



09/09/2026

Michael Bathe
Cleveland-Cliffs Steel Corporation
1801 Crawford Street
Middletown, OH 45044

RE: FINAL AIR POLLUTION PERMIT-TO-INSTALL

Facility ID: 1409010006
Permit Number: P0139876
Permit Type: Initial Installation
County: Butler

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

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) 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 may contain several conditions and restrictions, we urge you to read it carefully. In this letter, you will find the information on the following topics:

- **Pay any applicable permit fee**
- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**
- **What should you do if you notice a spill or environmental emergency?**

Pay any applicable permit fee

If there is an enclosed invoice that is associated with this permit action, you must pay the invoice in 30 days. This permit fee supports Ohio EPA's activities to review and issue the necessary approvals for construction or modification of the affected sources. Failure to provide the applicable permit fee within 30 days may result in the accrual of substantial interest penalties. This permit is also conditioned on the payment of any applicable permit fee.

How to appeal this permit

The issuance of this PTI is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Robert Sprague," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
30 East Broad Street, 4th Floor
Columbus, OH 43215

How to save money, reduce pollution and reduce energy consumption

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 the Small Business Environmental Assistance Program in our Compliance Assistance & Special Projects unit - [Contacts / Ohio Environmental Protection Agency](#). Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and state tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: [Ohio Air Quality Development Authority / Ohio.gov](#)

How to give us feedback on your permitting experience

Please complete a survey at [DAPC - Customer Satisfaction Survey](#) and give us feedback on your permitting experience. We value your opinion.

How to get an electronic copy of your permit

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Ohio EPA document search webpage: [eDocument Search](#).

What should you do if you notice a spill or environmental emergency?

Any spill or environmental emergency which may endanger human health or the environment should be reported to the Emergency Response 24-HOUR EMERGENCY SPILL HOTLINE toll-free at (800) 282-9378. Report non-emergency complaints to the appropriate district office or local air agency.

If you have any questions regarding your permit, please contact at Southwest Ohio Air Quality Agency at (513)946-7777.

Sincerely,



Robert Hodanbosi
Chief, Division of Air Pollution Control

cc: U.S. EPA
SWOAQA; Indiana; Kentucky

Response to Comments

Facility ID:	1409010006
Facility Name:	Cleveland-Cliffs Steel Corporation
Facility Description:	Steel Plant
Facility Address:	1801 Crawford Street Middletown, OH 45043-0001 Butler County
Permit:	P0139876, Permit-To-Install - Initial Installation
A public notice for the draft permit issuance was published in the Ohio EPA Weekly Review on 06/11/2026. The comment period ended on 07/18/2026.	
Hearing Date (if held):	07/09/2026
Hearing Public Notice Date (if different from draft public notice):	

The following comments were received during the comment period specified. Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health. Often, public concerns fall outside the scope of that authority. For example, concerns about zoning issues are addressed at the local level. Ohio EPA may respond to those concerns in this document by identifying another government agency with more direct authority over the issue.

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

1. Topic: Prevention of Significant Deterioration (PSD) Analysis

Comment 1: Commenter states that the plant's application asserts that historical "peak quarter annualized production rate" for the No. 3 BF and Nos. 15 & 16 BOFs "during the July-August 2014 period" meets the rule criteria and the resulting emissions can be excluded, including more than 2000 tons per year (TPY) of carbon monoxide (CO) emissions. However, these reductions do not comply with the requirements of OAC 3745-31-01(P)(28)(c). ... Under OAC 3745-31-01(B)(1)(b), and consistent with the baseline actual emissions (BAE) figure used in the remainder of the application, the BAE is determined using "any consecutive twenty-four-month period selected by the owner or operator within the ten-year period immediately preceding either the date the owner or operator begins actual construction of the NSR project, or the date a complete permit application is received...whichever is earlier." ... the BAE period can only extend back to Feb. 20, 2016. This is consistent with Cleveland-Cliffs' selection of "January 2018 to December 2019 as the baseline period" used in its Step 1 analysis. Accordingly, neither the Application nor the draft permit-to-install (PTI) can exclude the emissions calculated from the July-August 2014 period.

Response 1: While it is correct that the BAE period may only extend back to Feb. 20, 2016 (Cleveland-Cliffs' selection of January 2018 to December 2019 as the baseline period), under Ohio



Administrative Code (OAC) Rule **3745-31-01**(P)(28)(c), there is no specific timeframe limitation in the definition of projected actual emissions (PAE) which would limit Cleveland-Cliffs from demonstrating what the unit “could have accommodated”. The definition of PAE does not explicitly state that the annualized production rate used to calculate PAE must come from the same 24-month period used to calculate the baseline actual emissions. Cleveland-Cliffs must prove that the unit was capable of meeting that production rate **during** that time period.

In a **March 25, 2013, letter from U.S. EPA to Columbian Chemical**, U.S. EPA specifies that the facility “could identify actual production rates over some period of time that the unit could consistently achieve and then annualize those rates”. U.S. EPA does not specify that the company must utilize a production rate during the same 24-month period used to calculate baseline actual emissions.

A Dec. 7, 2017, memorandum from U.S. EPA Administrator (reaffirmed by the current EPA Administrator), EPA notes that “(t)he rules instruct the source to exclude from projection those emissions that both could have been accommodated during the baseline period and that are unrelated to the project. Because increased emissions may be caused by multiple factors, the EPA has recognized that the source must exercise judgment to exclude increases for which the project is not the ‘predominant cause.’ 45 Fed. Reg. 32,327 (1992).” Therefore, the owner or operator has the onus to develop excludable emissions from the projected actual emissions increase to isolate an emissions increase caused by the project versus an emissions increase that would have occurred regardless of the Project.

Therefore, Cleveland-Cliffs’ analysis based the excludable emissions on the peak quarter for blast furnace productivity in the recent history and the selected June-August 2014 period annualized as representative, reflected that there were no operational changes within the 2014 period or 2018 to 2019. Selected as baseline, therefore, Cleveland-Cliffs properly relied on the operating history of the emission unit as prescribed in **OAC 3745-31-01** (P)(28) to develop what portion of emissions could be excluded.

Additionally, Cleveland-Cliffs developed and submitted an alternative basis for excludable emissions from PAE for the blast furnace and other rate-affecting emission units. Cleveland-Cliffs followed the U.S. EPA guidance for Georgia Pacific and selected a high monthly production rate for the blast furnace in the last 10 years, annualized it as the level that the unit could have accommodated and is also unrelated to the project. The selected month was June 2019 (within the 24-month baseline period). With an annualized hot metal production rate for the blast furnace of 2.32 million TPY, this rate is larger than the rate Cleveland-Cliffs had used in its analysis for calculating PAE and demonstrates that the 2.3 million TPY was a reasonable basis for determining excludable emissions (summary of information is presented in Table 1 below).



Table 1

Emissions Unit/Group	Rates Used in PTI Application			Additional Information	
	BAE 24-month Annual Average TPY	Projection TPY	Annualized Quarter (Jun-Aug 2014) TPY	Annualize d Month (Jun-2019) TPY	Rate Used TPY
No. 3 BF (P925)	2,146,332	2,300,000	2,295,164	2,327,739	2,300,000

Comment 2: Commenters state that OAC 3745-31-01(P)(28)(c) requires that any excluded emission increases in the Step 1 analysis are “unrelated” to the proposed project. The application explains that several changes will be made to the blast furnace, including the restoration of hearth volume. The reduction in hearth volume over time can reduce capacity, which the proposed project will remedy. It seems very plausible given the information in the application that the projected increase in blast furnace production following the project is directly related to the changes from the No. 3 BF refurbishment project, including the plan to “restore” hearth volume by replacing refractory bricks (which would result in an *increase* of current volume), reline the furnace (which *could* result in an increase of current volume), and potentially change the furnace top and hearth cooling. Cleveland-Cliffs must show why the proposed changes to the project are unrelated to the increases proposed for exclusion. This type of information is not included in the application, and thus, the exclusion of these emissions is not supported by the record.

Response 2: The proposed changes to the blast furnace are intended to provide a longer life for the refractory and improve cooling methods, which will use less energy. The replacement of the refractory, the change to a bell-less top, and the change in hearth cooling do not make the blast furnace capable of producing more hot metal. During the selected BAE period, the blast furnace operation demonstrated the ability to achieve a hot metal production rate of more than 2,300,000 TPY. In addition, 2,300,000 TPY of hot metal is the same as the post-change operational rate. The repair, maintenance, and replacement activities for the blast furnace are not the “primary cause” of forecasted higher production.

Comment 3: Commenters stated that the application asserts that various existing units at the hot strip mill (HSM) and downstream finishing operations are not impacted by the proposed project to improve overall energy consumption at Middletown Works and will not experience any increase in utilization as a result of the project. Thus, these units are not included in the emission change projections in Cleveland-Cliffs’ Step 1 analysis. However, the application fails to provide sufficient information to support these claims. For example, Cleveland-Cliffs states that the “[h]ot metal/steel slab production from the existing Blast Furnace, BOF Shops, and Continuous Casters do not constrain utilization for the downstream existing Hot Strip Mill...due to the fact that Middletown Works currently and historically has imported slabs from domestic and international steel mills for processing in the Hot Strip Mill and downstream finishing operations.” However, the application contains no documentation of this existing practice nor other information to prove that there is currently no unused capacity at the Hot Strip Mill and downstream finishing that could be utilized following the proposed project.



Response 3: Integrated iron and steel manufacturing facilities typically consist of two types of operations: primary and finishing. Primary operations take raw materials and produce steel slabs. Finishing operations take those steel slabs and produce steel coils at the HSM for use in downstream operations, or they are sold to the market.

Steel slabs are an intermediate product. The slabs may be sold or purchased (imported) from the market and brought on site for further processing to meet customer demand.

Cleveland-Cliffs utilizes steel slabs from the on-site steel shop as well as slabs from off-site producers (imported slabs). Cleveland-Cliffs has been a net importer of steel slabs from off-site producers over the 10-year period included in the application. A summary of steel slabs produced on site (Column B) and imported slabs (Column C) is shown below:

Calendar Year	Steel Slabs from BOF (P926/P927)	Imported Slabs	HSM Production (P094)
2015	2,662,459	2,209,055	4,871,514
2016	2,770,977	1,324,665	4,095,642
2017	2,622,250	1,451,599	4,073,849
2018	2,661,467	1,424,258	4,085,725
2019	2,751,705	974,855	3,726,590
2020	2,941,076	1,241,867	3,732,943
2021	2,484,523	2,501,070	4,985,593
2022	2,502,170	1,801,039	4,303,209
2023	2,561,100	1,852,424	4,413,524
2024	2,663,947	1,349,202	4,013,149

Comment 4: Commenter suggests that the facility utilized an incorrect time period in calculating emission reductions from the Wilputte Shutdown, noting that Cleveland-Cliffs is basing the reductions on the BAE from November 2013 to October 2015 period. Commenter suggests that the plant cannot use a different BAE period to calculate the Wilputte emissions reductions, stating that Cleveland-Cliffs must use the time frame relevant to the overall emissions calculations – Feb. 20, 2016 – Feb. 20, 2026.

Response 4: U.S. EPA's Dec. 31, 2002, New Source Review (NSR) Reform rule (67 FR 80186, page 80197) outlines key provisions for major stationary sources, specifically detailing the calculation requirements for baseline actual emissions and projected actual emissions. This action allows existing emissions units to calculate the baseline actual emissions for *each contemporaneous event* using the 10-year look-back period. The facility can select any consecutive 24-month period during the 10-year period immediately preceding the change occurring to determine the baseline actual emissions for each creditable emissions change. Each emission unit at which a contemporaneous emissions change has occurred should use the 10-year look-back period *relevant to that change*.

Cleveland-Cliffs idled the Wilputte Coke Battery on Sept. 30, 2021, so the 10- yearlook- backperiod is based on that date. The company used emissions data from November 2013 to October 2015, which is a valid 24- monthperiod within the required 10- yearwindow of September 2011 to September 2021.



Comment 5: Commenter suggests that an incorrect emission factor was applied to calculations for the emission reductions credited to the Wilputte Coke Battery shutdown, citing National Emission Standards for Hazardous Air Pollutants (NESHAP) contained in the Clean Air Act.

Response 5: 40 CFR Part 63, Subpart CCCCC (National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries) does not establish a general minimum capture efficiency requirement. The NESHAP contains work practice requirements to ensure the proper operation of the capture system. The use of a baseline assumption of 74.1% average capture efficiency for hoods is supported by AP-42 Section 12.2 for coke production.

Comment 6: A commenter remarked that recent permitting history for the Middletown Works facility was not provided to verify that the facility has not relied on any emissions reductions from the Wilputte Coke Battery to address the applicability of any other permitted projects at the facility.

Response 6: Cleveland-Cliffs Middletown Works has not obtained any PSD permits since the shutdown of the Wilputte Coke Battery.

Comment 7: Commenters point out that while the project netting analyses in the application assert that the future actual emissions of these sources will be at or near zero, such as for the #2 Boiler House... and the existing flares, respectively, the draft permit does not actually remove these emission units or set their emission limits to the levels assumed in the netting analysis. In order to confirm that emission changes from the proposed project do not trigger PSD permitting requirements, OAC-3745-31-10(A)(3) requires Cleveland-Cliffs to track emissions from all units with claimed reductions for five years following resumption of regular operations after the changes from the project to ensure that emissions do not increase over PSD significant levels.

Response 7: Ohio EPA agrees. Under **OAC rule 3745-31-01(R)(2)**, *reasonable possibility* refers to any project that has a projected actual emissions increase of at least 50% of the amount that is considered a "significant emissions increase" for the regulated NSR pollutant. In this PTI, CO emissions exceeded 50% of this threshold. This PTI has been updated to include ***reasonable possibility*** language for CO emissions, which adds additional monitoring and record-keeping requirements for these units. These terms can be found under B.6. in the PTI.

Comment 8: Commenters asserted that Ohio EPA failed to address modifications at the blast furnace, including several physical changes that could be considered modifications, such as restoring hearth volume, furnace top changes, and hearth cooling improvements. The draft PTI states that "the changes to [No. 3 BF] P925 do not constitute a 'modification' pursuant to the definition in OAC 3745-31-01 (M)(10)". Cleveland-Cliffs submitted a PTI application for a variety of changes at Middletown Works, all part of a single project that must be addressed in the draft permit.

Response 8: While facility-wide emissions will increase as a result of this project, there is no expected increase in allowable emissions resulting from the maintenance and repair activities being conducted on P925 No. 3 Blast Furnace. Cleveland-Cliffs is not seeking an allowable emissions increase for the blast furnace, therefore, in accordance with the definition of 'modify' or 'modification' in OAC 3745-31-01(M)(10), the application was not processed as a modification.

Comment 9: To ensure that any potential emission increases from the material handling changes authorized by the draft PTI do not trigger PSD permitting requirements, the draft PTI includes a rolling, 12-month limit on emissions from No. 3 BF Material Unloading. Similar provisions are included for the blast furnace material transfers and the automated stockhouse. However, the specific methods for calculating those emissions are not included in the draft permit.



Response 9: Ohio EPA agrees. A reference to the application A0081683 attachment Calculations Package, Table C-4, and has been added under F041 No. 3 BF Material Unloading (Condition 1.d.1.c*) and F042 BF Material Transfers and Automated Stockhouse (Condition 2.d.1.c*) in the permit document.

Comment 10: As acknowledged in the application, the addition of the two boilers and one back-up flare at the new cogeneration plant results in the largest projected emission increase from the proposed project. However, emissions for the rolling 12-month emission limits are calculated based on a condition similar to the material handling conditions, which allow these emissions to be “calculated according to the methods outlined in equations supplied by the permittee in [the April 2026 Application], using actual fuel usage (input) rates in MMscf/month, actual heat input rates in MM Btu/month, actual fuel heating values in Btu/scf, EFs from U.S. EPA’s AP-42 compilation, source emissions test results, and/or any other pertinent information for blast furnace gas (BFG) and natural gas (NG) combustion in the boilers”. Compliance with the rolling 12-month limits is also determined using these calculations. The vagueness and lack of specificity in calculating actual pollution emissions under this condition make the emission limits unenforceable as a practical matter. The conditions governing the calculation of the rolling 12-month emission limits for the cogeneration boilers must be revised to specify how emissions will be calculated.

Response 10: Ohio EPA agrees. A reference to the application A0081683 attachment Calculations Package, Table C-4, and has been added under 4.Emissions Unit Group - Cogeneration Plant Boilers: B011, B012 (Condition 4.d.1.a*) in the permit document.

Comment 11: Condition 4.b.1. includes nitrogen oxides (NO_x) emission limits based on the emission factors used in the application of 0.012 lb NO_x/MMBtu for BFG and 0.08 lb NO_x/MMBtu for NG. Inclusion of these limits is consistent with the emission factors claimed in the application, which is consistent with cited authority in OAC 3745-31-05(D) because it limits these new units to emitting at rates that formed the basis of the determination that these projects did not exceed PSD permitting thresholds. The draft PTI also specifies in Condition 4.h that NO_x emissions cannot exceed 0.08 lb/MMBtu when using either BFG or NG, citing the state reasonably available control technology (RACT) rule in OAC 3745-110-03(D). However, both limits are well below the level of NO_x emissions from the existing boilers, which have emitted over 0.08 lb NO_x/MMBtu of BFG because the baseline period was before the RACT limits applied. NO_x emissions from BFG can be variable, and the record does not show that the rates proposed here can actually be achieved by the new boilers across all operations or that they are similar to those required for other BFG combustion sources.

Response 11: This PTI addresses the need for an initial stack test to demonstrate compliance with the NO_x emission limit. Additional testing would be required by the Title V permit-to-operate once it is issued. Also, by including “if required” in the permit’s testing sections, Ohio EPA keeps the right to require testing if compliance issues are identified.

2. TOPIC: Public Health & Air Emissions

Comment 12: The draft PTI states that the air Pollution Nuisance provision of Standard Term and Condition A.8. “are enforceable under state law only.” This is incorrect. Condition A.8 prohibits “air contaminants emitted by the emissions units covered” in the PTI from causing “a public nuisance, in violation of OAC 3745-15-07.” While U.S. EPA has *proposed* to remove OAC 3745-15-07 from Ohio’s State Implementation Plan (SIP), that action is not final. Thus, the state nuisance law remains part of the federally enforceable SIP. Accordingly, unless EPA finalizes its proposed action with an effective date that is before Ohio EPA issues a final PTI for the proposed project, the nuisance restriction in Condition A.8 remains federally enforceable, and Condition 1.a.4 must be removed.



Response 12: Ohio EPA agrees with this comment and has removed 1.a.4 from the standard terms and conditions.

Comment 13: Multiple commenters expressed concerns about the impact of increased emissions from the plant on air pollution, public health, and the community's quality of life. The comments consistently referenced:

- Elevated rates of asthma, lung, and cardiovascular disease.
- Special considerations taken for the vulnerable populations, including children and the elderly.
- Cumulative health risks associated with the project to the existing air pollution levels in Butler County.

Response 13: Ohio EPA issues and enforces permits for installing and operating air pollution sources to ensure compliance with air quality standards that protect public health and the environment. Permits are based on technical review and the best available science and are not issued if health-based standards are exceeded.

Ohio EPA's air permitting process ensures that facility emissions do not exceed the National Ambient Air Quality Standards (NAAQS), which protect public health, especially for sensitive groups like children and the elderly. All permit applications undergo a thorough technical review, including air dispersion modeling when needed, to evaluate potential impacts on surrounding areas. Compliance with this permit is expected to protect public health and welfare now and in the future.

Facilities receiving permits for installation and operation are required to meet the primary and secondary NAAQS for carbon monoxide (CO), nitrogen oxides (NO_x), lead (Pb), ozone (O₃), sulfur dioxide (SO₂), particulate matter (PM_{2.5}), and PM₁₀.

Air permitting standards, such as NAAQS, are developed by U.S. EPA through a separate science-based process that involves extensive health risk assessments, peer-reviewed research, and public input. PTIs ensure that facilities are built to comply with these established standards, and the requirements established in the PTI are based on the best available science and regulatory framework.

Some comments raised broader concerns about community health outcomes, including elevated rates of *asthma* and *cancer*. These are important community concerns, and Ohio EPA's sister agency, the Ohio Department of Health (ODH), and *local health departments* have the authority to conduct health assessments or investigate disease patterns. In 2020, U.S. EPA conducted a *cumulative risk assessment of the integrated iron and steel industry* and concluded that air toxics from that industry pose acceptable (low) risks to public health and provide an ample margin of safety for surrounding communities. Additionally, U.S. EPA offers programs that support *community-based air monitoring* and participatory science initiatives.

Comment 14: One commenter, citing concerns about increased emissions, mentioned that Ohio should require Cleveland-Cliffs to conduct dispersion modeling and a cumulative impact assessment.

Response 14: The emissions from this project are below the regulatory limits that trigger PSD/NSR or state modeling. Since the project stays under these thresholds, the broader modeling analyses suggested by commenters are not required under Ohio's permitting rules. PSD-specific dispersion



modeling is only needed if emissions of criteria pollutants go over the significant emission rate thresholds in **40 CFR 52.21**(k)–(m).

3. TOPIC: Consideration of Direct Reduced Iron (DRI)

Comment 15: Many commenters urged Cleveland-Cliffs to reconsider the decision to move away from the hydrogen-power/DRI technology.

Response 15: Ohio EPA does not advise or direct facilities on which projects to undertake. Decisions regarding capital improvements, equipment purchases, operational changes, or other projects are business decisions made independently by each facility based on its own operational needs, priorities, and resources. The agency's role is to enforce applicable laws and regulations, not to determine or recommend business investments or project selection.

4. TOPIC: Extension of Public Comment Period

Comment 16: A request was received to extend the public comment period of this draft PTI by 30 days.

Response 16: The comment period was extended from July 11 to July 18. The draft permit can be found in *Ohio EPA's eDocument Search*.



**Environmental
Protection
Agency**

FINAL
Division of Air Pollution Control
Permit-to-Install
for
Cleveland-Cliffs Steel Corporation

Facility ID: 1409010006
Permit Number: P0139876
Permit Type: Initial Installation
Issued: 09/09/2026
Effective: 09/09/2026

Division of Air Pollution Control

Permit-to-Install

for

Cleveland-Cliffs Steel Corporation

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Authorization

Facility ID:	1409010006
Facility Description:	Steel Plant
Application Number(s):	A0082150, A0081683, A0081168
Permit Number:	P0139876
Permit Description:	Initial Installation PTI for a Cogeneration Plant to generate steam and electricity at the facility, as well as various changes to the No. 3 Blast Furnace and associated material handling operations.
Permit Type:	Initial Installation
Permit Fee	\$22,050.00
Issue Date:	09/09/2026
Effective Date:	09/09/2026

This document constitutes issuance of a Permit-to-Install for the emissions unit(s) identified on the following page to:

Cleveland-Cliffs Steel Corporation
1801 Crawford Street
Middletown, OH 45043-0001

Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

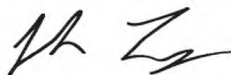
Southwest Ohio Air Quality Agency
1701 Patricia McCollum Way
DEPT 56
Cincinnati, OH 45237
(513)946-7777

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

Entered into the Journal of the Director on:



John Logue
Director

Date: 09/09/2026

Authorization (continued)

Permit Number: P0139876

Permit Description: Initial Installation PTI for a Cogeneration Plant to generate steam and electricity at the facility, as well as various changes to the No. 3 Blast Furnace and associated material handling operations.

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

Emissions Unit ID: **F041**

Company Equipment ID: No. 3 BF Material Unloading

Superseded Permit Number:

General Permit Category and Type: Not Applicable

Emissions Unit ID: **F042**

Company Equipment ID: BF Material Transfers and Automated Stockhouse

Superseded Permit Number:

General Permit Category and Type: Not Applicable

Emissions Unit ID: **P002**

Company Equipment ID: Cogen Plant Cooling Tower

Superseded Permit Number:

General Permit Category and Type: Not Applicable

Group Name: Cogeneration Plant Boilers

Emissions Unit ID: **B011**

Company Equipment ID: B011

Superseded Permit Number:

General Permit Category and Type: Not Applicable

Emissions Unit ID: **B012**

Company Equipment ID: B012

Superseded Permit Number:

General Permit Category and Type: Not Applicable

List of Commonly Used Abbreviations

AP-42 = U.S. EPA's Compilation of Air Pollution Emissions Factors	HVLP = high volume, low pressure	PER = Permit Evaluation Report
ASTM = American Society for Testing and Materials	LAER = lowest achievable emission rate	PM = particulate matter
BACT = Best Available Control Technology	lb(s)/hr = pound(s) per hour	PM ₁₀ = particulate matter with an aerodynamic diameter less than or equal to 10 microns
BAT = Best Available Technology	LDAR = leak detection and repair	PM _{2.5} = particulate matter with an aerodynamic diameter less than or equal to 2.5 microns
CAA = Clean Air Act	LPG = liquefied petroleum gas/propane	ppb = parts per billion
CAM = compliance assurance monitoring	MACT = maximum achievable control technology	ppm = parts per million
CEMS = continuous emissions monitoring system	MAGLC = maximum acceptable ground level concentration	PSD = Prevention of Significant Deterioration
CFC = chlorofluorocarbon	mg/m ³ = milligrams per cubic meter	psi = pounds per square inch
CFR = Code of Federal Regulations	MM = million	psia = pounds per square inch absolute
CH ₄ = methane	MMBtu = million British Thermal Units	PTE = potential-to-emit
CI = compression ignition	MSDS = material safety data sheet	PTI = Permit-to-Install
CO = carbon monoxide	MSW = municipal solid waste	PTIO = Permit-to-Install and Operate
CO ₂ = carbon dioxide	NAAQS = National Ambient Air Quality Standard	PTO = Permit-to-Operate
COM = continuous opacity monitor	NESHAP = National Emission Standard for Hazardous Air Pollutants	PWR = process weight rate
DAPC = Division of Air Pollution Control	NG = natural gas	RACM = reasonably available control measures
DO/LAA = District Office/Local Air Agency	ng/m ³ = nanograms per cubic meter	RACT = reasonably available control technology
dscf = dry standard cubic foot	NH ₃ = ammonia	RATA = relative accuracy test audit
EAC = emissions activity category	NMHC = non-methane hydrocarbons	RTO = regenerative thermal oxidizer
eDocs = electronic documents database	NMOC = non-methane organic compound	SB265 = Senate Bill 265
ERAC = Environmental Review Appeals Commission	NO = nitrogen oxide	scfm = standard cubic feet per minute
ESP = electrostatic precipitator	NO ₂ = nitrogen dioxide	SI = spark ignition
EU = emissions unit	NO _x = nitrogen oxides	SIP = State Implementation Plan
FEPTIO = Federally Enforceable Permit-to-Install and Operate	NSPS = New Source Performance Standard	SO ₂ = sulfur dioxide
FER = Fee Emissions Report	NSR = New Source Review	SSMP = startup, shutdown, and malfunction plan
FR = Federal Register	NTV = Non-Title V	TDS = total dissolved solids
GACT = generally achievable control technology	O&M = operation and maintenance	TLV = threshold limit value
GHG = greenhouse gases	OAC = Ohio Administrative Code	TO = thermal oxidizer
gr/dscf = grains per dry standard cubic foot	OC = organic compound	TPH = ton(s) per hour
H ₂ S = hydrogen sulfide	Ohio EPA = Ohio Environmental Protection Agency	TPY = ton(s) per year
H ₂ SO ₄ = sulfuric acid	ORC = Ohio Revised Code	TSP = total suspended particulates
HAP = hazardous air pollutant	Pb = lead	VE = visible particulate emissions
HCl = hydrogen chloride	PBR = Permit-By-Rule	VMT = vehicle miles traveled
HF = hydrogen fluoride	PCB = polychlorinated biphenyl	VOC = volatile organic compound
Hg = mercury	PE = particulate emissions	WPP = work practice plan
hp = horsepower	PEMS = predictive emissions monitoring system	µg/m ³ = micrograms per cubic meter

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), Compliance Requirements
 - (4) Standard Term and Condition A.9., Reporting Requirements
 - (5) Standard Term and Condition A.10., Applicability
 - (6) Standard Term and Condition A.11.b) through A.11.e), Construction of New Source(s) and Authorization to Install
 - (7) Standard Term and Condition A.14., Public Disclosure
 - (8) Standard Term and Condition A.15., Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations
 - (9) Standard Term and Condition A.16., Fees
 - (10) Standard Term and Condition A.17., Permit Transfers

2. Severability Clause

- a) A determination that any term or condition of this permit is invalid shall not invalidate the force or effect of any other term or condition thereof, except to the extent that any other term or condition depends in whole or in part for its operation or implementation upon the term or condition declared invalid.
- b) All terms and conditions designated in parts B. and C. of this permit are federally enforceable as a practical matter, if they are required under the Act, or any of its applicable requirements, including relevant provisions designed to limit the potential to emit of a source, are enforceable by the Administrator of the U.S. EPA and the state and by citizens (to the extent allowed by section 304 of the Act) under the Act. Terms and conditions in parts B and C of this permit shall not be federally enforceable and shall be enforceable under state law only, only if specifically identified in this permit as such.

3. General Requirements

- a) 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 Southwest Ohio Air Quality Agency.
 - (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 Southwest Ohio Air Quality Agency. 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 to the DO/LAA 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 semiannual 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 Southwest Ohio Air Quality Agency in accordance with paragraph (B) of OAC rule 3745-15-06. (The definition of an upset condition shall be the same as that used in OAC rule 3745-15-06(B)(1) for a malfunction). The verbal and written reports shall be submitted pursuant to OAC rule 3745-15-06.

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

6. Compliance Requirements

- a) All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the appropriate Ohio EPA District Office or contracted local air agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the electronic signature date shall constitute the date that the required application, notification or report is considered to be "submitted". Any document requiring signature may be represented by entry of the personal identification number (PIN) by responsible official as part of the electronic submission process or by the scanned attestation document signed by the Authorized Representative that is attached to the electronically submitted written report.

Any document (including reports) required to be submitted and required by a federally applicable requirement in this permit shall include a certification by a Responsible Official that, based on information and belief formed after reasonable inquiry, the statements in the document are true, accurate, and complete.

- b) Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Director of the Ohio EPA or an authorized representative of the Director to:
 - (1) At reasonable times, enter upon the permittee's premises where a source is located, or the emissions-related activity is conducted, or where records must be kept under the conditions of this permit.
 - (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit, subject to the protection from disclosure to the public of confidential information consistent with ORC section 3704.08.
 - (3) Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit.
 - (4) As authorized by the Act, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit and applicable requirements.

- c) The permittee shall submit progress reports to the Southwest Ohio Air Quality Agency concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:
 - (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 Southwest Ohio Air Quality Agency.
- b) Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the Southwest Ohio Air Quality Agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, 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) not exempt from the requirement to obtain a permit-to-install.

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 once by twelve months if application is made to the Director within a reasonable time before the termination date and the permittee shows good cause for any such extension.
- c) The permittee may notify Ohio EPA of any emissions unit that is permanently shut down (i.e., the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31) by submitting a certification from the authorized official that identifies the date on which the emissions unit was permanently shut down. Authorization to operate the affected emissions unit shall cease upon the date certified by the authorized official that the emissions unit was permanently shut down. At a minimum, notification of permanent shut down shall be made or confirmed by marking the affected emissions unit(s) as "permanently shut down" in "Air Services" along with the date the emissions unit(s) was permanently removed and/or disabled. Submitting the facility profile update electronically will constitute notifying the Director of the permanent shut down of the affected emissions unit(s).
- d) The provisions of this permit shall cease to be enforceable for each affected emissions unit after the date on which an emissions unit is permanently shut down (i.e., emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31). All records relating to any permanently shut down emissions unit, generated while the emissions unit was in operation, must be maintained in accordance with law. All reports required by this permit must be submitted for any period an affected emissions unit operated prior to permanent shut down. At a minimum, the permit requirements must be evaluated as part of the reporting requirements identified in this permit covering the last period the emissions unit operated.

Unless otherwise exempted, no emissions unit certified by the responsible official as being permanently shut down may resume operation without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31 and OAC Chapter 3745-77 if the restarted operation is subject to one or more applicable requirements.

- e) The permittee shall comply with any residual requirements related to this permit, such as the requirement to submit a deviation report, air fee emission report, or any other 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 months after commencing operation of the emissions units covered by this permit. However, if operation of the proposed new or modified source(s) as authorized by this permit would be prohibited by the terms and conditions of an existing Title V permit, a Title V permit modification of such new or modified source(s) pursuant to OAC rule 3745-77-04(D) and OAC rule 3745-77-08(C)(3)(d) must be obtained before operating the source in a manner that would violate the existing Title V permit requirements.

13. Construction Compliance Certification

The applicant shall identify the following dates in the "Air Services" 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 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 any fees to 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. Failure to provide the applicable permit fee within 30 days may result in the accrual of substantial interest penalties. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

17. Permit Transfers

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

18. Risk Management Plans

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

19. Title IV Provisions

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

B. Facility Wide Terms and Conditions

1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - a) None.
2. The following emissions units contained in this permit are subject to 40 CFR Part 60, Subparts A and Db, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units: B011 and B012. The complete NSPS requirements, including the NSPS General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gov> or by contacting the appropriate Ohio EPA District office or local air agency.
3. The following emissions units contained in this permit are subject to 40 CFR Part 63, Subparts A and DDDDD, NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters: B011 and B012. The complete NESHAP requirements, including the NESHAP General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gov> or by contacting the appropriate Ohio EPA District office or local air agency.
4. The following emissions units contained in this permit are subject to 40 CFR Part 63, Subparts A and FFFFF, National Emission Standards for Hazardous Air Pollutants for Integrated Iron and Steel Manufacturing Facilities: P925. The complete NESHAP requirements, including the NESHAP General Provisions may be accessed via the internet from the Electronic Code of Federal Regulations (e-CFR) website <http://ecfr.gov> or by contacting the appropriate Ohio EPA District office or local air agency.
5. Net Emissions Increases, Excludable Emissions, Emissions Decreases, & Netting Determination
 - a) As part of application #A0081683 for this Permit to Install, the permittee is using emissions credits from the shutdown of the following sources in a Netting strategy to avoid PSD: Willputte by-products coke oven battery (B918), Wilputte battery coal handling (F003), Wilputte battery backup quench (F021), Wilputte battery quench tower (P043), and COG excess flare (P067).

The COGEN plant installation will consist of two (2) nominal 1,200 MMBtu/hr BFG/NG co-fired boilers and one (1) 2,400 backup BFG flare (B011, B012), one (1) non-contact cooling tower (P002), and miscellaneous NG fired space heaters.

The project also includes installation of one (1) BF materials unloading of coke, pellets, flux, etc. (F041), and one (1) BF material transfers and automated stockhouse (F042). The units will include insignificant NG fired space heaters.

In addition, the project includes refurbishment of the McKee No. 3 BF (P925) which will include comprehensive changes to allow for continued production of molten iron and anticipated modernization for processing with reduced energy consumption. The No. 3 BF is among the existing emissions units included in the applicability determination for Major Modification per OAC 3745-31-01(M)(3)(a) under PSD. It was determined the changes to P925 do not constitute a "modification" pursuant to the definition in OAC rule 3745-31-01 (M)(10).

- b) The net change in emissions, in tons per year, as a result of equipment installation, existing operations affected by the project, & equipment shutdown is as follows:

Action	EU(s)	CO	NO _x	VOC	PM	PM ₁₀ *	PM _{2.5} *	SO ₂
Installation of two (2) new BF/NG fired boilers and backup BFG flare (combined)	B011, B012	864	213	15	27	128	128	1,981
Installation of one (1) non-contact cooling tower	P002				7.2	3.3	0.01	



Installation of one (1) BF materials unloading and Installation of one (1) BF material transfers including space heaters (combined)	F041, F042	22	26	1.4	33	29	28	0.2
Installation of NG fired space heaters	vari.	9	11	0.59	0.2	0.82	0.82	0.06
Installations, Total New Unit PTE** under Project		895	249	17	67	161	157	1,981
Existing Operations Affected by the Project	P925, B007, B008, B009, B010, F002, F010, F008, F005, F012	-561	-70	-5.2	-6	-73	-78	-1,447
McKee No. 3 Blast Furnace No. 2 Boiler House Raw Material Storage Iron Ore Unloading Ore-screening & Handling Coke screening BF stockhouse								
Installations, Total Project Emissions Increase, after ATPA, Existing Operations**		334	179	12	61	88	79	534
PSD Thresholds (TPY)		100	40	40	25	15	10	40
Significant Emissions Increase?		Yes	Yes	No	Yes	Yes	Yes	Yes
Net Reductions, Contemporaneous Emissions Decreases								
Wilputte Coke Battery Shutdown (BAE*** from 11/2013 to 10/2015 period)****	B918, F003, F021, P043, P067	-247	-570		-275	-206	-170	-1,286
Contemporaneous Emissions Increases								
Emergency Fire Pump (PBR22104), February 2025		0.9	1.0		0.05	0.06	0.06	0.002
Waste Heat Boiler Change, Future****					2.91	2.91	2.91	
Net Emissions Increase, after Contemporaneous Emissions Decreases & Increases		88	-390		-211	-115	-88	-752
PSD Thresholds (TPY)		100	40		25	15	10	40
Significant Net Emissions Increase?		No	No		No	No	No	No

*Includes condensable emissions

** PTE – Potential to Emit and Actual to Projected Actual (ATPA) for Emissions Increase (EI): PAE - EE - BAE

***Emission decreases represent the actual emissions (average of two-year period from 2013 to 2015) from the shutdown emissions units.

****Contemporaneous period decreases and increases from September 2021 through September 2026.

The projected end of the contemporaneous period (the date when the last of the changes under the Project commences operation) is December 31, 2029

- c) Emissions of VOC are below the PSD significance threshold for the proposed installation of two (2) new boilers, one (1) new cooling tower, one (1) new materials unloading operation, one (1) new materials transfer operation, and miscellaneous new space heaters. Therefore no netting is necessary for this pollutant to avoid PSD review. For the CO, NO_x, PM, PM₁₀, PM_{2.5}, and SO₂ emissions, the netting analysis has demonstrated that these pollutants will be below the PSD significant emissions thresholds as a result of this project. Therefore, the proposed new source installation project is not a

Major Modification because the permittee has "netted out" of PSD requirements for CO, NO_x, PM, PM₁₀, PM_{2.5}, and SO₂ emissions.

6. New Source Review (NSR) Recordkeeping Requirements:

The COGEN Project authorized under PTI P0139876 is at a major stationary source, on existing and new emission units, and there is a reasonable possibility that the project may result in a significant emissions increase in CO emissions. The owner or operator has elected to use the method specified in paragraph (P)(28) of rule 3745-31-01 of the Administrative Code for calculating projected actual emissions. Therefore, the following requirements apply:

- a) Pursuant to OAC rule 3745-31-10(A)(1), before beginning actual construction of the NSR project, the permittee shall document and maintain a record of the following information:
 - (1) A description of the NSR project;
 - (2) Identification of the emissions unit(s) whose emissions of a regulated NSR pollutant could be affected by the NSR project; and
 - (3) A description of the applicability test used to determine that the NSR project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions, the projected actual emissions, the amount of "could have accommodated" emissions excluded under paragraph (P)(28)(c) of rule 3745-31-01 of the Administrative Code and an explanation for why such amount was excluded, and any netting calculations, if applicable.
- b) As required by OAC rule 3745-31-10(A)(2)(a) for new or modified emissions units where the sum of federally enforceable potential to emit of the new or modified emissions unit associated with the NSR project, the permittee submitted the information required in OAC rule 3745-31-10(A)(1) for the COGEN Project in application A0081683, submitted 4/10/2026.
- c) As required by OAC rule 3745-31-10(A)(3), the permittee shall calculate the CO emissions from the emissions units affected by the modification project (P925, B007, B008, B009, B010, F002, F010, F008, F005, and F012)*, as identified in the permit to install application and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change.

* Emission units identified in the projected actual emissions summary associated with PTI Application A0081683, submitted 4/10/2026.
- d) The permittee shall submit a report to the director if the annual emissions, in tons per year as calculated pursuant to OAC rule 3745-31-10(A)(3), from the COGEN project:
 - (1) exceed baseline actual emissions [as documented and maintained pursuant to OAC rule 3745-31-10(A)(1)] by the following significant amounts for the identified regulated pollutants;
 - a. 100 tons per year of CO.and/or
 - (2) if such emissions differ from the preconstruction projections as documented and maintained pursuant to OAC rule 3745-31-10(A)(1).

Such reports shall be submitted to the director within 60 days after the end of such year. The report shall contain the following:

- a. The name, address, and telephone number of the major stationary source; and
- b. The annual emissions as calculated pursuant to OAC rule 3745-31-10(A)(3).

7. OAC Rule 3745-21-11 VOC RACT for non-CTG Sources in Ozone Nonattainment and Maintenance Areas

As required by OAC rule 3745-21-11 to assist in the compliance with the 2015 ozone National Ambient Air Quality Standards promulgated by U.S. EPA, and pursuant to OAC rule 3745-21-11(B) and the VOC Reasonable Available Control Technology (RACT) Study submitted by Cleveland-Cliffs Middletown Works LLC on March 24, 2023 (subsequently revised on October 4, 2023, April 19, 2024, and April 16, 2025), "Cleveland-Cliffs Middletown Works" (facility ID 1409010006), or any subsequent owner or operator of the "Cleveland-Cliffs Middletown Works" facility located at 1801 Crawford Street, Middletown, Ohio, shall comply with the following for the emissions units listed:

- a) For emissions units B011 (COGEN Plant Boiler No. 1 & backup flare) and B012 (COGEN Plant Boiler No. 2 & backup flare), comply by maintaining and operating the emissions units in accordance with the manufacturer's specifications and with good operating practices for the control of VOC emissions from the emissions units.

- b) **Monitoring and/or Recordkeeping Requirements**

In order to ensure B011 & B012 and any applicable control equipment continue to operate as designed, the permittee shall operate the emissions units in accordance with the manufacturer's recommendations and shall follow the manufacturer's recommended maintenance at the recommended intervals. The permittee shall keep a record of the maintenance on the emissions units and any applicable control equipment along with the manufacturer's recommendations and shall retain them for a period of five years from the date the record was created.

- c) **Reporting Requirements**

- (1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.
- (2) The permittee shall submit quarterly deviation (excursion) reports that identify each day when B011 and/or B012 are not operated in accordance with the manufacturer's specifications and with good operating practice for the control of VOC emissions.

8. OAC Rule 3745-110-03 NO_x RACT for non-CTG Sources in Ozone Nonattainment and Maintenance Areas

As required by OAC rule 3745-110-03(J) to assist in compliance with the 2015 ozone National Ambient Air Quality Standards promulgated by U.S. EPA, and pursuant to the NO_x Reasonable Available Control Technology (RACT) Study submitted by Cleveland-Cliffs Middletown Works LLC on March 24, 2023 (subsequently revised on October 4, 2023, May 3, 2024, June 28, 2024, July 17, 2024, and April 16, 2025), "Cleveland-Cliffs Middletown Works" (facility ID 1409010006), or any subsequent owner or operator of the "Cleveland-Cliffs Middletown Works" facility located at 1801 Crawford Street, Middletown, Ohio, shall comply with the following for the emissions units listed:

- a) For emissions units B011 (COGEN Plant Boiler No. 1 & backup flare) and B012 (COGEN Plant Boiler No. 2 & backup flare), comply with the following provisions as site-specific NO_x RACT adopted from the requirements for very large boilers contained in the March 25, 2022, version of OAC rule 3745-110-03 *RACT Requirements and/or Limitations for Emissions of NO_x from Stationary Sources*:

- (1) OAC rule 3745-110-03(C) – Very large boilers

NO_x emissions from a very large boiler, firing gas only, shall not exceed 0.08 pound of NO_x/MMBtu; and

(2) firing only low-NO_x BFG and NG (as supplemental fuel) in emissions units B011 & B012 as provided in the definition of gaseous fuel in OAC rule 3745-110-01(G).

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

For each day during which the permittee burns a fuel other than NG or BFG in B011 & B012, the permittee shall maintain a record of the type and quantity of fuel burned.

c) **Reporting Requirements**

(1) Unless other arrangements have been approved by the Director, all notifications and reports shall be submitted through the Ohio EPA's eBusiness Center: Air Services online web portal.

(2) The permittee shall submit quarterly deviation (excursion) reports that identify each day when a fuel other than BFG or NG was burned in emissions units B011 and/or B012

d) **Testing Requirements**

Refer to Part C. Emissions Units Terms and Condition C.1.f)(2).

9. The following additional abbreviations are used throughout this PTI:

BFG – Blast Furnace Gas

COGEN – cogeneration

MMgal – millions of gallons

MMscf – millions of standard cubic feet

C. Emissions Unit Terms and Conditions

1. F041, No. 3 BF Material Unloading

Operations, Property and/or Equipment Description:

No. 3 BF Material Unloading: Includes (2) railcar warming sheds, Transfer House 1 and Transfer House 2. The enclosures will be equipped with insignificant NG-fired space heating equipment, as needed, to provide heat during cold weather (to facilitate maintenance activities and/or prevent freezing).

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)(a)(ii)	The BAT requirements do not apply to the PM ₁₀ and PM _{2.5} emissions from this air contaminant source since the controlled PTE is less than 10 TPY taking into account the requirements under OAC rule 3745-31-05(E).
b.	OAC rule 3745-31-05(D) Special Terms and Conditions (Netting) to avoid PSD for CO, NO _x , PM, PM ₁₀ , PM _{2.5} , and SO ₂	See B.5. for netting summary. Emissions from material handling, transfers, and automated stockhouse associated with the No. 3 BF (F041, F042) shall not exceed the following emissions limits, combined: 22 TPY CO, based on a rolling, 12-month summation 26 TPY NO _x , based on a rolling, 12-month summation 1.4 TPY VOC, based on a rolling 12-month summation 33 TPY PM, including condensable emissions, based on a rolling, 12-month summation 29 TPY PM ₁₀ , based on a rolling, 12-month summation



		28 TPY PM _{2.5} , based on a rolling, 12-month summation 0.2 TPY SO ₂ , based on a rolling, 12-month summation
c.	OAC rule 3745-31-05(E)	See b)(2)a.
d.	OAC rule 3745-17-07(A)	VE from any stack serving this EU shall not exceed 20% opacity as a 6-minute average, except as specified by rule.
e.	OAC rule 3745-17-07(B)	VE from any fugitive dust source shall not exceed 20% opacity as a 3-minute average.
f.	OAC rule 3745-17-08(B)	RACM that are sufficient to minimize or eliminate visible emissions of fugitive dust. See b)(2)c.
g.	OAC rule 3745-17-11	The emission limitation established by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(E) in b)(2)a.

(2) Additional Terms and Conditions

- a. The permittee shall install enclosures and dust collectors at Warming Shed 1, Warming Shed 2, Transfer House 1, and Transfer House 2. PE from the exhaust stack of each dust collector shall not exceed 0.01 grain PM₁₀/PM_{2.5} per dry standard cubic foot of exhaust gases. The emissions from this emissions unit shall be vented to the enclosures and dust collectors at all times the emissions unit is in operation. The permittee shall operate and maintain the dust collectors for this EU in accordance with the manufacturer's recommendations, instructions, and operating manual(s).
- b. The No. 3 BF raw material handling operations that are covered by this permit and subject to OAC rule 3745-17-07(B)(1) and OAC rule 3745-17-08(B) are listed below:

Material handling operations from Warming Shed 1, Warming Shed 2, Transfer House 1, and Transfer House 2, which include material hoppers, conveyors, and transfer points.
- c. The permittee shall employ RACM for the above-identified material handling operation(s) in b)(2)b. for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's application, A0081683, the permittee has committed to perform the following control measure(s) to ensure compliance:
 - i. The permittee shall employ good operating practices during railcar unloading to control the release rate of material to minimize or eliminate visible particulate emissions of fugitive dust;
 - ii. The permittee shall maintain enclosures for the railcar unloading and transfer points to minimize or eliminate visible particulate emissions of fugitive dust.
 - iii. Conveyors* shall maintain covers to reduce exposure to wind to minimize or eliminate visible particulate emissions of fugitive dust.

*Conveyors are covered with exception of the conveyor to send material to Pellet Storage & Ore Bridge.

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

- d. The rolling, 12-month emission limitations in b)(1)b. are being established for the purpose of avoiding Major NSR/PSD applicability. 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 emission levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Emissions						
	CO	NO _x	VOC	PE	PM ₁₀	PM _{2.5}	SO ₂
	Tons	Tons	Tons	Tons	Tons	Tons	Tons
1	2.75	3.25	0.18	4.2	3.7	3.5	0.03
1-2	5.5	6.5	0.35	8.3	7.3	7.0	0.05
1-3	8.25	9.75	0.53	12.4	10.9	10.5	0.08
1-4	11	13	0.7	16.5	14.5	14.0	0.1
1-5	13.75	16.25	0.88	20.7	18.2	17.5	0.13
1-6	16.5	19.5	1.1	24.8	21.8	21.0	0.15
1-7	19.25	22.75	1.2	28.9	25.4	24.5	0.18
1-8	22	26	1.4	33.0	29.0	28.0	0.2
1-9	22	26	1.4	33.0	29.0	28.0	0.2
1-10	22	26	1.4	33.0	29.0	28.0	0.2
1-11	22	26	1.4	33.0	29.0	28.0	0.2
1-12	22	26	1.4	33.0	29.0	28.0	0.2

- e. After the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, compliance with the annual emission limitations for CO, NO_x, VOC, SO₂, PE, PM₁₀, and PM_{2.5} shall be based upon a rolling, 12-month summation of the monthly CO, NO_x, VOC, SO₂, PE, PM₁₀, and PM_{2.5} emissions.

c) **Operational Restrictions**

- (1) None.

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

- (1) The permittee shall maintain monthly records of the following information for F041 & F042, combined:
- the actual CO, NO_x, VOC, SO₂, PE, PM₁₀, and PM_{2.5} emissions* for each month of operation;
 - during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the cumulative emissions from month 1, months 1-2, months 1-3, etc., through months 1-12; and



- c. 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 summations of the actual CO, NO_x, VOC, SO₂, PE, PM₁₀, and PM_{2.5} emissions.

*emissions shall be calculated according to the methods outlined in the equations supplied by the permittee in the calculations package labeled "Table C-4: Potential to Emit - Proposed Material Handling Systems" as supplied in Application A0081683, submitted 4/10/2026, actual material throughput records, EFs from USEPA's AP-42 compilation, source emissions test results, and/or any other pertinent information for materials unloading to the No. 3 BF.

- (2) The permittee shall maintain a copy of the manufacturer's operating and maintenance manual for the dust collectors on-site and make it available upon request.
- (3) The permittee shall conduct inspections of the dust collectors at the frequency recommended by the manufacturer.
- (4) In order to demonstrate compliance with emissions limitation(s) contained in this permit, the acceptable range for the pressure drop has been established to be 0.1 to 10 inches of water.
- (5) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across the dust collector when the applicable dust collector is in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the dust collector once per day when the unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for the pressure drop deviates from the limit established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. The date and time the deviation began;
- b. The magnitude of the deviation at that time;
- c. The date the investigation was conducted;
- d. The name(s) of the personnel who conducted the investigation; and
- e. The findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended.

The permittee shall maintain records of the following information for each corrective action taken:

- f. A description of the corrective action;
- g. The date corrective action was completed;
- h. The date and time the deviation ended;



- i. The total period of time (in minutes) during which there was a deviation;
- j. The pressure drop readings immediately after the corrective action was implemented; and
- k. The name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

This limit on the pressure drop across the dust collector is effective for the duration of this permit, unless the permittee submits a written request to modify the permit to the appropriate Ohio EPA DO/LAA and the new limit is issued in a final permit. The permittee may request revisions to the permitted limit for the pressure drop based upon updated manufacturer's specifications for the dust collector or information obtained during future testing that demonstrates compliance with the allowable PE rate for the controlled EU. In addition, approved revisions to the range will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a permit modification.

- (6) The permittee shall perform daily checks, when the EU is in operation and when the weather conditions allow, for any VE from the stack(s) and for any VE of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this EU. The presence or absence of any VE shall be noted in an operations log. If VE are observed, the permittee shall also note the following in the operations log:
 - a. The location and 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 VE incident; and
 - e. Any corrective actions taken to minimize or eliminate the VE.

If VE are present, a VE incident has occurred. The observer does not have to document the exact start and end times for the VE incident under d)(5) above or continue the daily check until the incident has ended. The observer may indicate that the VE incident was continuous during the observation period (or, if known, continuous during the operation of the EU). With respect to the documentation of corrective actions, the observer may indicate that no corrective actions were taken if the VE were representative of normal operations, specify the corrective actions that were taken to ensure the EU continued to operate under normal conditions, or specify the corrective actions that were taken to eliminate abnormal VE.

e) **Reporting Requirements**

- (1) The permittee shall submit quarterly written reports that identify:
 - a. during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, each exceedance of any cumulative emissions limitation listed in the table in b)(2)d. for CO, NO_x, VOC, SO₂, PE, PM₁₀, and PM_{2.5} emissions;
 - b. beginning after the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, each exceedance of any rolling, 12-



month emissions limitation listed in b)(1)b. for CO, NO_x, VOC, SO₂, PE, PM₁₀, and/or PM_{2.5} emissions;

- c. Each period of time (start time and date, and end time and date) when the pressure drop across the dust collector was outside of the range specified by the manufacturer and outside of the acceptable range following any required compliance demonstration;
- d. Any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the dust collector;
- e. Each incident of deviation described in c. (above) where a prompt investigation was not conducted;
- f. Each incident of deviation described in c. where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and
- g. Each incident of deviation described in c. where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.

(2) The permittee shall submit semiannual written reports that identify:

- a. All days during which any VE were observed from the stack(s) serving this EU;
- b. All days during which any VE of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this EU; and
- c. Any corrective actions taken to minimize or eliminate the VE from the stack and/or VE of fugitive dust.

These reports shall be submitted to the appropriate Ohio EPA DO/LAA by January 31st and July 31st of each year and shall cover the previous six-month period.

f) **Testing Requirements**

(1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emissions Limitation

PE from the exhaust stack of each dust collector shall not exceed 0.01 grain PM₁₀/PM_{2.5} per dry standard cubic foot of exhaust gases.

Applicable Compliance Method

The PE limitations are based upon the calculations provided by the permittee in PTI application A0081683 submitted on April 10, 2026.

The permittee shall comply with this limitation based upon the vendor design outlet concentration of the dust collector(s) (0.01 gr of PM₁₀/PM_{2.5}/dscf). The vendor design information including diagrams, specifications, and documentation supporting the design outlet concentration shall be submitted to the appropriate Ohio EPA DO/LAA within 3 months of securing the vendor's contract.



Although not specifically required through this PTI, if required in the future, compliance with the 0.01 grain of PE per dry standard cubic foot of exhaust gases from the stack shall be determined in accordance with U.S. EPA Methods 1 through 4 of 40 CFR Part 60, Appendix A and Methods 201-201A & 202 of 40 CFR Part 60, Appendix A, as appropriate.

b. Emissions Limitations

22 TPY CO, based on a rolling, 12-month summation

26 TPY NO_x, based on a rolling, 12-month summation

1.4 TPY VOC, based on a rolling 12-month summation

33 TPY PM , based on a rolling, 12-month summation

29 TPY PM₁₀, based on a rolling, 12-month summation

28 TPY PM_{2.5}, based on a rolling, 12-month summation

0.2 TPY SO₂, based on a rolling, 12-month summation

Applicable Compliance Method

Compliance with the rolling, 12-month emissions limitations shall be demonstrated by the recordkeeping in d)(1).

c. Emissions Limitation

VE from any stack serving this EU shall not exceed 20% opacity as a 6-minute average, except as specified by rule.

Applicable Compliance Method

Although not specifically required through this PTI, if required in the future, compliance with the stack VE limitation shall be determined through VE observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A, and OAC rule 3745-17-03(B)(1)(a).

d. Emissions Limitation

VE from any fugitive dust source shall not exceed 20% opacity as a 3-minute average.

Applicable Compliance Method

Although not specifically required through this PTI, if required in the future, compliance with the limitation for VE of fugitive dust shall be determined through VE observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A, OAC rule 3745-17-03(B)(3).

g) **Miscellaneous Requirements**

(1) None.

2. F042, BF Material Transfers and Automated Stockhouse

Operations, Property and/or Equipment Description:

No. 3 BF Material Transfers and Automated Stockhouse. Includes a Stockhouse, Transfer House 3, Transfer House 4, Transfer House 5 and Temporary Transfer House 6. The enclosures will be equipped with insignificant NG-fired space heating equipment, as needed, to provide heat during cold weather (to facilitate maintenance activities and/or prevent freezing).

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3) ORC 3704.03(T)	BAT is established as a source design characteristic in which the permittee shall install enclosure and dust collectors as specified in b)(2)a.
b.	OAC rule 3745-31-05(D) <i>Federally Enforceable Limitations on Potential to Emit to Avoid Applicability of Major NSR/PSD established in this PTI</i>	See B.5. for netting summary. Emissions from material handling, transfers, and automated stockhouse associated with the No. 3 BF (F041, F042) shall not exceed the following emissions limits, combined: 22 TPY CO, based on a rolling, 12-month summation 26 TPY NO _x , based on a rolling, 12-month summation 1.4 TPY VOC, based on a rolling 12-month summation 33 TPY PM, based on a rolling, 12-month summation 29 TPY PM ₁₀ , based on a rolling, 12-month summation 28 TPY PM _{2.5} , based on a rolling, 12-month summation



		33 TPY PM, including condensable emissions, based on a rolling, 12-month summation 29 TPY PM ₁₀ , based on a rolling, 12-month summation 28 TPY PM _{2.5} , based on a rolling, 12-month summation 0.2 TPY SO ₂ , based on a rolling 12-month summation See b)(2)d.
c.	OAC rule 3745-17-07(A)	VE from any stack serving this EU shall not exceed 20% opacity as a 6-minute average, except as specified by rule.
d.	OAC rule 3745-17-07(B)	VE from any fugitive dust source shall not exceed 20% opacity as a 3-minute average.
e.	OAC rule 3745-17-08(B)	RACM that are sufficient to minimize or eliminate visible emissions of fugitive dust. See b)(2)c.
f.	OAC rule 3745-17-11	The emission limitation established by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3) in b)(2)a.

(2) Additional Terms and Conditions

- a. The permittee shall install enclosures at Transfer House 3, Transfer House 4, Transfer House 5, Temporary Transfer House 6, and the Automated Stockhouse. The emissions from these emissions points shall be vented to the enclosures at all times the emissions unit is in operation.

The permittee shall install dust collectors at Transfer House 3, Transfer House 4, Transfer House 5, and the Automated Stockhouse. PE from the exhaust stack of each dust collector shall not exceed 0.01 grain PM₁₀/PM_{2.5} per dry standard cubic foot of exhaust gases. The emissions from these emissions points shall also be vented to the dust collectors at all times the emissions unit is in operation. The permittee shall operate and maintain the dust collectors for this EU in accordance with the manufacturer's recommendations, instructions, and operating manual(s).

- b. The BF raw material handling operations that are covered by this permit and subject to OAC rule 3745-17-07(B)(1) and OAC rule 3745-17-08(B) are listed below:

Material handling operations from Transfer House 3, Transfer House 4, Transfer House 5, Temporary Transfer House 6 and an Automated Stockhouse which include hoppers, screening, conveyors, transfer points, and storage bins.

Transfer House 6 will become obsolete once the No. 3 BF top is changed and the material can be added via the bell-less top.



- c. The permittee shall employ RACM for the above-identified material handling operation(s) in b)(2)b. for the purpose of ensuring compliance with the above-mentioned applicable requirements. In accordance with the permittee's permit application, A0081683, the permittee has committed to perform the following control measure(s) to ensure compliance:

- i. The permittee shall maintain enclosures for the storage bins, screening, and transfer points to minimize or eliminate visible particulate emissions of fugitive dust.
- ii. Conveyors* shall maintain covers to reduce exposure to wind to minimize or eliminate visible particulate emissions of fugitive dust.

*Conveyors are covered with exception of the conveyor coming from the Pellet Storage & Ore Bridge.

- iii. For loading material into hoppers: The drop height of the front-end loader bucket shall be minimized to the extent possible in order to minimize or eliminate visible emissions of fugitive dust.

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

- d. The rolling, 12-month emission limitations in b)(1)b. are being established for the purpose of avoiding Major NSR/PSD applicability. 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 emission levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Emissions						
	CO	NO _x	VOC	PE	PM ₁₀	PM _{2.5}	SO ₂
	Tons	Tons	Tons	Tons	Tons	Tons	Tons
1	2.75	3.25	0.18	4.2	3.7	3.5	0.03
1-2	5.5	6.5	0.35	8.3	7.3	7.0	0.05
1-3	8.25	9.75	0.53	12.4	10.9	10.5	0.08
1-4	11	13	0.7	16.5	14.5	14.0	0.1
1-5	13.75	16.25	0.88	20.7	18.2	17.5	0.13
1-6	16.5	19.5	1.1	24.8	21.8	21.0	0.15
1-7	19.25	22.75	1.2	28.9	25.4	24.5	0.18
1-8	22	26	1.4	33.0	29.0	28.0	0.2
1-9	22	26	1.4	33.0	29.0	28.0	0.2
1-10	22	26	1.4	33.0	29.0	28.0	0.2
1-11	22	26	1.4	33.0	29.0	28.0	0.2
1-12	22	26	1.4	33.0	29.0	28.0	0.2

After the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, compliance with the annual emission limitations



for CO, NO_x, VOC, SO₂, PE, PM₁₀, and PM_{2.5} shall be based upon a rolling, 12-month summation of the monthly CO, NO_x, VOC, SO₂, PE, PM₁₀, and PM_{2.5} emissions.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall maintain monthly records of the following information for F041 & F042, combined:

- a. the actual CO, NO_x, VOC, SO₂, PE, PM₁₀, and PM_{2.5} emissions* for each month of operations;
- b. during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the cumulative emissions from month 1, months 1-2, months 1-3, etc., through months 1-12; and
- c. 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 summations of the actual CO, NO_x, VOC, SO₂, PE, PM₁₀, and PM_{2.5} emissions.

*emissions shall be calculated according to the methods outlined in the equations supplied by the permittee in the calculations package labeled "Table C-4: Potential to Emit - Proposed Material Handling Systems" as supplied in Application A0081683, submitted 4/10/2026, actual material throughput records, EFs from USEPA's AP-42 compilation, source emissions test results, and/or any other pertinent information for materials transfers and automated stockhouse associated with the No. 3 BF.

- (2) The permittee shall maintain a copy of the manufacturer's operating and maintenance manual for the dust collectors on-site and make it available upon request.
- (3) The permittee shall conduct inspections of the dust collectors at the frequency recommended by the manufacturer.
- (4) In order to demonstrate compliance with emissions limitation(s) contained in this permit, the acceptable range for the pressure drop has been established to be 0.1 to 10 inches of water.
- (5) The permittee shall properly install, operate, and maintain equipment to continuously monitor the pressure drop, in inches of water, across the dust collector when the applicable dust collector is in operation, including periods of startup and shutdown. The permittee shall record the pressure drop across the dust collector once per day when the unit is in operation. The monitoring equipment shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s), with any modifications deemed necessary by the permittee.

Whenever the monitored value for the pressure drop deviates from the limit established in accordance with this permit, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:

- a. The date and time the deviation began;
- b. The magnitude of the deviation at that time;
- c. The date the investigation was conducted;



- d. The name(s) of the personnel who conducted the investigation; and
- e. The findings and recommendations.

In response to each required investigation to determine the cause of a deviation, the permittee shall take prompt corrective action to bring the operation of the control equipment within the acceptable range specified in this permit, unless the permittee determines that corrective action is not necessary and documents the reasons for that determination and the date and time the deviation ended.

The permittee shall maintain records of the following information for each corrective action taken:

- f. A description of the corrective action;
- g. The date corrective action was completed;
- h. The date and time the deviation ended;
- i. The total period of time (in minutes) during which there was a deviation;
- j. The pressure drop readings immediately after the corrective action was implemented; and
- k. The name(s) of the personnel who performed the work.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

This limit on the pressure drop across the dust collector is effective for the duration of this permit, unless the permittee submits a written request to modify the permit to the appropriate Ohio EPA DO/LAA and the new limit is issued in a final permit. The permittee may request revisions to the permitted limit for the pressure drop based upon updated manufacturer's specifications for the dust collector or information obtained during future testing that demonstrates compliance with the allowable PE rate for the controlled EU. In addition, approved revisions to the range will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of a permit modification.

- (6) The permittee shall perform daily checks, when the EU is in operation and when the weather conditions allow, for any VE from the stack(s) and for any VE of fugitive dust from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this EU. The presence or absence of any VE shall be noted in an operations log. If VE are observed, the permittee shall also note the following in the operations log:

The location and color of the emissions;

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

If VE are present, a VE incident has occurred. The observer does not have to document the exact start and end times for the VE incident under d)(6) above or continue the daily check until the incident has ended. The observer may indicate that the VE incident was continuous



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

e) Reporting Requirements

(1) The permittee shall submit quarterly written reports that identify:

- a. during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, each exceedance of any cumulative emissions limitation listed in the table in b)(2)d. for CO, NO_x, VOC, SO₂, PE, PM₁₀, and PM_{2.5} emissions;
- b. beginning after the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, each exceedance of any rolling, 12-month emissions limitation listed in b)(1)b. for CO, NO_x, VOC, SO₂, PE, PM₁₀, and/or PM_{2.5} emissions;
- c. Each period of time (start time and date, and end time and date) when the pressure drop across the dust collector was outside of the range specified by the manufacturer and outside of the acceptable range following any required compliance demonstration;
- d. Any period of time (start time and date, and end time and date) when the emissions unit(s) was/were in operation and the process emissions were not vented to the dust collector;
- e. Each incident of deviation described in c. (above) where a prompt investigation was not conducted;
- f. Each incident of deviation described in c. where prompt corrective action, that would bring the pressure drop into compliance with the acceptable range, was determined to be necessary and was not taken; and
- g. Each incident of deviation described in c. where proper records were not maintained for the investigation and/or the corrective action(s), as identified in the monitoring and record keeping requirements of this permit.

(2) The permittee shall submit semiannual written reports that identify:

- a. All days during which any VE were observed from the stack(s) serving this EU;
- b. All days during which any VE of fugitive dust were observed from the egress points (i.e., building windows, doors, roof monitors, etc.) serving this EU; and
- c. Any corrective actions taken to minimize or eliminate the VE from the stack and/or VE of fugitive dust.

These reports shall be submitted to the appropriate Ohio EPA DO/LAA by January 31st and July 31st of each year and shall cover the previous six-month period.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:



a. Emissions Limitation

PE from the exhaust stack of each dust collector at Transfer House 3, Transfer House 4, Transfer House 5, and the Automated Stockhouse shall not exceed 0.01 grain $PM_{10}/PM_{2.5}$ per dry standard cubic foot of exhaust gases.

Applicable Compliance Method

The PE limitations are based upon the calculations provided by the permittee in PTI application A0081683 submitted on April 10, 2026.

See emissions testing requirement in f)(2).

b. Emissions Limitations

22 TPY CO, based on a rolling, 12-month summation

26 TPY NO_x, based on a rolling, 12-month summation

1.4 TPY VOC, based on a rolling 12-month summation

33 TPY PM, based on a rolling, 12-month summation

29 TPY PM₁₀, based on a rolling, 12-month summation

28 TPY PM_{2.5}, based on a rolling, 12-month summation

0.2 TPY SO₂, based on a rolling, 12-month summation

Applicable Compliance Method

Compliance with the rolling, 12-month emissions limitations shall be demonstrated by the recordkeeping in d)(1).

c. Emissions Limitation

VE from any stack serving this EU shall not exceed 20% opacity as a 6-minute average, except as specified by rule.

Applicable Compliance Method

Although not specifically required through this PTI, if required in the future, compliance with the stack VE limitation shall be determined through VE observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A, and OAC rule 3745-17-03(B)(1)(a).

d. Emissions Limitation

VE from any fugitive dust source shall not exceed 20% opacity as a 3-minute average.

Applicable Compliance Method

Although not specifically required through this PTI, if required in the future, compliance with the limitation for VE of fugitive dust shall be determined through VE observations performed in accordance with Method 9 of 40 CFR Part 60, Appendix A, OAC rule 3745-17-03(B)(3).

(2) The permittee shall conduct, or have conducted, emissions testing for the Automated Stockhouse Dust Collector BH_AS01 per the following requirements:

a. The emission testing shall be conducted within 180 days after start-up.



- b. The emission testing shall be conducted to demonstrate compliance with the grain per dry standard cubic foot emissions limit for the dust collectors (0.01 gr of PM₁₀/PM_{2.5}/dscf).
- c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emissions rate(s):

U.S. EPA Methods 1 through 4 of 40 CFR Part 60, Appendix A

Methods 201-201A & 202 of 40 CFR Part 60, Appendix A

Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.
- d. During the emissions testing, the Automated Stockhouse and associated dust collector BH_AS01 shall be operated under operational conditions approved in advance by the appropriate Ohio EPA DO/LAA. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.) or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under *worst case* conditions expected during the life of the permit. As part of the information provided in the Intent to Test (ITT) notification form described below, the permittee shall provide a description of the EU operational conditions they will meet during the emissions testing and describe why they believe *worst case* operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the appropriate Ohio EPA DO/LAA that the proposed operating conditions constitute *worst case*. Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.
- e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an ITT notification to the appropriate Ohio EPA DO/LAA. The ITT notification shall describe in detail the proposed test methods and procedures, the EU 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 DO/LAA's refusal to accept the results of the emission test(s).
- f. Personnel from the appropriate Ohio EPA DO/LAA shall be permitted to witness the test(s), examine the testing equipment and acquire data and information necessary to ensure that the operation of the EU and the testing procedures provide a valid characterization of the emissions from the EU 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(s) responsible for the tests and submitted to the appropriate Ohio EPA DO/LAA 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 DO/LAA.

g) Miscellaneous Requirements

- (1) None.

3. P002, Cogen Plant Cooling Tower

Operations, Property and/or Equipment Description:

Cogeneration Plant non-contact cooling tower with a nominal recirculation rate of 100,000 gallons per minute

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(A)(3)	The BAT requirements do not apply to the PM ₁₀ and PM _{2.5} emissions from this air contaminant source since the PTE for PM ₁₀ and PM _{2.5} is less than 10 TPY.
b.	OAC rule 3745-31-05(D) <i>Federally Enforceable Limitations on PTE to Avoid Applicability of Major NSR/PSD established in this PTI</i>	PE from this air contaminant source shall not exceed 1.65 lbs/hr, as a monthly average, and 7.22 TPY based upon a rolling 12-month summation of the monthly emissions. PM₁₀ emissions from this air contaminant source shall not exceed 0.76 lb/hr, as a monthly average, and 3.22 TPY based upon a rolling 12-month summation of the monthly emissions. PM_{2.5} emissions from this air contaminant source shall not exceed 0.003 lb/hr, as a monthly average, and 0.01 TPY respectively based on a rolling 12-month summation of the monthly emissions. See b)(2)c. and c)(1).
c.	OAC rule 3745-17-07(A)(3)	See b)(2)a.
d.	OAC rule 3745-17-11(B)	See b)(2)b.

- (2) Additional Terms and Conditions



- a. This emissions unit is exempt from the visible emission limitation specified in OAC rule 3745-17-07(A), pursuant to OAC rule 3745-17-07(A)(3)(h), because the emissions unit is not subject to the requirements of OAC rule 3745-17-11.
- b. This emissions unit is not subject to the “restrictions on particulate emissions from industrial processes” contained in OAC rule 3745-17-11. Particulate matter emitted from the cooling tower is not measurable by applicable test methods in 40 CFR Part 60, Appendix A and therefore the emissions of particulate matter do not meet the definition of “Particulate emissions” in OAC rule 3745-17-01.
- c. The rolling, 12-month emission limitations in b)(1)b. are being established for the purpose of avoiding Major NSR/PSD applicability. 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 emission levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Emissions		
	PE	PM ₁₀	PM _{2.5}
	Tons	Tons	Tons
1	0.903	0.401	0.001
1-2	1.805	0.805	0.002
1-3	2.71	1.21	0.004
1-4	3.61	1.61	0.005
1-5	4.51	2.01	0.006
1-6	5.42	2.42	0.008
1-7	6.32	2.82	0.009
1-8	7.22	3.22	0.01
1-9	7.22	3.22	0.01
1-10	7.22	3.22	0.01
1-11	7.22	3.22	0.01
1-12	7.22	3.22	0.01

After the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, compliance with the annual emission limitations for PE, PM₁₀, and PM_{2.5} shall be based upon a rolling, 12-month summation of the monthly PE, PM₁₀, and PM_{2.5} emissions.

c) Operational Restrictions

- (1) The permittee shall maintain the total dissolved solids (TDS) concentration of the cooling water less than or equal to 3,300 ppm based on a monthly average of all TDS readings.
- (2) The use of a drift eliminator and drift reduction technologies achieving “drift loss” equal to or less than 0.001%.

d) Monitoring and/or Recordkeeping Requirements



- (1) The permittee shall maintain monthly records of the following information:
 - a. The PE, PM₁₀, and PM_{2.5} emissions, in pounds per hour, as a monthly average;
 - b. The PE, PM₁₀, and PM_{2.5} emission rates for each month of operations; and
 - c. 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 PE, PM₁₀, and PM_{2.5} emissions.

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 PE, PM₁₀, and PM_{2.5} emissions for each calendar month.

- (2) The permittee shall properly install, operate, and maintain a conductivity meter or other equipment to continuously monitor and record the TDS concentration of the cooling tower water. The monitoring devices shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.
- (3) Since the TDS data measured by TDS monitors is based on a correlation between conductivity and TDS, an exceedance measured by the TDS monitor is not a violation of the TDS operational restriction, but rather serves as an indicator to initiate corrective action by the permittee to reduce the TDS concentration.
- (4) The permittee shall maintain a record of all TDS exceedances and any corrective actions taken in effort to correct the exceedance(s).

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
 - a. All TDS readings in excess of 3,300 ppm;
 - b. All exceedances of the monthly average PE, PM₁₀, and PM_{2.5} lb/hr emissions limitations; and
 - c. All exceedances of the rolling, 12-month emission limitation for PE, PM₁₀, and PM_{2.5} 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 emission levels

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

- (2) Prior to startup, the permittee shall submit written documentation provided by the vendor/manufacturer, of the maximum drift rate of 0.001% for the drift eliminator, and drift reduction technologies, and the premise, basis, and justification for the drift rate.

f) Testing Requirements

- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:
 - a. Emissions Limitation
PE from this air contaminant source shall not exceed 7.22 TPY based upon a rolling 12-month summation of the monthly emissions.



PM₁₀ emissions from this air contaminant source shall not exceed 3.22 TPY based upon a rolling 12-month summation of the monthly emissions.

PM_{2.5} emissions from this air contaminant source shall not exceed 0.01 TPY respectively based on a rolling 12-month summation of the monthly emissions.

Applicable Compliance Method

Compliance with the annual emission limitation is demonstrated based on the following calculation:

$$E_i = \sum (DR_i) \left(\frac{\%DM_i}{100} \right) \left(\frac{TDS \text{ ppm}}{1,000,000} \right) \left(\frac{8.34 \text{ lbs}}{\text{gal}} \right) \left(\frac{\text{MMgal}}{\text{hour}} \right) \left(\frac{8,760 \text{ hrs}}{\text{year}} \right) \left(\frac{\text{Ton}}{2,000 \text{ lbs}} \right)$$

Where:

E_i = total tons of particulate matter per rolling 12-month period, i (i = PE, PM₁₀, PM_{2.5})

DR_i = 0.001%

%DM_i = percent of total drift mass** for particulate size i

%DM_i = 100% for total particulate emissions (PE)

%DM_i = 46% for emissions of PM₁₀

%DM_i = 0.20% for emissions of PM_{2.5}

**The percent mass of the total drift for PM₁₀ and PM_{2.5} was determined by "Calculating Realistic PM10 emission from Cooling Towers", Joel Reisman and Gordon Frisbie, Greystone Environmental Consultants, Sacramento, CA (July 2002).

TDS = 3,300 ppm

8.34 lbs/gal = density of water

MMgal/hour = 6

8,760 hrs/yr = maximum annual operating schedule in a rolling 12-month period.

Although not specifically required through this PTI, if required in the future, the permittee shall submit a testing proposal that will demonstrate that the maximum drift loss does not exceed the specified rate for the cooling tower.

Provided that the TDS concentration recorded in d) remains below 3300 ppm, compliance with the PE, PM₁₀, and PM_{2.5} limits shall also be demonstrated.

b. Emissions Limitation

PE from this air contaminant source shall not exceed 1.65 lbs/hr, as a monthly average.

PM₁₀ emissions from this air contaminant source shall not exceed 0.76 lb/hr, as a monthly average.

PM_{2.5} emissions from this air contaminant source shall not exceed 0.003 lb/hr, as a monthly average.

Applicable Compliance Method

Compliance with the hourly emission limitation is demonstrated based on the following calculation:

$$E_i = \sum (DR_i) \left(\frac{\%DM_i}{100} \right) (TDS \text{ ppm}) \left(\frac{8.34 \text{ lbs}}{\text{gal}} \right) \left(\frac{\text{MMgal}}{\text{hour}} \right)$$

Where:

E_i = total pounds of particulate matter per hour, i (i = PE, PM_{10} , $PM_{2.5}$)

DR_i = 0.001%

$\%DM_i$ = percent of total drift mass** for particulate size i

$\%DM_i$ = 100% for total particulate emissions (PE)

$\%DM_i$ = 46% for emissions of PM_{10}

$\%DM_i$ = 0.20% for emissions of $PM_{2.5}$

**The percent mass of the total drift for PM_{10} and $PM_{2.5}$ was determined by "Calculating Realistic PM10 emission from Cooling Towers", Joel Reisman and Gordon Frisbie, Greystone Environmental Consultants, Sacramento, CA (July 2002).

TDS = 3,300 ppm

8.34 lbs/gal = density of water

MMgal/hour = 6

Although not specifically required through this PTI, if required in the future, the permittee shall submit a testing proposal that will demonstrate that the maximum drift loss does not exceed the specified rate for the cooling tower.

Provided that the TDS concentration recorded in d) remains below 3300 ppm, compliance with the PE, PM_{10} , and $PM_{2.5}$ limits shall also be demonstrated.

g) Miscellaneous Requirements

(1) None.

4. Emissions Unit Group - Cogeneration Plant Boilers: B011, B012,

EU ID	Operations, Property and/or Equipment Description
B011	Nominal 1,200 MMBtu/hr BFG/NG co-fired boiler, Cogen Plant Boiler No. 1 and 2,400 BFG backup flare
B012	Nominal 1,200 MMBtu/hr BFG/NG co-fired boiler, Cogen Plant Boiler No. 2 and 2,400 BFG backup 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 operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
<i>One (1) BFG Backup Flare</i>		
a.	OAC rule 3745-31-05(A)(3) ORC 3704.03(T)	The flare will be capable of combusting the full amount of BFG. Therefore, BAT is established as a source design characteristic in which the permittee shall install a 2,400 MMBtu/hr flare, with a 10 MMBtu/hr NG or propane pilot, that is designed to meet the Federally Enforceable emissions limits established pursuant to OAC rule 3745-31-05(D) in b)(1)d. See b)(2)a. & b)(2)b.
<i>1,200 MMBtu/hr BFG/NG co-fired COGEN Plant Boilers</i>		
b.	OAC rule 3745-31-05(A)(3) ORC 3704.03(T)	BAT is established as a source design characteristic in which the permittee shall install burners in the boiler units that are designed to meet the Federally Enforceable emissions limits established pursuant to OAC rule 3745-31-05(D) in b)(1)d. See b)(2)a.
c.	OAC rule 3745-31-05(A)(3)(a)(ii)	The BAT requirements do not apply to the VOC emissions from this air contaminant source since the uncontrolled PTE is less than 10 TPY.
d.	OAC rule 3745-31-05(D)	See Section B.5. for Netting summary.



	Special Terms and Conditions (Netting) to avoid PSD for CO, NO_x, PM, PM₁₀, PM_{2.5}, and SO₂ Special Terms and Conditions for a Federally Enforceable requirement which limits operation to avoid the Subpart Db NO_x emissions limit	Federally Enforceable emissions limits established for the boiler units are as follows: when combusting BFG: 0.32 pound of SO₂/MMBtu heat input 0.116 pound of CO/MMBtu heat input 0.012 pound of NO_x/MMBtu heat input 0.0038 pound of PM/MMBtu heat input 0.019 pound of PM₁₀/PM_{2.5}/MMBtu heat input, including condensable emissions when combusting NG: 0.082 pound of CO/MMBtu heat input 0.08 pound of NO_x/MMBtu heat input 0.002 pound of PM/MMBtu heat input 0.007 pound of PM₁₀/PM_{2.5}/MMBtu heat input, including condensable emissions 0.0006 pound of SO₂/MMBtu heat input Boiler Units B011 & B012 annual emissions limits, combined: 1,981 TPY SO₂, based on a rolling, 12-month summation 864 TPY CO, based on a rolling, 12-month summation 213 TPY NO_x, based on a rolling, 12-month summation 128 TPY PM₁₀/PM_{2.5}, including condensable emissions, based on a rolling, 12-month summation 27 TPY PM, based on a rolling, 12-month summation 15 TPY VOC, based on a rolling, 12-month summation See b)(1)e., b)(2)b., b)(2)c., c)(1), d)(1), d)(5), e)(1) & f)(2).
e.	OAC rule 3745-17-07(A)(1)	Visible PE from any stack shall not exceed 20% opacity, as a 6-minute average, except as specified: VE from any stack serving this EU shall not exceed 20% opacity as a 6-minute average, except for not more than six consecutive minutes in any 60 minutes, but shall not



		exceed 60% opacity, as a 6-minute average, at any time.
f.	OAC rule 3745-17-10(B)(1)	PE shall not exceed 0.020 pound of PE/MMBtu of actual heat input when burning only NG. PE shall not exceed 0.040 pound of PE/MMBtu of actual heat input when burning only BFG or any mixture of BFG with NG.
g.	OAC rule 3745-18-06	This rule establishes general SO ₂ emission limit provisions for fuel burning equipment, however, there is not an applicable requirement for the proposed BFG/NG fired boilers or flare.
h.	OAC rule 3745-110-03(D) [Each unit is considered a “very large boiler” > 250 MMBtu/hr according to the definition in OAC rule 3745-110-01(V) and is, thus, subject to the requirements in 110-03(D)]	NO_x emissions shall not exceed 0.08 lb/MMBtu from combustion of gaseous fuels (BFG/NG). The NO_x emissions limit established pursuant to this rule is equal to the NO_x emissions limit established pursuant to OAC rule 3745-31-05(D) in b)(1)d. See section B.8.
i.	40 CFR Part 60 Subpart Db [40 CFR 60.40b – 49b] NSPS for Industrial - Commercial - Institutional Steam Generating Units [Each steam generating unit for which construction commenced after June 14, 1984, and that has a maximum design heat input capacity of greater than 29 megawatts (100 MMBtu/hour)]	Pursuant to 60.42b(k)(2), boiler units firing only gaseous fuel (BFG, NG) with a potential SO₂ emission rate of 0.32 lb/MMBtu heat input or less are exempt from the SO₂ emissions limit in 60.42b(k)(1). PM standards in 60.43b do not apply to the boiler units since they will not combust coal, oil, wood, municipal-type solid waste, or a combination of these fuels. Pursuant to 60.44b(l)(1), the boiler units are not subject to the NO_x limit of 0.2 lb NO_x/MMBtu heat input (high heat release rate) if they are subject to and in compliance with a federally enforceable requirement that limits operation to an annual capacity factor of 10 percent (0.10) or less for NG on heat input basis. See (c)(1), d)(5), & e)(2).
j.	40 CFR Part 60, Subpart A [40 CFR Part 60.46b]	40 CFR Part 60.46b shows which parts of the General Provisions in 40 CFR 60.1-19 apply.
k.	40 CFR Part 63 Subpart DDDDD [40 CFR 63.7480 – 7575]	The boilers are not subject to this subpart pursuant to 40 CFR 63.7491(k). See b)(2)d., d)(6), & e)(2).



	NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters [40 CFR 63, Subpart DDDDD does not apply to the extent the boilers satisfy the definition of a “BFG fuel-fired boiler or process heater” as defined in 40 CFR 63.7575]	
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(2) Additional Terms and Conditions

- a. The BAT requirements under OAC rule 3745-31-05(A)(3)(a) are not applicable to the PE emitted from this EU (PE is emitted in the form of filterable PM₁₀ emissions). BAT is only applicable to emissions of an air contaminant or precursor of an air contaminant for which a NAAQS has been adopted under the CAA. PE (also referred to as TSP or total suspended PM) is an air contaminant without an established NAAQS.
- b. The COGEN Plant flare is intended to serve as backup to usage of BFG at the boilers (during certain situations where the boilers cannot combust the excess BFG, such as maintenance periods). The backup flare will be capable of combusting the full amount of BFG. In the scenario that BFG is routed to the backup flare, the emissions from BFG combustion are assumed to be the same as those for the boilers. The permittee shall ensure the following practices are instituted when operating the flare:
 - i. when flaring BFG, maintain and operate the backup flare, and all associated systems, with the manufacturer’s specifications and with good operating practices for the control of emissions;
 - ii. the backup flare shall be operated with a flame present at all times when BFG is vented to it;
 - iii. an automatic flame ignition system shall be installed; and
 - iv. if the permittee is using a pilot flame ignition system, the presence of a pilot flame shall be monitored using a thermocouple or other equivalent device to detect the presence of a flame.
- c. The boiler units co-fire BFG and NG. The emissions data compiled to determine compliance will be collected under co-firing conditions; compliance with the individual fuel emissions limits (BFG & NG, respectively) shall consider the actual fuel input ratio(s) be during multiple test runs. Compliance with the emissions limits shall also be based on the average of multiple test runs, according to the relevant test methods.
- d. These units are not subject to the requirements of 40 CFR Part 63, Subpart DDDDD, pursuant to 63.7491(k) and the definition of “BFG fuel-fired boiler or process heater” in 63.7575. The units are defined as, “industrial/commercial/institutional boiler or process heater that receives 90 percent or more of its total annual gas volume from BFG.”

If after the compliance date of this subpart (January 31, 2016) or an alternative compliance date as provided in 63.6(i), an emissions unit no longer meets the definition of “BFG fuel-fired boiler or process heater” in §63.7575, the applicable new



source provisions of 40 CFR Part 63, Subpart DDDDD, shall apply to the emissions unit in accordance with this subpart.

- e. The rolling, 12-month emission limitations in b)(1)d. are being established for the purpose of avoiding Major NSR/PSD applicability. 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 emission levels specified in the following table:

Month(s)	Maximum Allowable Cumulative Emissions						After the first 12
	SO ₂	CO	NO _x	PM ₁₀ /PM _{2.5}	PM	VOC	
	Tons	Tons	Tons	Tons	Tons	Tons	
1	248	108	27	16	3.5	1.9	
1-2	495	216	53	32	6.8	3.8	
1-3	743	324	80	48	10.2	5.7	
1-4	991	432	107	64	13.5	7.5	
1-5	1,238	540	133	80	16.9	9.4	
1-6	1,486	648	160	96	20.3	11.3	
1-7	1,733	756	186	112	23.7	13.2	
1-8	1,981	864	213	128	27.0	15.0	
1-9	1,981	864	213	128	27.0	15.0	
1-10	1,981	864	213	128	27.0	15.0	
1-11	1,981	864	213	128	27.0	15.0	
1-12	1,981	864	213	128	27.0	15.0	

calendar months of operation or the first 12 calendar months following the issuance of this permit, compliance with the annual emission limitations for SO₂, CO, NO_x, PM₁₀/PM_{2.5}, PM, and VOC shall be based upon rolling, 12-month summations of the monthly emissions.

c) **Operational Restrictions**

- (1) The permittee shall limit the operation of each boiler unit such that the actual NG use shall comprise not more than ten percent (10%) of the annual fuel demand on a heat input basis (MMBtu/year). This restriction of the *annual capacity factor** ensures each boiler unit is not subject to the NSPS Subpart Db NO_x limit, pursuant to §60.44b(l)(1), and thus not subject to the requirement to install, operate, and maintain a CEMS, pursuant to §60.44b(b).

**Annual capacity factor* means the ratio between the actual heat input to a steam generating unit from the fuels listed in §60.42b(a), §60.43b(a), or §60.44b(a), as applicable, during a calendar year and the potential heat input to the steam generating unit had it been operated for 8,760 hours during a calendar year at the maximum steady state design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the combined heat input from all operations of the affected facility in a calendar year.



The permittee shall comply with the monitoring and record keeping requirements specified in d)(5) to demonstrate that the boiler units are not subject to 40 CFR Part 60, Subpart Db, pursuant to §60.44b(l)(1) which states, "The affected facility is not subject to this limit (0.20 lb NO_x, expressed as NO₂/MMBtu heat input) if it is subject to and in compliance with a federally enforceable requirement that limits operation of the facility to an annual capacity factor of 10 percent (0.10) or less for coal, oil, and natural gas (or any combination of the three)."

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

- (1) The permittee shall maintain monthly records of the following information for B011 & B012, combined:
 - a. the actual SO₂, CO, NO_x, PM₁₀/PM_{2.5}, PM, and VOC emissions* for each month of operations;
 - b. during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, the cumulative emissions from month 1, months 1-2, months 1-3, etc., through months 1-12; and
 - c. 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 summations of the actual SO₂, CO, NO_x, PM₁₀/PM_{2.5}, PM, and VOC emissions.

*emissions shall be calculated according to the methods outlined in the equations supplied by the permittee in the calculations package labeled "Table C-1: Proposed Cogeneration Plant Potential to Emit - Boilers and Flare" as supplied in Application A0081683, submitted 4/10/2026, using actual fuel usage (input) rates in MMscf/month, actual heat input rates in MMBtu/month, actual fuel heating values in Btu/scf, EFs from USEPA's AP-42 compilation, source emissions test results, and/or any other pertinent information for BFG and NG combustion in the boilers.

- (2) 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 PE, PM₁₀, and PM_{2.5} emissions for each calendar month.
- (3) In order to ensure the backup flare associated with the emissions unit continues to operate as designed, the permittee shall follow the manufacturer's recommended maintenance at the recommended intervals. The permittee shall keep a record of the maintenance on the backup flare along with the manufacturer's recommendations.
- (4) The permittee shall operate and maintain a thermocouple monitor and alarm system to detect the presence of the flame on the backup flare when BFG is vented to it. The thermocouple/alarm system shall be calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manual(s). The permittee shall continuously record the thermocouple readings to indicate the presence of the flame when BFG is vented to the backup flare.
- (5) Whenever the monitoring conducted in d)(2) indicates that the backup flare is not lit when BFG is vented to it, the permittee shall promptly investigate the cause of the deviation. The permittee shall maintain records of the following information for each investigation:
 - a. the date and time the deviation began;
 - b. the magnitude of the deviation at that time; and

- c. a description of the corrective action.

Investigation and records required by this paragraph do not eliminate the need to comply with the requirements of OAC rule 3745-15-06 if it is determined that a malfunction has occurred.

- (6) The permittee shall perform weekly checks, when the emissions unit is in operation and when the weather conditions allow, for any visible particulate emissions from the stacks serving the boiler units, including the backup flare when BFG is vented to it. 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 following in the operations log:
 - a. the location and 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 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 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.

- (7) The owner or operator of an affected facility pursuant to 40 CFR Part 60, Subpart Db, shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor for NG for the reporting period. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month.

The annual capacity factor is determined by dividing the actual heat input to the steam generating unit during the calendar year from the combustion of NG by the potential heat input to the steam generating unit if the steam generating unit had been operated for 8,760 hours at the maximum design heat input capacity.

See 40 CFR Part 60, Subpart Db (40 CFR 60.40b – 49b)

- (8) The owner or operator shall record and maintain records of the amounts of each gaseous fuel combusted (BFG, NG) each year, in each boiler unit, on a volume basis (MMScf) and calculate the ratio of BFG to NG input to ensure each boiler unit receives 90% or more of its total annual gas volume from BFG.

See 40 CFR Part 63, Subpart DDDDD (40 CFR 63.7480 – 7575)

- (9) The PTI application for B011 & B012 was evaluated based on the actual materials and the design parameters of B011/B012's exhaust systems, as specified by the permittee. The *Toxic*



Air Contaminant Statute, ORC 3704.03(F), was applied to these EUs for each toxic air contaminant listed in OAC rule 3745-114-01 using data from the permit application; and modeling was performed for each toxic air contaminant emitted at over 1 TPY using an air dispersion model such as AERSCREEN, AERMOD, ISCST3 or other Ohio EPA-approved model. The predicted one-hour maximum ground-level concentration results from the approved air dispersion model, were compared to the MAGLC, calculated as described in Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A," as follows:

- a. The exposure limit, expressed as a time-weighted average concentration for a conventional eight-hour workday and a 40-hour workweek, for each toxic compound emitted from the B011 & B012 (as determined from the raw materials processed and/or coatings or other materials applied), has been documented from the American Conference of Governmental Industrial Hygienists "Threshold Limit Values for Chemical Substances and Physical Agents Biological Exposure Indices and in the following order of preference:
 - i. TLV shall be used, if the chemical is listed; or
 - ii. Short-term exposure limit (STEL) or the ceiling value; the STEL is multiplied by 0.737 to convert the 15-minute exposure limit to an equivalent eight-hour TLV.
- b. The TLV is divided by 10 to adjust the standard from the working population to the general public.
- c. This standard is adjusted to account for the duration of the exposure or the operating hours of B011 & B012, that is, *X* hours per day and *Y* days per week, from that of eight hours per day and five days per week.
- d. The resulting calculation shall be used to determine the MAGLC:
$$\frac{TLV}{10} \times \frac{8}{X} \times \frac{5}{Y} = 4 \frac{TLV}{XY} = MAGLC$$
- e. The following summarizes the results of dispersion modeling for the significant toxic contaminants (emitted at 1 TPY or more) or *worst-case* scenario:
 - i. Toxic Contaminant: hexane
TLV (mg/m³): 176
Maximum Hourly Emissions Rate (lb/hr): 4.2
Predicted One-Hour Maximum Ground-Level Concentration (µg/m³): 2.0
MAGLC (µg/m³): 4,196

The permittee has demonstrated that emissions of hexane, from B011 & B012, are calculated to be less than 80% of the MAGLC; any new raw material or processing agent shall not be applied without evaluating each component toxic air contaminant in accordance with the *Toxic Air Contaminant Statute*, ORC 3704.03(F).

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:



- a. during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, each exceedance of any cumulative emissions limitation listed in the table in b)(2)e. for SO₂, CO, NO_x, PM₁₀/PM_{2.5}, PM, and/or VOC emissions;
 - b. beginning after the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, each exceedance of any rolling, 12-month emissions limitation listed in b)(1)d. for SO₂, CO, NO_x, PM₁₀/PM_{2.5}, PM, and/or VOC emissions;
 - c. each period of time (start time and date, and end time and date) when the backup flare is not lit when BFG is vented to it, and the cause of each incident;
 - d. each day the backup flare is not operated in accordance with the manufacturer's specifications and with good operating practice, including if the pilot flame goes out or fails to relight, and an alarm does not sound;
 - e. any corrective action(s) taken for each incident described in a. and/or b.;
 - f. all days during which any VE were observed from the boiler stacks or flare stack serving these sources;
 - g. any corrective action(s) taken to minimize or eliminate the VE;
 - h. each month in which the calculated annual capacity factor, based on a 12-month rolling average, exceeds 10 percent for NG;
 - i. in the deviation (excursion) report covering the 4th quarter of each calendar year, if either boiler unit received < 90% of its total annual gas volume from BFG;
 - j. any corrective action(s) taken for each incident described in f and/or g.
- (2) The permittee shall submit annual reports that include any changes to any parameter or value entered in the dispersion model used to demonstrate compliance with the *Toxic Air Contaminant Statute*, ORC 3704.03(F), through the predicted one-hour maximum ground-level concentration. The report shall include:
- The original model input;
- a. The updated model input;
 - b. The reason for each change to any input parameter;
 - c. A summary of the results of the updated modeling, including the input changes; and
 - d. A statement that the model results indicate that the one-hour maximum ground-level concentration is less than 80% of the MAGLC.
- If no changes to the emissions, B011/B012, or the exhaust stacks have been made during the reporting period, then the report shall include a statement to that effect. This report shall be postmarked or delivered no later than January 31 following the end of each calendar year.
- (3) See 40 CFR Part 60, Subpart Db (40 CFR 60.40b – 49b)
- (4) See 40 CFR Part 63, Subpart DDDDD (40 CFR 63.7480 – 7575)
- f) Testing Requirements



- (1) Compliance with the Emissions Limitations and/or Control Requirements specified in section b) of these terms and conditions shall be determined in accordance with the following methods:

a. Emissions Limitations:

BAT - BFG Backup Flare and 1,200 MMBtu/hr BFG/NG co-fired COGEN Plant Boilers

Special Terms and Conditions (Netting) to avoid PSD for CO, NO_x, PM, PM₁₀, PM_{2.5}, and SO₂

BAT is established as a source design characteristic in which the permittee shall install a 2,400 MMBtu/hr flare, with a 10 MMBtu/hr NG or propane pilot, and burners in the 1,200 MMBtu/hr BFG/NG co-fired COGEN Plant Boilers that are designed to meet the Federally Enforceable emissions limits established pursuant to OAC rule 3745-31-05(D) in b)(1)d. as follows:

when combusting BFG:

0.32 pound of SO₂/MMBtu heat input

0.116 pound of CO/MMBtu heat input

0.012 pound of NO_x/MMBtu heat input

0.0038 pound of PM/MMBtu heat input

0.019 pound of PM₁₀/PM_{2.5}/MMBtu heat input, including condensable emissions

when combusting NG*:

0.082 pound of CO/MMBtu heat input

0.08 pound of NO_x/MMBtu heat input

0.002 pound of PM/MMBtu heat input

0.007 pound of PM₁₀/PM_{2.5}/MMBtu heat input, including condensable emissions

0.0006 pound of SO₂/MMBtu heat input

Applicable Compliance Method:

Initial compliance shall be demonstrated by the Testing Requirement in f)(2).

b. Emissions Limitations:

1,981 TPY SO₂, based on a rolling, 12-month summation

864 TPY CO, based on a rolling, 12-month summation

213 TPY NO_x, based on a rolling, 12-month summation

128 TPY PM₁₀/PM_{2.5}, including condensable emissions, based on a rolling, 12-month summation

27 TPY PM, based on a rolling, 12-month summation

15 TPY VOC, based on a rolling, 12-month summation

Applicable Compliance Method:

Compliance with the rolling, 12-month emissions limitations shall be demonstrated by the recordkeeping in d)(1).



c. Emissions Limitation:

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

Visible particulate emissions from any stack shall not exceed 20% opacity, as a 6-minute average, except as specified by rule.

Applicable Compliance Method:

Although not specifically required through this PTI, if required in the future, compliance with the visible emissions shall be determined through visible emissions observations performed in accordance with 40 CFR Part 60, Appendix A, Method 9, and the procedures specified in OAC rule 3745-17-03(B)(1).

d. Emissions Limitations:

SIP - OAC rule 3745-17-10(B)(1)

PE shall not exceed 0.020 pound of PE/MMBtu of actual heat input when burning only NG.

PE shall not exceed 0.040 pound of PE/MMBtu of actual heat input when burning only BFG or any mixture of BFG with NG.

Applicable Compliance Method:

Compliance with the particulate emission limitation when burning BFG may be based upon the emission factor of 0.035 lb PE/MMBtu found in US EPA AP-42 Section 12.5, Table 12.5-1, dated 10/1986.

Compliance with the particulate emission limitation when burning NG may be determined in accordance with the following equation:

$$E \text{ (lb/MMBtu)} = (1.9 \text{ lb}/10^6 \text{ scf}) \times (1 \text{ scf}/1000 \text{ Btu}) \times (1,000,000 \text{ Btu/MMBtu}) = 0.0019 \text{ lb/MMBtu}$$

Where: E = particulate emission rate from NG, in lb/MMBtu;

1.9 lb/10⁶ scf = emission factor for filterable particulate matter from burning NG, from AP-42, Section 1.4 Natural Gas Combustion, Table 1.4-2, 7/98;

1 scf/1000 Btu = the heat value of 1 scf of NG; and

1,000,000 Btu/MMBtu = conversion from Btu to MMBtu.

e. Emissions Limitation:

SIP - OAC rule 3745-110-03(D)

NO_x emissions shall not exceed 0.08 lb/MMBtu from combustion of gaseous fuels (BFG/NG).

The NO_x emissions limit established pursuant to this rule is equal to the NO_x emissions limit established pursuant to OAC rule 3745-31-05(D) in b)(1)d.

Applicable Compliance Method:

Initial compliance shall be demonstrated by the Testing Requirement in f)(2).

The permittee shall demonstrate compliance with this emission limitation through emission testing conducted on each emissions unit in accordance with the USEPA test methods and procedures in OAC rule 3745-110-05(B) and OAC rule 3745-110-05(B)(1). See 8.a)(4) of Section B.

- (2) The permittee shall conduct, or have conducted, emissions testing for the boiler units per the following requirements:
- a. Initial emissions testing of each boiler unit shall be conducted within three (3) months after initial start-up of each boiler unit;
 - b. The emissions testing shall be conducted to demonstrate compliance with the allowable mass emissions rate(s) for CO, NO_x, and SO₂ outlined in b)(1)d. and enforced through Special Terms and Conditions (Netting) to avoid PSD;
 - c. The following test method(s) shall be employed to demonstrate compliance with the allowable mass emissions rate(s):
 - i. for CO, Method 10 of 40 CFR Part 60, Appendix A
 - ii. for NO_x, Method 7 of 40 CFR Part 60, Appendix A
 - iii. for SO₂, Method 6 of 40 CFR Part 60, Appendix AAlternative U.S. EPA-approved test methods may be used with prior approval from SWOQA and Ohio EPA.
 - d. During the emissions testing, the EU shall be operated under operational conditions approved in advance by the appropriate Ohio DO/LAA. Operational conditions that may need to be approved include, but are not limited to, the production rate, the type of material processed, material make-up (solvent content, etc.) or control equipment operational limitations (burner temperature, precipitator voltage, etc.). In general, testing shall be done under *worst case* conditions expected during the life of the permit. As part of the information provided in the Intent to Test (ITT) notification form described below, the permittee shall provide a description of the EU operational conditions they will meet during the emissions testing and describe why they believe *worst case* operating conditions will be met. Prior to conducting the test(s), the permittee shall confirm with the appropriate Ohio EPA DO/LAA that the proposed operating conditions constitute *worst case*. Failure to test under the approved conditions may result in Ohio EPA not accepting the test results as a demonstration of compliance.
 - e. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an ITT notification to the appropriate Ohio EPA DO/LAA. The ITT notification shall describe in detail the proposed test methods and procedures, the EU 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 DO/LAA's refusal to accept the results of the emission test(s).
 - f. Personnel from the appropriate Ohio EPA DO/LAA shall be permitted to witness the test(s), examine the testing equipment and acquire data and information necessary to ensure that the operation of the EU and the testing procedures provide a valid characterization of the emissions from the EU 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(s) responsible for the tests and submitted to the appropriate Ohio EPA DO/LAA 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 DO/LAA.

g) Miscellaneous Requirements

(1) None.