 - a. the types of petroleum liquids stored in the tank;
 - b. the maximum true vapor pressure (in pounds per square inch absolute), as stored, of each petroleum liquid that has a maximum true vapor pressure greater than 1.0 pound per square inch absolute; and
 - c. the number of tank turnovers per year.
- (2) These records shall be maintained for at least 5 years and shall be made available to the director or his representative upon verbal or written request.

e) Reporting Requirements

- (1) If the permittee places, stores, or holds, in the fixed roof tank, any petroleum liquid with a true vapor pressure which is greater than 1.52 pounds per square inch absolute and such tank does not comply with the requirements of paragraph (L)(1) of OAC rule 3745-21-09, the permittee shall notify the Director (the Ohio EPA Northeast District Office) within 30 days of becoming aware of the occurrence. The date that such petroleum liquid was first stored in the tank, the date removed (if removed), the total gallons throughput of each petroleum liquid exceeding this vapor pressure, and the proposed method of compliance shall be included in the report.

f) Testing Requirements

- (1) Compliance with the emission limitations in b)(1)a. shall be determined in accordance with the following methods:

Emissions Limitations:

VOC emissions shall not exceed 0.8 tons per rolling 12-month period.



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Applicable Compliance Method:

Compliance shall be demonstrated using: 'Tanks 4.0.9d', the latest version of Tanks computer software, or equivalent AP-42, Section 7.1, 'Organic liquid Storage tanks' methodology issued by U.S. EPA for calculating tank emissions.

- g) Miscellaneous Requirements
 - (1) None



53. Emissions Unit Group - Fire Pump Engines: P016, P017

EU ID	Operations, Property and/or Equipment Description
P016	Fire Pump Engine 1.
P017	Fire Pump Engine 2.

- 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) None.
- b) Applicable Emissions Limitations and/or Control Requirements
- (1) The specific operations(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. 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.	OAC rules 3745-31-10 through 3745-31-20	The BACT determination for this emissions unit is equivalent to the requirements specified in 40 CFR Part 60, Subpart IIII. The visible particulate emissions limitations established pursuant to OAC rule 3745-17-07(A) are equivalent to the requirements of these rules. Also see b)(2)a, b)(2)b. and c)(4).
b.	OAC rule 3745-31-05(C)	See b)(2)d.
c.	OAC rule 3745-17-07(A)	Visible particulate emissions (PE) shall not exceed 20% as a 6-minute average, except as provided by rule.
d.	OAC rule 3745-17-11 (B)(5)	The emissions limitation specified by this rule is less restrictive than the emissions limitation specified under 40 CFR Part 60, Subpart IIII.
e.	OAC rule 3745-18-06(B)	This emissions unit is exempt from the requirements of this rule.
f.	40 CFR Part 60, Subpart IIII, Section 60.4204(d) and 60.4205(c) [Table 4 to Subpart IIII of Part 60]	Emissions of non-methane hydrocarbons (NMHC) and nitrogen oxides (NOx) combined shall not exceed 7.8 grams/hp-hr.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		Emissions of carbon monoxide (CO) shall not exceed 2.6 grams/hp-hr. Particulate emissions (PE) shall not exceed 0.40 gram/hp-hr. Also see b)(2)c., c)(1), c)(2), c)(3), and c)(5).

(2) Additional Terms and Conditions

- a. The emissions limitations established as BACT are:
 - PE: 0.27 lb/hour and 0.07 ton per rolling 12-month period;
 - CO: 1.72 lbs/hour and 0.43 tons per rolling 12-month period;
 - NOx: 4.89 lbs/hour and 1.23 tons per rolling 12-month period; and
 - NMHC: 0.26 lbs/hour and 0.07 ton per rolling 12-month period.
- b. The BACT determination for this emissions unit also includes:
 - i. good combustion practices;
 - ii. good engine design;
 - iii. ignition timing retard;
 - iv. turbocharger; and
 - v. low-temperature aftercooler.
- c. The permittee shall install a non-resettable hour meter prior to startup of the engine, per 40 CFR 60.4209(a).
- d. Permit-to-install (PTI) 02-22896 takes into account the restrictions (including the use of any applicable air pollution control equipment) established pursuant to OAC rules 3745-31-10 through 3745-31-20 as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC 3745-31-05(A)(3).

c) Operational Restrictions

- (1) Per 40 CFR 60.4211(c) the permittee shall purchase an engine certified to the emissions standards specified in 40 CFR 60.4205(c). The engine must be installed and configured according to the manufacturer's specifications.



- (2) Per 40 CFR 60.4211 (a) the permittee shall operate and maintain the engine and control device according to the manufacturer's written instructions or procedures developed by the permittee that are approved by the engine manufacturer. In addition, the permittee may only change those settings that are permitted by the manufacturer.
 - (3) Per 40 CFR 60.4211(e) the engine may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of the engine in emergency situations. The permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the permittee maintains records indicating that Federal, State or local standards require maintenance and testing of the engine beyond 100 hours per year. Any operation other than emergency operation, and maintenance and testing as permitted in this section is prohibited.
 - (4) The maximum annual operating hours for this emissions unit shall not exceed 500, based upon a rolling, 12-month summation of the operating hours.
 - (5) The permittee shall combust only diesel fuel which meets the following specifications, as detailed in 40 CFR 80.510(b) and required by 40 CFR 60.4207(b):
 - a. sulfur content of 15 ppm, maximum; and
 - b. cetane index of 40, minimum or
 - c. aromatic content of 35 volume percent, maximum.
- d) **Monitoring and/or Recordkeeping Requirements**
- (1) The permittee shall perform daily checks, when the emissions unit is undergoing maintenance checks or readiness testing and when the weather conditions allow, for any visible particulate emissions from the stack serving this emissions unit. These checks are not required when operating under emergency conditions. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the date and time along with the following in the operations log:
 - a. the color of the emissions;
 - b. whether the emissions are representative of normal operations;
 - c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;
 - d. the total duration of any visible emission incident; and
 - e. any corrective actions taken to minimize or eliminate the visible emissions.

If visible emissions are present, a visible emission incident has occurred. The observer does not have to document the exact start and end times for the visible emission incident under d)(1)d. or continue the daily check until the incident has ended. The



observer may indicate that the visible emission incident was continuous during the observation period (or, if known, continuous during the operation of the emissions unit). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the visible emissions were representative of normal operations, or specify the minor corrective actions that were taken to ensure that the emissions unit continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal visible emissions.

- (2) The permittee shall retain records of:
 - a. hours of operation recorded in the non-resettable hour meter;
 - b. the hours of operation over each rolling 12-month period;
 - c. time of operation of the engine; and
 - d. the reason the engine operated.

- e) Reporting Requirements
 - (1) The permittee shall submit quarterly deviation (excursion) reports which identify all exceedances of the rolling, 12-month limitation on the hours of operation. These reports shall be submitted in accordance with the reporting requirements specified in the Standard Terms and Conditions of this permit.
 - (2) The permittee shall submit semi-annual written reports that (a) identify all days during which any visible particulate emissions were observed from the stack serving this emissions unit and (b) describe any corrective actions taken to minimize or eliminate the visible particulate emissions. These reports shall be submitted to the Director (the Ohio EPA Northeast District Office) by January 31 and July 31 of each year and shall cover the previous six-month periods.

- f) Testing Requirements
 - (1) Compliance with the emission limitations in b)(1)a. shall be determined in accordance with the following methods:
 - a. Emission Limitation:

Visible particulate emissions (PE) shall not exceed 20% as a 6-minute average, except as provided by rule.

Applicable Compliance Method:

Compliance with these emission limitations shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.
 - b. Emission Limitation:

0.27 lb PE/hour and 0.07 ton per rolling 12-month period



Applicable Compliance Method:

Compliance with the above emission limits for the products of combustion shall be determined by multiplying the engine's rating of 300 hp by the emission factor of 0.40 gram/hp-hr taken from Table 4 of 40 CFR Part 60, Section 4200 (Table 4) and the conversion factor of 1 gram equals 0.0022 lb.

Compliance with the annual emission limits shall be assumed if compliance with the hourly emission limits is demonstrated and compliance with the rolling 12-month hours of operation limitation is demonstrated.

c. Emission Limitation:

1.72 lbs CO/hour and 0.43 ton per rolling 12-month period

Applicable Compliance Method:

Compliance with the above emission limits for the products of combustion shall be determined by multiplying the engine's rating of 300 hp by the emission factor of 2.6 grams/hp-hr taken from Table 4 of 40 CFR part 60, Section 4200 and the conversion factor of 1 gram equals 0.0022 lb.

Compliance with the annual emission limit shall be assumed if compliance with the hourly emission limit is demonstrated and compliance with the rolling 12-month hours of operation limitation is demonstrated.

d. Emission Limitation:

4.89 lbs NOx/hour and 1.23 tons per rolling 12-month period

Applicable Compliance Method:

Compliance with the above emission limits for the products of combustion shall be determined by multiplying the engine's rating of 300 hp by the factor in Table 4 of 40 CFR part 60, Section 4200 of 7.8 grams/hp-hr and the conversion factor of 1 gram equals 0.0022 lb. 95% of the NMHC + NOx is assumed to be NOx.

Compliance with the annual emission limit shall be assumed if compliance with the hourly emission limit is demonstrated and compliance with the rolling 12-month hours of operation limitation is demonstrated.

e. Emission Limitation:

0.26 lb NMHC/hour and 0.07 ton per rolling 12-month period

Applicable Compliance Method:

Compliance with the above emission limits for the products of combustion shall be determined by multiplying the engine's rating of 300 hp by the factor of 7.8 grams/hp-hr from Table 4 of 40 CFR Part 60, Section 4200 and the conversion factor of 1 gram equals 0.0022 lb. 5% of the NMHC + NOx is assumed to be NMHC.



Compliance with the annual emission limit shall be assumed if compliance with the hourly emission limit is demonstrated and compliance with the rolling 12-month hours of operation limitation is demonstrated.

f. Emission Limitation:

Diesel fuel specifications: sulfur content of 15 ppm, maximum; and cetane index of 40, minimum or aromatic content of 35 volume percent, maximum.

Applicable Compliance Method:

Compliance with the fuel specifications shall be determined by any method allowed under 40 CFR Part 80 Subpart I.

g) Miscellaneous Requirements

- (1) None



54. Emissions Unit Group - Fly Ash Handling Systems: F015, F016, F017, F018, F019, F020

EU ID Operations, Property and/or Equipment Description

- F015 Flyash handling system 1, intermediate vessels, silo and pneumatic transfer to trucks.
- F016 Flyash handling system 2, intermediate vessels, silo and pneumatic transfer to trucks.
- F017 Flyash handling system 3, intermediate vessels, silo and pneumatic transfer to trucks.
- F018 Flyash handling system 4, intermediate vessels, silo and pneumatic transfer to trucks.
- F019 Flyash handling system 5, intermediate vessels, silo and pneumatic transfer to trucks.
- F020 Flyash handling system 6, intermediate vessels, silo and pneumatic transfer to trucks.

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) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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.	OAC rules 3745-31-10 through 3745-31-20	<p>Emissions of fugitive particulate matter (PE)/particulate matter of 10 microns or less (PM10) from the intermediate fly ash vessels shall not exceed 0.015 pound/hour and 0.065 ton per rolling 12-month period.</p> <p>Emissions of fugitive PE/PM10 from the fly ash storage silo shall not exceed 0.03 pound/hour and 0.13 ton per rolling 12-month period.</p> <p>(It is assumed that the PE is 100% PM10.)</p> <p>The visible particulate emissions limitations established pursuant to OAC rule 3745-17-07(B)(1) are equivalent to the requirements of these rules.</p> <p>See b)(2)a.</p>
b.	OAC rule 3745-31-05(A)(3)	The requirements established pursuant to this rule are equivalent to the requirements of OAC rules 3745-31-10 through 3745-31-20.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	OAC rule 3745-17-07(B)(1)	Visible PE shall not exhibit 20% opacity or greater as a three-minute average.
d.	OAC rule 3745-17-08(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-10 through 3745-13-20.

(2) Additional Terms and Conditions

a. The BACT determination for this emissions unit includes:

- i. totally enclosed fly ash intermediate storage bins equipped with a passive dust collector;
- ii. totally enclosed fly ash storage silo equipped with a passive dust collector;
- iii. each passive dust collector shall limit stack outlet PE loading to 0.005 gr/dscf of exhaust gases or less;
- iv. high moisture content in the ash (from previous processing);
- v. pneumatic conveying;
- vi. totally enclosed truck loading (including no open drop height); and
- vii. covering, at all times, of open-bodied vehicles when transporting ash.

The above BACT determination notwithstanding, should any visible emissions be observed, the permittee shall implement additional measures as needed to comply with the requirements in this permit.

c) Operational Restrictions

- (1) None

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall perform weekly checks while the equipment is in operation for any visible particulate emissions from each of the passive dust collectors. The presence or absence of any visible emissions from the passive dust collectors shall be noted in an operations log. If any visible emissions are observed from the stacks, corrective actions shall be taken to eliminate the visible emissions and these actions shall also be noted in the operations log.

e) Reporting Requirements

- (1) The permittee shall submit on a semi-annual basis a report that (a) identifies all dates during which any visible particulate emissions were observed from any of the passive



dust collectors and (b) describes the corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted by January 31 and July 31 of each year to the Ohio EPA Northeast District Office.

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1)a. shall be determined in accordance with the following methods:

a. Emission Limitation:

Emissions of fugitive PE/PM10 from the intermediate fly ash vessels shall not exceed 0.015 pound/hour and 0.065 ton per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be determined by multiplying the anticipated passive dust collector grain loading emission rate of 0.005 gr/dscf by the anticipated air displacement rate of 438 cfm for the intermediate ash storage vessels and the conversion factors: 1.0 lb/7,000 gr and 60 min./hour.

b. Emission Limitation:

Emissions of fugitive PE/PM10 from the fly ash storage silo shall not exceed 0.03 pound/hour and 0.13 ton per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be determined by multiplying the anticipated passive dust collector grain loading emission rate of 0.005 gr/dscf by the anticipated air displacement rate of 876 cfm for the fly ash silos and the conversion factors: 1.0 lb/7,000 gr and 60 min./hour.

c. Emission Limitations:

Visible PE from each passive dust collector exhaust shall not exhibit 20% opacity or greater as a three-minute average.

Applicable Compliance Method:

Compliance with these emission limitations shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

g) Miscellaneous Requirements

(1) None



55. Emissions Unit Group - Gasifiers 1-6: P020, P021, P022, P023, P024, P025

EU ID	Operations, Property and/or Equipment Description
P020	Gasifier No. 1
P021	Gasifier No. 2
P022	Gasifier No. 3.
P023	Gasifier No. 4.
P024	Gasifier No. 5.
P025	Gasifier No. 6.

- 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) None.
- b) Applicable Emissions Limitations and/or Control Requirements
 - (1) The specific operations(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. 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.	OAC rule 3745-31-05(A)(3)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-10 through 3745-31-20.
b.	OAC rule 3745-31-05(A)(3)(a)(ii)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the VOC and PE/PM10 emissions from this air contaminant source since the calculated annual emission rate for VOC and PE/PM10 is less than ten tons per year taking into account the federally enforceable BACT emission limits.
c.	OAC rule 3745-17-07(A)	The visible particulate emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rules 3745-31-10 through 3745-31-20.
d.	OAC rule 3745-17-10(B)(1)	The particulate emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rules 3745-31-10 through 3745-31-20.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
e.	OAC rule 3745-31-10 through 3745-31-20	<p>PE/PM10: 9.4 lbs per hour and 0.43 ton per rolling 12-month period.</p> <p>SO2: 1,738.93 lbs per hour and 78.25 tons per rolling 12-month period.</p> <p>NOx: 376.8 lbs per hour and 16.96 tons per rolling 12-month period.</p> <p>CO: 2,521.4 lbs per hour and 113.46 tons per rolling 12-month period.</p> <p>VOC.: 157.0 lbs per hour and 7.07 tons per rolling 12-month period.</p> <p>Total HAPs/COS: 2.07 lbs per hour and 0.093 tons per rolling 12-month period.</p> <p>H2S: 10.830 lbs per hour and 0.487 tons per rolling 12-month period.</p> <p>The flare stack shall be designed for and operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.</p>
f.	OAC rule 3745-31-05(A)(3)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-10 through 3745-31-20.

(2) Additional Terms and Conditions

a. The BACT determination for this emissions unit includes:

- i. use of a flare with a 98% by weight, design, VOC destruction efficiency, to burn exhausted syngas during all startups and shutdowns.
- ii. The flare shall be designed, monitored and operated in conformance with the requirements for flares as listed in Section 60.18 of 40 CFR Part 60.
- iii. employ good combustion practices in firing only gaseous fuels to reduce PM/PM10 emissions to 0.003 lb/mmBtu;
- iv. employ good combustion practices in firing only gaseous fuels to limit SO2 emissions to 1.384 lbs/mmBtu;



- v. employ good combustion practices in firing only gaseous fuels to reduce NOx emissions to 0.30 lb/mmBtu;
 - vi. employ good combustion practices in firing only gaseous fuels to reduce CO emissions to 2.01 lb/mmBtu; and
 - vii. employ good combustion practices in firing only gaseous fuels to reduce VOC emissions to 0.125 lb/mmBtu;
- b. The high pressure flare shall control syngas emissions from the Gasifiers Numbers 1- 6 during startups. The raw syngas to be flared shall be filtered for particulates prior to being flared.

The high pressure flare shall be used to flare raw syngas during process upsets and emergencies. During process upsets and emergencies, raw syngas may be flared directly from a gasifier vessel, without being processed through the particulate and acid gas filtration equipment.

- c. The high pressure flare shall be equipped with multiple pilot burners having a combined, design rated, heat input of 0.55 mmBtu per hour, and fired by natural gas. The maximum, design heat release rate of the flare shall be 3,140 mmBtu/hour, for the flaring of syngas.
- d. The permittee shall properly install, operate, and maintain a thermocouple or any other equivalent device to continuously monitor the pilot flame when the emissions unit is in operation. The monitoring device and any recorder shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals, and the requirements of Section 60.18 of 40 CFR Part 60.

c) Operational Restrictions

- (1) For emissions units P020 - P025 (Gasifiers Nos. 1 - 6), each emissions unit shall be limited to a maximum total of 90hours of flaring due to startup events per rolling 12 - month period.
- (2) Emissions units P020 - P025 (Gasifiers Nos. 1 - 6) shall be limited to a combined maximum total of 90 hours of flaring due to startup events per rolling 12 -month period.
- (3) The flare pilot shall be operated at all times when raw syngas may be vented to it.
- (4) During startup of a gasfier the heat input to the flare shall be limited to 1,256 mmBtu per hour of combustible gases.
- (5) Only coal or other feedstocks with a sulphur content of 0.63 percent, by weight, or less shall be used during startup of a gasifier.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall monitor the flare to ensure that it is operated and maintained in conformance with its design parameters and the requirements contained in this permit, and in the 'General control device requirements' for flares listed in Section 60.18 of 40 CFR Part 60..



- (2) The permittee shall record each startup event, identifying the gasifier no. and emissions unit no., the time and date and the rolling 12-month total number of startups, to-date.
- (3) The permittee shall record each process upset or emergency shutdown event during which raw syngas is sent directly to the high pressure flare, without being passed through the particulate and acid gas filtration units.

The permittee shall record the date, time, duration, volume of raw syngas flared, the amounts of the resulting air emissions and the reason for each such event.

- (4) The permittee shall record the hourly heat input rate to the high pressure flare for each gasifier startup event.
- (5) The permitted shall keep a record of each startup event during which coal or other feedstock with a sulfur content greater than 0.63 percent, by weight, was used.
- (6) The permittee shall perform weekly checks during startup of a gasifier for any visible particulate emissions from the high pressure flare stack. The presence or absence of any visible emissions from the high pressure flare stack shall be noted in an operations log. If any visible emissions are observed from the stack, corrective actions shall be taken to eliminate the visible emissions and these actions shall also be noted in the operations log.

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation reports that identify all periods of time during which the pilot flame was not functioning properly or the flare was not maintained as required in this permit. The reports shall include the date, time, and duration of each such period.
- (2) The permittee shall notify the Director (the Ohio EPA Northeast District Office) in writing of any record showing that the maximum number of startup events for this emissions unit individually or, for the group of emissions units P020 - P025, exceeded 90 hours of flaring due to startup events. The notification shall include a copy of such record and shall be sent to the Director (the Ohio EPA Northeast District Office) within 30 days after the exceedance occurs.
- (3) The permittee shall submit quarterly reports to the Ohio EPA Northeast District Office which summarize the number of process upset or emergency shutdown events which occurred during the previous calendar quarter.
- (4) The permittee shall submit all reports and notifications required in Section 60.18 of 40 CFR Part 60.
- (5) The permittee shall report any exceedances of the hourly heat input limitation to the high pressure flare, which occurred during a gasifier startup.
- (6) The permittee shall report any exceedances of the coal, and other feedstock, sulfur content limitation, which occurred during a gasifier startup.
- (7) The permittee shall submit on a semi-annual basis a report that (a) identifies all dates during which any visible particulate emissions were observed from the high pressure



flare stack and (b) describes the corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted by January 31 and July 31 of each year to the Ohio EPA Northeast District Office.

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following methods:

a. Emission Limitations:

Particulate matter less than ten microns (PM-10), filterable and condensable emissions, shall not exceed 9.4 pounds per hour and 0.42 tons per rolling, 12-month period.

Applicable Compliance Methods:

Compliance with the 9.4 pounds per hour emissions limitation shall be demonstrated by multiplying the BACT based limit of 0.008 lb/mmBtu by the maximum flare heat input of 1256 mmBtu/hour.

Compliance with the tons per rolling, 12-month period emission limitation shall be demonstrated by multiplying the hourly emission limitation by 90 hours per year and the conversion factor 1.0 ton/2,000 lbs and the monitoring and record keeping required pursuant to d) above.

b. Emission Limitations:

SO₂ emissions shall not exceed 1738.93 , lbs/hour and 78.3 tons per rolling 12-month period.

Applicable Compliance Methods:

Compliance with the 1738.93 pounds per hour emissions limitation shall be demonstrated by multiplying the BACT based limit of 1.384 lbs per mmBtu by the maximum flare heat input of 1,256 mmBtu/hour.

Compliance with the tons per rolling, 12-month period emission limitation shall be demonstrated by multiplying the hourly emission limitation by 90 hours per year and the conversion factor 1.0 ton/2,000 lbs and the monitoring and record keeping required pursuant to d).

c. Emission Limitations:

Nitrogen oxides(NO_x) emissions shall not exceed 376.80 lbs per hour and 16.96 tons per rolling 12-month period 0.30 lb per mmBtu and

Applicable Compliance Methods:

Compliance with the 376.8 lbs per hour NO_x emissions limitations shall be demonstrated by multiplying the BACT based limit of 0.30 lb per mmBtu by the maximum flare heat input of 1256 mmBtu/hour.



Compliance with the tons per rolling, 12-month period emission limitation shall be demonstrated by multiplying the hourly emission limitation by 90 hours per year and the conversion factor 1.0 ton/2,000 lbs and the monitoring and record keeping required pursuant to d).

d. Emission Limitations:

Carbon monoxide (CO) emissions shall not exceed 2521.42 lbs per hour and 113.46 tons per rolling 12-month period.

Applicable Compliance Methods:

Compliance with the 2521.42 lbs per hour CO emissions limitations shall be demonstrated by multiplying the BACT based limit of 2.008 lb per mmBtu by the maximum flare heat input of 1,256. mmBtu/hour.

Compliance with the tons per rolling, 12-month period emission limitation shall be demonstrated by multiplying the hourly emission limitation by 90 hours per year and the conversion factor 1.0 ton/2,000 lbs and the monitoring and record keeping required pursuant to d).

e. Emission Limitations:

Volatile organic compound (VOC) emissions shall not exceed 157.0 lbs per hour and 7.07 tons per rolling 12-month period.

Applicable Compliance Methods:

Compliance with the 157.0 lbs per hour VOC emissions limitations shall be demonstrated by multiplying the BACT based limit of 0.125 lb per mmBtu by the maximum flare heat input of 1256 mmBtu/hour.

Compliance with the tons per rolling, 12-month period emission limitation shall be demonstrated by multiplying the hourly emission limitation by 90 hours per year and the conversion factor 1.0 ton/2,000 lbs and the monitoring and record keeping required pursuant to d).

f. Emission Limitations:

Total HAPs/COS emissions shall not exceed 2.07 lbs per hour and 0.093 tons per rolling 12-month period.

Applicable Compliance Methods:

Compliance with the 2.07 lbs per hour total HAPs/COS emissions limitations shall be demonstrated based by multiplying an emission factor for Total HAPS/COS of 0.002 lb/mmBtu heat input by the maximum hourly heat input rate during flaring of the gasifier. The listed emission factor is an engineering estimate based upon the design of the flare and anticipated characteristics of the flared syngas.

Compliance with the tons per rolling, 12-month period emission limitation shall be demonstrated by multiplying the hourly emission limitation by 90 hours per



year and the conversion factor 1.0 ton/2,000 lbs and the monitoring and record keeping required pursuant to d).

g. Emission Limitations:

H2S emissions shall not exceed 10.83 lbs per hour and 0.487 tons per rolling 12-month period.

Applicable Compliance Methods:

Compliance with the 10.83 lbs per hour H2S emissions limitations shall be demonstrated based by multiplying an emission factor for H2S of 0.009 lb/mmBtu heat input by the maximum hourly heat input rate during flaring of the gasifier. The listed emission factor is an engineering estimate based upon the design of the flare and anticipated characteristics of the flared syngas.

Compliance with the tons per rolling, 12-month period emission limitation shall be demonstrated by multiplying the hourly emission limitation by 90 hours per year and the conversion factor 1.0 ton/2,000 lbs and the monitoring and record keeping required pursuant to d).

h. Emission Limitations:

The flare stack shall be designed for and operated with no visible emissions, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

Applicable Compliance Methods:

Compliance with the visible emissions limitations shall be demonstrated in accordance with US EPA Method 22.

(2) The flare shall comply with the requirements of Section 60.18 of 40 CFR Part 60.

g) Miscellaneous Requirements

(1) None



56. Emissions Unit Group - Naphtha Tanks: T009, T010, T011, T012

EU ID	Operations, Property and/or Equipment Description
T009	3.0 MM Gallon Capacity F-T Naphtha, Internal Floating Roof, Tank 1
T010	3.0 MM Gallon Capacity F-T Naphtha, Internal Floating Roof, Tank 2
T011	3.0 MM Gallon Capacity F-T Naphtha, Internal Floating Roof, Tank 3
T012	3.0 MM Gallon Capacity F-T Naphtha, Internal Floating Roof, Tank 4

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) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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.	OAC rule 3745-31-05(A)(3)(a)(ii)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the VOC emissions from this air contaminant source since the calculated annual emission rate for VOC is less than ten tons per year taking into account the federally enforceable BACT emission limit of 0.88 tons per rolling 12-month period.
b.	OAC rule 3745-21-09(L)	See c)(1), d)(1), d)(2) and e)(1)
c.	OAC rules 3745-31-10 through 20	VOC emissions shall not exceed 0.88 tons per rolling 12-month period. See b)(2)a.
e.	40 CFR Part 60, Subpart Kb	See b)(2)b.

(2) Additional Terms and Conditions

a. The Best Available Control Technology requirements for this emissions unit include equipping this storage tank with a fixed roof in combination with an



internal floating roof for the control of VOC and HAP emissions, which meets all of the requirements of 40 CFR part 60, Subpart Kb .

c) Operational Restrictions

- (1) The permittee shall install the following control equipment and shall maintain tank vents, seals, and or covers as follows:
 - a. The fixed roof storage tank shall be equipped with an internal floating roof.
 - b. The automatic bleeder vents shall be closed at all times except when the roof is floated off or landed on the roof leg supports.
 - c. The rim vents, if present, shall be set to open or at the manufacturer's recommended setting when the roof is being floated off the roof leg supports.
 - d. All openings, except stub drains, shall be equipped with a cover, seal, or lid which is to be in a closed position at all times except when in actual use for tank gauging or sampling.
- (2) See 40 CFR Part 60, Subpart Kb.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain records of the following information for the fixed roof tank:
 - a. the types of petroleum liquids stored in the tank; and
 - b. the maximum true vapor pressure (in pounds per square inch absolute), as stored, of each petroleum liquid that has a maximum true vapor pressure greater than 1.0 pound per square inch absolute.

These records shall be maintained for at least 5 years and shall be made available to the Director or his representative upon verbal or written request.

[OAC rule 3745-21-09(L)(3)]

- (2) The permittee shall maintain a record of any period of time in which the automatic bleeder vents, rim vents, and all openings other than stub drains were not maintained as required in this permit and per the rules.

[OAC rule 3745-21-09(L)(1)(b) and (c) and (L)(4)]

- (3) See 40 CFR Part 60, Subpart Kb.

e) Reporting Requirements

- (1) The permittee shall notify the Director (the appropriate Ohio EPA District Office or local air agency) within 30 days of the occurrence, of any period of time in which the automatic bleeder vents, rim vents, and all openings other than stub drains were not maintained as required in this permit.

[OAC rule 3745-21-09(L)(4)]



(2) See 40 CFR Part 60, Subpart Kb.

f) Testing Requirements

(1) Compliance with the emission limitations in b)(1) shall be determined in accordance with the following methods:

a. Emissions Limitations:

VOC emissions shall not exceed 0.88 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance shall be demonstrated using: 'Tanks 4.0.9d', the latest version of 'Tanks' computer software, or equivalent AP-42, Fifth Edition, Volume 1, Section 7.1, "Organic Liquid Storage Tanks", (11/06) methodology issued by U.S. EPA for calculating tank emissions..

g) Miscellaneous Requirements

(1) None.



57. Emissions Unit Group - Slag Dewatering Silos: F021, F022, F023, F024, F025, F026

EU ID	Operations, Property and/or Equipment Description
F021	Slag Dewatering Silo 1.
F022	Slag Dewatering Silo 2.
F023	Slag Dewatering Silo 3.
F024	Slag Dewatering Silo 4.
F025	Slag Dewatering Silo 5.
F026	Slag Dewatering Silo 6.

- 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) None.
- b) Applicable Emissions Limitations and/or Control Requirements
- (1) The specific operations(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. 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.	OAC rules 3745-31-10 through 3745-31-20	<p>Emissions of fugitive particulate matter (PE)/particulate matter of 10 microns or less (PM10) from the silo vent shall not exceed 1.9 tons per rolling 12-month period.</p> <p>Emissions of fugitive PE/PM10 from conveying and transferring to storage shall not exceed 1.9 tons per rolling 12-month period. (It is assumed that the PE is 100% PM10.)</p> <p>The visible particulate emissions limitations established pursuant to OAC rule 3745-17-07(B)(1) are equivalent to the requirements of these rules.</p> <p>See b)(2)a.</p>
b.	OAC rule 3745-31-05(D)	See b)(2)c.
c.	OAC rule 3745-17-07(B)(1)	Visible PE from the silo vent shall not exceed 20% opacity or greater as a three-minute average.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
d.	OAC rule 3745-17-08(B)	The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-10 through 3745-31-20.

(2) Additional Terms and Conditions

a. The BACT determination for this emissions unit includes:

- i. totally enclosed belt conveyors;
- ii. minimizing drop heights at transfer points; and
- iii. moisture content in the slag is 10-20%.

b. The above BACT determination notwithstanding, should any visible emissions from the silo vent be observed in excess of 20% opacity or greater as a three-minute average, the permittee shall implement additional measures as needed to comply with the requirements in this permit.

c. Permit-to-install (PTI) 02-22896 takes into account the restrictions (including the use of any applicable air pollution control equipment) established pursuant to OAC rules 3745-31-10 through 3745-31-20 as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC 3745-31-05(A)(3).

b) Operational Restrictions

(1) None.

c) Monitoring and/or Recordkeeping Requirements

(1) Except as otherwise provided in this section, the permittee shall perform inspections of each transfer point in accordance with the following frequencies:

<u>slag transfer point</u>	<u>minimum transfer point inspection frequency</u>
dewatering silo transfer to conveyor	daily
conveyor transfer to storage pile	daily

(2) Notwithstanding the frequency of inspection requirements specified above, the permittee may reduce the frequency of inspections for the transfer points from daily to weekly if the following conditions are met:

a. for 1 full quarter the inspections of the material handling operations indicate no need for implementing the above-mentioned control measures; and



- b. the permittee continues to comply with all the record keeping and monitoring requirements specified in d).

The permittee shall revert to daily inspections of the material handling operations if the inspections of the material handling operations indicate the need for implementing the above-mentioned control measures. The permittee may again reduce the frequency of inspections from daily to weekly after obtaining 1 full quarter of inspections of the material handling operations that indicate no need for implementing the above-mentioned control measures.

- (3) The purpose of the inspections is to determine the need for implementing the control measures specified in this permit. The inspections shall be performed during representative, normal operating conditions.
- (4) The permittee shall maintain records of the following information:
 - a. the date and time of each inspection where it was determined by the permittee that it was necessary to implement control measures;
 - b. the dates the control measures were implemented;
 - c. a description of the control measure(s) implemented; and
 - d. on a calendar quarter basis, the total number of days control measures were implemented.
- (5) The information required in d)(4) shall be kept separately for (i) the dewatering silo transfer to conveyor and (ii) the transfer conveyor to the slag storage pile and shall be updated on a calendar quarter basis within 30 days after the end of each calendar quarter.

The permittee shall perform weekly checks while the equipment is in operation for any visible particulate emissions from the silo vent. The presence or absence of any visible emissions from the silo vent shall be noted in an operations log. If any visible emissions are observed, corrective actions shall be taken to eliminate the visible emissions and these actions shall also be noted in the operations log.

d) Reporting Requirements

- (1) The permittee shall submit quarterly deviation reports that identify any of the following occurrences:
 - a. each day during which an inspection was not performed by the required frequency; and
 - b. each instance when a control measure, that was to be implemented as a result of an inspection, was not implemented.
- (2) The deviation reports shall be submitted in accordance with the reporting requirements of the Standard Terms and Conditions of this permit.
- (3) The permittee shall submit on a semi-annual basis a report that (a) identifies all dates during which any visible particulate emissions were observed from the silo vent and (b)



describes the corrective actions taken to eliminate the visible particulate emissions. These reports shall be submitted by January 31 and July 31 of each year to the Ohio EPA Northeast District Office.

e) Testing Requirements

(1) Compliance with the emission limitations in b) shall be determined in accordance with the following methods:

a. Emission Limitation:

PE/PM10 emissions from the silo vent shall not exceed 1.9 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance with fugitive PE and PM10 emissions limitations shall be determined by using the emission factor 0.02 lb PE/ton slag from Ohio EPA's RACM 'Reasonably Available Control Measures for Fugitive Dust', Table 2.2.2-1. These emission limits were based on a slag generation rate of 42.5 tons per hour and a 50% overall control efficiency for high moisture content assumed equivalent to watering.

b. Emission Limitations:

PE/PM10 emissions from conveying and transferring to storage shall not exceed 1.9 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance with fugitive PE and PM10 emissions limitations shall be determined by using the emission factor 0.02 lb PE/ton slag for conveying and 0.02 lb PE/ton slag for transferring to storage from Ohio EPA's RACM 'Reasonably Available Control Measures for Fugitive Dust', Table 2.2.2-1. These emission limits were based on a slag generation rate of 42.5 tons per hour, a 50% overall control efficiency for high moisture content assumed equivalent to watering and 99% control efficiency for the covered conveyor.

c. Emission Limitations:

Visible PE from the silo vent shall not exhibit 20% opacity or greater.

Applicable Compliance Method:

Compliance with these emission limitations shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

f) Miscellaneous Requirements

(1) None.



58. Emissions Unit Group - Sulfur Recovery Units: P011, P012

EU ID	Operations, Property and/or Equipment Description
P011	Sulfur Recovery Process Unit 1.
P012	Sulfur Recovery Process Unit 2.

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) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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.	OAC rule 3745-31-05(A)(3)	The requirements of this rule also include compliance with the requirements of OAC rules 3745-31-10 through 3745-31-20.
b.	OAC rule 3745-17-07(A)	Visible particulate emissions from the exhaust stack serving this emissions unit shall not exceed 20% opacity, as a 6-minute average, except as provided by the rule.
c.	OAC rule 3745-31-10 through 3745-31-20	From the Thermal Oxidizer burner's natural gas combustion: PE/PM10: 0.2 lb per hour (as a 3-hr average) and 0.85 tons per rolling 12-month period. NOx: 1.27 lbs per hour (as a 3-hr average) and 5.55 tons per rolling 12-month period. CO: 2.13 lbs per hour (as a 3-hr average) and 9.32 tons per rolling 12-month period. VOC: 0.2 lbs per hour (as a 3-hr average) and 0.85 tons per rolling 12-month period. SO2: 0.015 lb per hour (as a 3-hr average) and 0.07 tons per rolling 12-



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		<p>month period.</p> <p>From the incineration of the Sulfur Pit Sweep Air and the Spent Degassing Air by the TTO:</p> <p>SO₂: 25.9 lbs per hr (as a 3-hr average) and 113.45 tons per rolling 12-month period.</p> <p>From the incineration of tailgas during startups and shutdowns:</p> <p>NO_x: 1224.0 lbs per hour and 7.35 tons per rolling 12-month period.</p> <p>SO₂: 4,867.5 lbs per hour and 29.2 tons per rolling 12-month period.</p> <p>CO: 52.5 lbs per hour and 0.32 tons per rolling 12-month period.</p> <p>Sulfuric acid mist: 2.37 lbs per hour (as a 3-hr average) and 10.4 tons per rolling 12-month period.</p> <p>The visible particulate emissions limitations established pursuant to OAC rule 3745-17-07(A) are equivalent to the requirements of these rules.</p> <p>See b)(2)a. below.</p> <p>See b)(2)b. below.</p>
d.	<p>40 CFR Part 60, Subpart Ja, Section 60.102a(f)(1)(i) - Emission Limitation for Sulfur Recovery Plants</p>	<p>Shall not discharge any gases into the atmosphere in excess of 250 ppmv as SO₂ (dry basis) at zero percent excess air, or comply with a flow rate weighted average of 250 ppmv for all release points from the sulfur recovery plant.</p> <p>See b)(2)c.</p>

(2) Additional Terms and Conditions

a. The BACT determination for this emissions unit includes:

- i. an acid gas sulfur recovery train, including an in-line Claus Plant, a SCOT Process Tailgas Treatment Unit, and a Tailgas Compression Unit, which during normal operation recycles tailgas to the Acid Gas Removal Unit without exhaust to the atmosphere.



- ii. use of a tailgas thermal oxidizer (TTO) operated at 500 degrees F or higher, to control H₂S emissions from the acid gas sulfur recovery train during startups and shutdowns, and continuously from the sulfur pit sweep air and spent degassing air;
 - iii. use of only natural gas as fuel in the TTO;
 - iv. equip the TTO with Low NOx burners
 - v. comply with the listed Subpart Ja sulfur dioxide emission limitation and all other applicable requirements therein.
- b. During startups and shutdowns tailgas from the Tailgas Treatment Unit (SCOT Process) shall be vented to the TTO for incineration. During normal operation, tailgas shall be sent to the Tailgas Compression Unit and then recycled to the Acid Gas Removal Unit for sulfur recovery.
- c. The permittee shall prepare and submit to the Ohio EPA Northeast District Office a unit-specific monitoring plan for each monitoring system (SO₂ and O₂) at least 45 days before commencing certification testing of the monitoring systems. The plan must address the requirements in 40 CFR Part 60, Subpart Ja.

c) Operational Restrictions

- (1) The maximum annual operating hours for this emissions unit shall not exceed 12 hours of startup and shutdown events, based upon a rolling, 12-month summation of the operating hours. (The permittee has applied for 3 startup and shutdown events per rolling 12-month period for this emissions unit, during which tailgas must be incinerated by the TTO). Each startup and shutdown event takes 2 hours, for a total of 12 hours per rolling 12-month period.

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:

Maximum Allowable

<u>Month(s)</u>	<u>Cumulative Operating Hours</u>
1	4 hours
1-2	4 hours
1-3	4 hours
1-4	4 hours
1-5	8 hours
1-6	8 hours
1-7	8 hours



1-8	8 hours
1-9	12 hours
1-10	12 hours
1-11	12 hours
1-12	12 hours

After the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, compliance with the annual operating hours limitation shall be based upon a rolling, 12-month summation of the operating hours of startup and shutdown events.

d) Monitoring and/or Recordkeeping Requirements

- (1) See 40 CFR Part 60, Subpart Ja, Section 60.106.a, monitoring requirements for sulfur recovery plants.
- (2) See 40 CFR Part 60, Subpart Ja, Section 60.108.a, record keeping requirements for sulfur recovery plants.
- (3) The permittee shall maintain monthly records of the following information:
 - a. the operating hours of startup and shutdown events for each month; 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 operating hours.

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 operating hours for each calendar month.

e) Reporting Requirements

- (1) See 40 CFR Part 60, Subpart Ja, Section 60.108.a, reporting requirements for sulfur recovery plants.
- (2) The permittee shall submit quarterly deviation (excursion) reports which identify all exceedances of the rolling, 12-month limitation on the hours of operation; and for the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, all exceedances of the maximum allowable cumulative hours of operation. These reports shall be submitted in accordance with the reporting requirements specified in the Standard Terms and Conditions.
- (3) Pursuant to the NSPS, the source owner/operator is hereby advised of the requirement to report the following at the appropriate times:
 - a. construction date (no later than 30 days after such date);
 - b. actual start-up date (within 15 days after such date); and



- c. date of performance testing (if required, at least 30 days prior to testing).

Reports are to be sent to:

Ohio Environmental Protection Agency
DAPC - Permit Management Unit
50 West Town Street, Suite 700
P. O. Box 1049
Columbus, Ohio 43216-1049

and

Northeast District Office of the Ohio EPA
Division of Air Pollution Control
2110 E. Aurora Road
Twinsburg, Ohio 44087.

f) Testing Requirements

- (1) See 40 CFR Part 60, Subpart Ja, Section 60.104.a, performance testing requirements for sulfur recovery plants.

- (2) Emission Limitations (from the TTO burner's natural gas combustion:):

PE/PM10 emissions: 0.2 lb/hour and 0.85 ton per rolling 12-month period.

Nitrogen oxide emissions: 1.27 lbs/hour and 5.55 tons per rolling 12-month period.

Carbon monoxide emissions: 2.13 lbs/hour and 9.32 tons per rolling 12-month period.

VOC emissions: 0.2 lbs/hour and 0.85 ton per rolling 12-month period.

Sulfur dioxide emissions: 0.015 lb/hour and 0.07 tons pr year.

Applicable Compliance Method:

Compliance with the above emission limits for the products of combustion of natural gas shall be determined by multiplying the TTO's burner heat input rating of 24.0 mmBtu/hr by the emission factors in AP-42 Fifth Edition, Compilation of Air Pollution Emission Factors, Section 1.4, Tables 1.4-1 and 1.4-2 (7/98), and appropriate conversion factors.

Compliance with the annual emission limits shall be assumed if compliance with the hourly emission limits is demonstrated.

- (3) Emission Limitations (from the incineration of the Sulfur Pit Sweep Air and the Spent Degassing Air by the TTO):

SO₂: 25.9 lbs per hr (as a 3-hr average) and 113.45 tons per rolling 12-month period.

Applicable Compliance Method:

Compliance with the above emission limits shall be determined in accordance with the testing requirements in f)(6).



CO Methods 1 through 4 and 10 of 40 CFR Part 60, Appendix A

Sulfuric Acid Mist Method 8 of 40 CFR Part 60, Appendix A

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

- d. The test(s) shall be conducted while the emissions unit is operating at greater than 90% of the boiler heat input rating, unless otherwise specified or approved by the Ohio EPA Northeast District Office.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Northeast District Office. 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 Ohio EPA, Northeast District Office's refusal to accept the results of the emission test(s).
- f. Personnel from the Ohio EPA, Northeast District Office 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 emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the Ohio EPA, Northeast District Office 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 Ohio EPA, Northeast District Office.

g) Miscellaneous Requirements

- (1) None.



59. Emissions Unit Group - Transfer Towers: F004, F005, F006, F007, F008

EU ID	Operations, Property and/or Equipment Description
F004	Coal and Biomass Parallel Conveyors to transfer tower #1.
F005	Coal and Biomass Parallel Conveyors to transfer tower #2.
F006	Coal and Biomass Parallel Conveyors to transfer tower #3.
F007	Coal and Biomass Parallel Conveyors to transfer tower #4.
F008	Coal and Biomass Parallel Conveyors to transfer tower #5.

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) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operations(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. 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.	OAC rules 3745-31-10 through 3745-31-20	PE/PM10 emissions shall not exceed 0.9 lb per hour and 3.9 tons per rolling 12-month period from the baghouse exhaust stack. (It is assumed that the PE is 100% PM10.) See b)(2)b. below.
b.	OAC rule 3745-31-05(A)(3)(a)(ii)	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the particulate emissions (PE) from this air contaminant source since the calculated annual emission rate for PE is less than ten tons per year taking into account the federally enforceable BACT emission limit of 0.9 lbs PE per hour.
c.	OAC rule 3745-17-07(A)	Visible PE from the baghouse exhaust stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule. The visible particulate emissions limitations established pursuant to OAC



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		rule 3745-17-07(A) are equivalent to the requirements of these rules.
d.	OAC rule 3745-17-08(B)	See b)(2)b.i.,
e.	40 CFR Part 63 subpart Y	See b)(2)b.iii. below.

(2) Additional Terms and Conditions

- a. The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-10 through 3745-31-20.
- b. The BACT determination for this emissions unit includes:
 - i. a totally enclosed coal transfer tower, including all coal transfer points;
 - ii. equipping the transfer tower with a baghouse dust collector that limits stack outlet PE loading to 0.005 gr/dscf of exhaust gases; and
 - iii. In accordance with Section 60.252(c) of 40 CFR Part 60, the permittee shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.

c) Operational Restrictions

- (1) None. A bag leak detector shall be properly installed, calibrated, operated and maintained on the control equipment serving this emissions unit. An audible alarm shall be installed to sound, should emissions above the percent saturation during the calibration testing, be exceeded.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain records of the details of each event where an audible alarm sounds on the bag leak detector. These records shall include the date, time, duration, cause, and the action taken in response to the alarm.

e) Reporting Requirements

- (1) The permittee shall submit on a semi annual basis a report that identifies each event where an audible alarm sounds on the bag leak detector. These reports shall include a summary of the date, time, duration, cause, and the action taken in response to the alarm. These reports shall be submitted by January 31 and July 31 of each year to the Ohio EPA Northeast District Office.



f) Testing Requirements

(1) The permittee shall conduct, or have conducted, emission testing for this or a representative emissions unit from the group of emissions units, F004-F008, in accordance with the following requirements:

- a. The emission testing shall be conducted within 3 months after start-up.
- b. The emission testing shall be conducted to demonstrate compliance with the allowable mass emission rate for PE of 0.9 lb/hour.
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emission rate(s):

for particulates, Method 5 of 40 CFR Part 60, Appendix A.

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, unless otherwise specified or approved by the appropriate Ohio EPA Northeast District Office.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA Northeast District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the specific emissions unit to be tested and the emissions unit or units that the testing will be representative of, 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 Ohio EPA Northeast District Office's refusal to accept the results of the emission test(s).
- f. Personnel from the appropriate Ohio EPA Northeast District Office 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 emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA Northeast District Office 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 appropriate Ohio EPA Northeast District Office.

(2) Emission Limitations:

Particulate emissions shall not exceed 3.9 tons per rolling 12-month period.



Applicable Compliance Method:

Compliance with the annual emission limit shall be assumed if compliance with the hourly emission limit is demonstrated.

(3) Emission Limitations:

Visible PE from the baghouse exhaust stack shall not exceed 20% opacity as a 6-minute average, except as provided by the rule.

Applicable Compliance Method:

If required, compliance with these emission limitations shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9.

(4) Emission Limitations:

In accordance with Section 60.252(c) of 40 CFR Part 60, the permittee shall not cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage system, or coal transfer and loading system processing coal, gases which exhibit 20 percent opacity or greater.

Applicable Compliance Method:

If required, compliance with these emission limitations shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9 and the procedures in Section 60.11 of 40 CFR Part 60.

In accordance with Section 60.8, of 40 CFR Part 60, the permittee shall conduct initial performance tests within 60 days of achieving the maximum production rate at which the affected facility will be operated, but no longer than 180 days after initial startup.

The permittee shall comply with the requirements in f)(1)e. through f)(1)g., in regard to testing notice, Ohio EPA witness of testing and submitting written reports on results.

g) Miscellaneous Requirements

- (1) None.