

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

4/3/2014

Certified Mail

Mr. Thomas Kinman, P.E.
Cincinnati Children's Hospital Medical Center
3333 Burnet Avenue
Facilities Management, M.L.C. #8000
Cincinnati, OH 45229-3039

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 1431071395
Permit Number: P0115545
Permit Type: Initial Installation
County: Hamilton

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

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 contains several conditions and restrictions, we urge you to read it carefully. Because this permit contains conditions and restrictions, please read it very carefully. In this letter you will find the information on the following topics:

- **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**

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 Josh Mandel," 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
77 South High Street, 17th 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 our Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. 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: www.ohioairquality.org/clean_air

How to give us feedback on your permitting experience

Please complete a survey at www.epa.ohio.gov/survey.aspx 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 Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Search for Permits" link under the Permitting topic on the Programs tab.

If you have any questions, please contact Southwest Ohio Air Quality Agency at (513)946-7777 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,

Michael W. Ahern

Michael W. Ahern, Manager

Permit Issuance and Data Management Section, DAPC

Cc: U.S. EPA
SWOQA; Indiana; Kentucky



FINAL

**Division of Air Pollution Control
Permit-to-Install
for
Cincinnati Children's Hospital Medical Center**

Facility ID: 1431071395
Permit Number: P0115545
Permit Type: Initial Installation
Issued: 4/3/2014
Effective: 4/3/2014



Division of Air Pollution Control
Permit-to-Install
for
Cincinnati Children's Hospital Medical Center

Table of Contents

Authorization	1
A. Standard Terms and Conditions	3
1. Federally Enforceable Standard Terms and Conditions	4
2. Severability Clause	4
3. General Requirements	4
4. Monitoring and Related Record Keeping and Reporting Requirements.....	5
5. Scheduled Maintenance/Malfunction Reporting	6
6. Compliance Requirements	6
7. Best Available Technology	7
8. Air Pollution Nuisance	7
9. Reporting Requirements	8
10. Applicability	8
11. Construction of New Sources(s) and Authorization to Install	8
12. Permit-To-Operate Application	9
13. Construction Compliance Certification	9
14. Public Disclosure	10
15. Additional Reporting Requirements When There Are No Deviations of Federally Enforceable Emission Limitations, Operational Restrictions, or Control Device Operating Parameter Limitations	10
16. Fees.....	10
17. Permit Transfers	10
18. Risk Management Plans	10
19. Title IV Provisions	10
B. Facility-Wide Terms and Conditions.....	11
C. Emissions Unit Terms and Conditions	14
1. Emissions Unit Group -Location T Boilers: B023,B024,.....	15



Authorization

Facility ID: 1431071395
Facility Description: Hospital
Application Number(s): A0048401
Permit Number: P0115545
Permit Description: Initial Installation of two (2) natural gas and No.2 fuel oil-fired, 26.2 MMBtu/hr boilers with combined emission limits and a combined federally enforceable annual heat input limit while burning No 2. fuel oil to avoid PSD and NSR.
Permit Type: Initial Installation
Permit Fee: \$400.00
Issue Date: 4/3/2014
Effective Date: 4/3/2014

This document constitutes issuance to:

Cincinnati Children's Hospital Medical Center
3333 Burnet Avenue
Cincinnati, OH 45229-3039

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

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

Southwest Ohio Air Quality Agency
250 William Howard Taft Rd.
Cincinnati, OH 45219
(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

Craig W. Butler
Director



Authorization (continued)

Permit Number: P0115545

Permit Description: Initial Installation of two (2) natural gas and No.2 fuel oil-fired, 26.2 MMBtu/hr boilers with combined emission limits and a combined federally enforceable annual heat input limit while burning No 2. fuel oil to avoid PSD and NSR.

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

Group Name: Location T Boilers

Emissions Unit ID:	B023
Company Equipment ID:	Location T - Boiler 1 of 2
Superseded Permit Number:	
General Permit Category andType:	Not Applicable
Emissions Unit ID:	B024
Company Equipment ID:	Location T - Boiler 2 of 2
Superseded Permit Number:	
General Permit Category andType:	Not Applicable



Final Permit-to-Install
Cincinnati Children's Hospital Medical Center
Permit Number: P0115545
Facility ID: 1431071395
Effective Date: 4/3/2014

A. Standard Terms and Conditions



1. Federally Enforceable Standard Terms and Conditions

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

2. Severability Clause

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

3. General Requirements

- a) 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 Southwest Ohio Air Quality Agency every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.
 - (4) This permit is for an emissions unit located at a Title V facility. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
- d) The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to the 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 shutdown 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 by up to 12 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 shutdown of the affected emissions unit(s).

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

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 other any reporting required by this permit for the period the operating provisions of this permit were enforceable, or as required by regulation or law. All reports shall be submitted in a form and manner prescribed by the Director. All records relating to this permit must be maintained in accordance with law.

12. Permit-To-Operate Application

The permittee is required to apply for a Title V permit pursuant to OAC Chapter 3745-77. The permittee shall submit a complete Title V permit application or a complete Title V permit modification application within twelve (12) months after commencing operation of the emissions units covered by this permit. However, if 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 fees to the Director of the Ohio EPA in accordance with ORC section 3745.11 and OAC Chapter 3745-78. The permittee shall pay all applicable permit-to-install fees within 30 days after the issuance of any permit-to-install. The permittee shall pay all applicable permit-to-operate fees within thirty days of the issuance of the invoice.

17. Permit Transfers

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

18. Risk Management Plans

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

19. Title IV Provisions

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



Final Permit-to-Install
Cincinnati Children's Hospital Medical Center
Permit Number: P0115545
Facility ID: 1431071395
Effective Date: 4/3/2014

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 Ohio EPA has determined that this facility is subject to the requirements of an area source MACT/GACT rule that the Ohio EPA does not have the delegated authority to implement. Although Ohio EPA has determined that an area source MACT (also known as the GACT) applies, at this time Ohio EPA does not have the authority to enforce this standard. Instead, USEPA has the authority to enforce this standard. Please be advised that all requirements associated with these rules are in effect and are enforceable by USEPA. For more information on the area source rules, please refer to the following USEPA website: <http://www.epa.gov/ttn/atw/area/arearules.html>

The area source rule that applies is 40 CFR Part 63 Subpart JJJJJJ Industrial, Commercial, Institutional Boiler for emissions units B008 thru B024.

3. The following abbreviations are used throughout this permit.

Nitrogen Oxides = NO_x

Carbon Monoxide = CO

Organic Compounds = OC

Volatile Organic Compounds = VOC

Particulate emissions = PE

Particulate matter less than 10 microns in diameter = PM₁₀

Particulate matter less than 2.5 microns in diameter = PM_{2.5}

Sulfur dioxide = SO₂

Hazardous Air Pollutant = HAP

Tons per year = TPY

MM = Million

CFR = Code of Federal Regulations

OAC = Ohio Administrative Code

4. This permit includes a federally enforceable condition limiting the total No. 2 fuel oil heat input to 278,287 MMBtu/yr to maintain the rolling 12 month project emission rate for nitrogen oxides (NO_x) below the New Source Review (NSR) and Prevention of Significant Deterioration (PSD) significant emission rate of 40 tons/year.

The PSD-avoidance fuel oil use limit for the proposed boilers is based on the PSD-avoidance NO_x rolling twelve-month potential to emit allowance available for the new boilers. The total NO_x PTE



allowance for the two boilers was calculated by subtracting the NO_x PTE from two emergency generators that are also part of the project to install boilers B023 and B024. The name of the project is the Location T project. The emergency generators PTE were based on 500 hour/year operation, consistent with the September 6, 1995 US EPA guidance memorandum for "Calculating Potential to Emit for Emergency Generators". Based on the manufacture guaranteed NO_x emission factor of 35.27 pounds of NO_x per hour, for the RICEs driving the individual generators and 500 hours/year emergency generator operation of each RICE, the maximum rolling twelve month NO_x PTE for the two emergency generators is calculated at 17.64 tons. Subtracting the generators NO_x PTE for the PSD significant rate of 40 TPY, the total NO_x PTE for the proposed boilers must be maintained below 22.26 (40-17.64) tons for the rolling twelve month period for the PSD avoidance. The facility has requested a NO_x emission limit for the proposed boilers of 22.26 tons/rolling 12-month period. The request for a federally enforceable condition limiting the total No. 2 fuel oil heat input to 278,287 MMBtu/yr, is based on maintaining the Location-T project boilers combined NO_x limit to 22.26 TPY maximum. Two PBR applications were submitted for the Location-T emergency generators separately in accordance with OAC rules.



Final Permit-to-Install
Cincinnati Children's Hospital Medical Center
Permit Number: P0115545
Facility ID: 1431071395
Effective Date: 4/3/2014

C. Emissions Unit Terms and Conditions



1. Emissions Unit Group -Location T Boilers: B023,B024,

EU ID	Operations, Property and/or Equipment Description
B023	Natural Gas/No. 2 Fuel Oil 26 MMBtu/hrThermogenics Boiler 1 of 2 Located at Location T.
B024	Natural Gas/No. 2 Fuel Oil 26 MMBtu/hrThermogenics Boiler 2 of 2 Located at Location T.

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(D) Avoidance of PSD and New Source Review	The following emission limitation shall not be exceeded when burning natural gas: Nitrogen Oxide (NOx) emissions shall not exceed 0.08 lb/mmBtu of actual heat input*. The following emission limitation shall not be exceeded when burning No. 2 fuel oil: NOx emissions shall not exceed 0.16 lb/mmBtu of actual heat input*. The following emission limitation for emission units B023 and B024 combined, shall not be exceeded when burning either Natural Gas or No. 2 Fuel Oil Use: Emissions of NOx shall not exceed 22.26 tons per year (TPY) based on a rolling, 12-month summation. *The emission limitations outlined above are based on these emissions units' potential to emit (PTE). Therefore, no records are required to demonstrate compliance with these limitations. See b)(2)a, b)(2)b, and c)(1) through c)(5) and c)(7).



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
b.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	<p>The following emission limitations for emission units B023 and B024 combined, shall not be exceeded while burning natural gas:</p> <p>Emissions of CO shall not exceed 1.52 ton per month averaged over a 12-month rolling period.</p> <p>Emissions of VOC shall not exceed 0.11 ton per month averaged over a 12-month rolling period.</p> <p>Emissions of SO₂ shall not exceed 0.011 ton per month averaged over a 12-month rolling period.</p> <p>Emissions of PE shall not exceed 0.144 ton per month averaged over a 12-month rolling period.*</p> <p>Emissions of PM₁₀ shall not exceed 0.144 ton per month averaged over a 12-month rolling period.*</p> <p>Emissions of PM_{2.5} shall not exceed 0.144 ton per month averaged over a 12-month rolling period.*</p> <p>*For natural gas firing per AP-42 Table 1.4-2, all PM is less than 1.0 micrometers in diameter, therefore PM₁₀ and PM_{2.5} are equal to total PE.</p> <p>Compliance with OAC rule 3745-31-05(A)(3) when burning fuel oil is equivalent to the work practice standard in c)(6).</p> <p>See b)(2)c. and c)(6).</p>
c.	OAC rule 3745-31-05(A)(3), as effective 12/01/06	See b)(2)d.
d.	OAC rule 3745-17-07(A)	Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
e.	OAC rule 3745-18-06(A)	Fuel burning equipment is exempt from paragraphs (D), of OAC rule 3745-18-06, during any calendar day in which natural gas is the only fuel burned.
f.	OAC rule 3745-18-06(D)	The sulfur dioxide emission limitation specified in this rule (1.6 lbs/MMBtu actual heat input) is less stringent than the sulfur dioxide limitations established pursuant to OAC rule 3745-31-05(A)(3) and the voluntary restrictions outlined in c)(2).
g.	OAC rule 3745-17-10(B)(1)	0.020 pound PE per MMBtu of actual heat input when firing natural gas or No. 2 fuel oil.
h.	40 CFR Part 60, Subpart Dc	The fuel quality requirements of this rule are less stringent than the voluntary restrictions outlined in c)(2).

(2) Additional Terms and Conditions

- a. This permit establishes the following federally enforceable emission limitations for purposes of limiting Potential to Emit (PTE) to avoid Prevention of Significant Deterioration (PSD) and Non-Attainment New Source Review (NSR). The federally enforceable emission limitations are based on the operational restrictions contained in c)(1) which limits fuel usage type, and c)(4) which limits the annual heat input while burning No. 2 fuel oil, and c)(5) which requires the use of low NOx burners.

The federally enforceable emission limitations established in b)(1)a. result in an annual restricted PTE of 22.26 TPY for NOx. The annual restricted PTE level was established by multiplying the federally enforceable emission limitations, in pound per million Btu of actual heat input for No. 2 fuel oil, by the federally enforceable limited heat input capacity in millions of Btus per year while burning No. 2 fuel oil (278,287 MMBtu/yr), and dividing by 2000 pounds.

Of the two fuel usage scenarios (gas or oil) the worst case emission limitations, in pound per million Btu, for each pollutant were used to determine the annual restricted PTEs, taking into account the annual restriction of 278,287 MMBtu while burning No. 2 fuel oil and the annual rated capacity of 455,520 MMBtu while burning natural gas.

- b. The emissions units shall employ burners designed to achieve a NOx emissions rate of 0.08 pound per million Btu of actual heat input when burning natural gas and 0.16 pound per million Btu of actual heat input when burning No. 2 fuel oil.
- c. The permittee has satisfied the Best Available Technology (BAT) requirements pursuant to Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3), as



effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to the Ohio Revised Code (ORC) changes effective August 3, 2006 (Senate Bill 265 changes), such that BAT is no longer required by State regulations for National Ambient Air Quality Standards (NAAQS) pollutant(s) less than ten tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revisions to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, these emission limitations/control measures no longer apply.

- d. This rule paragraph applies once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05 as part of the State Implementation Plan.

The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the CO, SO₂, VOC, PE, PM₁₀ and PM_{2.5} emissions from these emissions units since the potential to emit for CO, SO₂, VOC, PE, PM₁₀ and PM_{2.5} is less than 10 TPY, each.

- e. The application and enforcement of the provisions of the New Source Performance Standards (NSPS), as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60, are delegated to the Ohio Environmental Protection Agency. The requirements of 40 CFR Part 60 are also federally enforceable.

c) **Operational Restrictions**

- (1) The permittee shall burn only natural gas and/or No. 2 fuel oil in these emissions units.
- (2) The quality of No. 2 fuel oil received for burning in these emissions units shall have a sulfur content of 0.05 percent by weight or less.
- (3) The quality of the oil burned in these emissions units shall have a combination of heat and sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitations.
- (4) When burning No. 2 fuel oil, the maximum annual heat input rate for emissions units B023 and B024 combined shall not exceed 278,287 MMBtu per year, based upon a rolling, 12 month summation of the heat input rates.
- (5) These emissions units are required to employ low NO_x burners.
- (6) The owner or operator of a new boiler with a heat input capacity of greater than 5 MMBtu/hr that do not meet the definition of a seasonal or limited-use boiler, or use an oxygen trim system that maintains and optimum fuel to air ratio must conduct an initial tune-up and conduct a tune-up biennially.
- (7) The total combined gallons of No. 2 fuel oil burned in these emissions units shall not exceed 2,016,570 gallons per year, based upon a rolling, 12-month summation of the



gallons No. 2 fuel oil burned. 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 fuel usage limitation specified in the following table:

Month(s)	Maximum Allowable Cumulative gallons of No. 2 fuel oil (gallons)
1	168,048
1-2	336,095
1-3	504,142
1-4	672,190
1-5	840,237
1-6	1,008,285
1-7	1,176,332
1-8	1,344,380
1-9	1,512,427
1-10	1,680,475
1-11	1,848,522
1-12	2,016,570

After the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, compliance with the annual No. 2 fuel use limitation for B023 and B024 combined shall be based upon a rolling, 12-month summation of the No. 2 fuel use in gallons.

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

(1) The permittee shall maintain records of the oil burned in these emissions units in accordance with either Alternative 1 or Alternative 2 described below:

a. **Alternative 1:**

For each shipment of oil received for burning in these emissions units, the permittee shall collect or require the oil supplier to collect a representative grab sample of oil and maintain records of the total quantity of oil received, the permittee's or oil supplier's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/MMBtu). The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F). A shipment may be comprised of multiple tank truck loads from the same supplier's batch, or may be represented by



single or multiple pipeline deliveries from the same supplier's batch, and the quality of the oil for those loads or pipeline deliveries may be represented by a single batch analysis from the supplier.

b. Alternative 2:

The permittee shall collect a representative grab sample of oil that is burned in these emissions units for each day when these emissions units are in operation. If additional fuel oil is added to the tank serving these emissions units on a day when these emissions units are in operation, the permittee shall collect a sufficient number of grab samples to develop a composite sample representative of the fuel oil burned in these emissions units. A representative grab sample of oil does not need to be collected on days when these emissions units are only operated for the purpose of "test-firing." The permittee shall maintain records of the total quantity of oil burned each day, except for the purpose of test-firing, the permittee's analyses for sulfur content and heat content, and the calculated sulfur dioxide emission rate (in lbs/MMBtu). The sulfur dioxide emission rate shall be calculated in accordance with the formula specified in OAC rule 3745-18-04(F).

The permittee shall perform or require the supplier to perform the analyses for sulfur content and heat content in accordance with 40 CFR Part 60, Appendix A, Method 19, or the appropriate ASTM methods, such as ASTM methods D240 Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by Bomb Calorimeter and D4294, Standard Test Method for Sulfur in Petroleum and Petroleum Products by Energy-Dispersive X-Ray Fluorescence Spectrometry, or ASTM D7039 Standard Test Method for Sulfur in Gasoline and Diesel Fuel by Monochromatic Wavelength Dispersive X-ray Fluorescence Spectrometry, or equivalent methods as approved by the Director.

- (2) The permittee shall maintain monthly records of the following information:
- a. the total combined amount of natural gas burned in emissions units B023 and B024, in cubic feet;
 - b. the total combined amount of No. 2 fuel oil burned in emissions units B023 and B024, in gallons;
 - c. the rolling, 12-month summation for the combined amount of natural gas burned, recorded in cubic feet, for emissions units B023 and B024;
 - d. the rolling, 12-month summation for the combined amount of No.2 fuel oil burned, recorded in gallons, for emissions units B023 and B024;
 - e. the rolling, 12-monthly summation emissions total, in tons, for NO_x when burning any combination of fuels (the total amount of emissions calculated for the current month plus the total amount of emissions for the previous eleven calendar months). The TPY emission calculations shall be performed using the emission factors found in f(1), and
 - f. the rolling 12-month summation of the combined heat input in million BTU when firing No. 2 fuel oil for emissions units B023 and B024.



Also, during the first 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 No. 2 fuel usage for each calendar month for emissions units B023 and B024.

e) 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 deviation (excursion) reports that identify each day when a fuel other than natural gas and/or No. 2 fuel oil was burned in these emissions units. Each report shall be submitted within 30 days after the deviation occurs.
- (3) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
 - a. any exceedance of the allowable NO_x emission limitations, in pounds NO_x per MMBtu of actual heat input;
 - b. any exceedance of the allowable NO_x emission limitation, in tons per year based on a rolling 12-months period.
 - c. any exceedance of the restriction on the allowable heat input in c)(4), in MMBtu per rolling 12-months, when burning No. 2 fuel oil for these emissions units;
 - d. any exceedance of the allowable SO₂ content in c)(2), and
 - e. beginning after the first 12 calendar months of operation or the first calendar months following the issuance of this permit, any exceedance of the allowable No. 2 fuel oil usage limitation in c)(7).

Also, during the first 12 calendar months of operation or the first 12 calendar months following the issuance of this permit, any exceedances of the maximum allowable cumulative No. 2 fuel oil usage limitation in c)(7).

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

f) Testing Requirements

- (1) Compliance with the 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. Emission Limitations:

Emissions of nitrogen oxides (NO_x) for these emissions units shall not exceed 0.08 pound per million Btu of actual heat input when burning natural gas.



Emissions of NO_x for these emissions units shall not exceed 0.16 pound per million Btu of actual heat input when burning No. 2 fuel oil.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with these emission limitations through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 7.

The Applicable Emission Limitations are based on the Vendor Guaranteed Emission rates as supplied by the permittee in PTI Application A0048401, October 4, 2013.

b. Emission Limitations:

Emissions of NO_x shall not exceed 22.26 tons per year (TPY) based on a rolling, 12-month summation.

Applicable Compliance Method:

Compliance with the rolling, 12-month NO_x emission limitations shall be demonstrated by the recordkeeping in d)(2).

The Applicable Emission Limitations are based on the Vendor Guaranteed Emission rates as supplied by the permittee in PTI Application A0048401, October 4.

Usage scenario assuming an operating period of 100% No. 2 fuel oil combustion

0.16 pound of NO_x/million Btu, No. 2 fuel oil x 278,287 max MMBtu/year x 1 Ton/2000 pounds = 22.26 Tons NO_x/year.

c. Emission Limitation:

PE shall not exceed 0.020 pound per million Btu of actual heat input when burning either natural gas or No. 2 fuel oil.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with this emission limitation through emission tests performed in accordance with 40 CFR Part 60, Appendix A, Methods 1 through 4 and 5.

The Applicable Emission Limitation is based on the SIP allowable in OAC rule 3745-17-10(B)(1).

d. Emission Limitations:

The following emission limitations for emission units B023 and B024 combined, shall not be exceeded while burning natural gas:



Emissions of VOC shall not exceed 0.11 ton per month averaged over a 12-month rolling period.

Emissions of SO₂ shall not exceed 0.011 ton per month averaged over a 12-month rolling period.

Emissions of carbon monoxide (CO) shall not exceed 1.52 tons per month averaged over a 12-month rolling period.

Emissions of PE, PM₁₀ and PM_{2.5} shall not exceed 0.144 ton per month each, averaged over a 12-month rolling period.

Applicable Compliance Method when burning natural gas:

*0.008 pound of PE, PM₁₀ and PM_{2.5} /million Btu, natural gas x 455,520 max MMbtu/year x 1 Ton/2000 pounds / 12 months/year = 0.15 ton PE, PM₁₀ and PM_{2.5} per month averaged over a 12-month rolling period.

*For natural gas firing, per AP-42 table 1.4-2 (7/98) all PE are less than 1 micrometer, therefor PM₁₀ and PM_{2.5} are equivalent to total PM.

0.08 pound of CO/million Btu, natural gas x 455,520 max MMbtu/year x 1 Ton/2000 pounds / 12 months/year = 1.52 ton CO per month averaged over a 12-month rolling period.

0.0055 pound of VOC/million Btu, natural gas x 455,520 max MMbtu/year x 1 Ton/2000 pounds / 12 months/year = 0.11 ton VOC per month averaged over a 12-month rolling period.

0.0006 pound of SO₂/million Btu, natural gas x 455,520 max MMbtu/year x 1 Ton/2000 pounds / 12 months/year = 0.011 ton SO₂ per month averaged over a 12-month rolling period.

Compliance with the monthly average CO, SO₂, VOC, PE, PM₁₀ and PM_{2.5} emission limitations shall be demonstrated by the recordkeeping in d)(2).

e. Emission Limitation:

Visible particulate emissions from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.

Applicable Compliance Method:

If required, compliance with the stack visible particulate emissions limitation shall be determined through visible emissions observations performed in accordance with U.S. EPA Method 9.

f. Emission Limitation.

The quality of No. 2 fuel oil received for burning in these emissions units shall have a sulfur content of 0.05 percent by weight or less.



Applicable Compliance Method:

Compliance with the requirements for quality of No. 2 fuel oil shall be demonstrated by the recordkeeping in d)(1).

g. Emission Limitation.

The quality of the oil burned in this emissions unit shall have a combination of heat and sulfur content which is sufficient to comply with the allowable sulfur dioxide emission limitations.

Applicable Compliance Method:

Compliance with the requirements for quality of No. 2 fuel oil shall be demonstrated by the recordkeeping in d)(1) and d)(2).

h. Emission Limitation.

When burning No. 2 fuel oil, the maximum annual heat input rate for emissions units B023 and B024 combined shall not exceed 278,287 MMBtu per year, based upon a rolling, 12 month summation of the heat input rates.

Applicable Compliance Method:

Compliance with the maximum annual heat input rate shall be demonstrated by the recordkeeping in d)(2).

i. Emission Limitation.

The gallons of No. 2 fuel oil from this emissions unit shall not exceed 2,016,570 gallons per year, based upon a rolling, 12-month summation of the gallons No. 2 fuel oil burned. 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 fuel usage limitation specified in c)(7).

Applicable Compliance Method:

Compliance with the annual fuel usage limitation shall be demonstrated by the recordkeeping in d)(2).

g) Miscellaneous Requirements

As part of this permitting project for purposes of New Source Review permitting, the permittee is installing two 2.5 megawatt (MW) emergency generators powered by internal combustion diesel engines that are limited by the 500 hour operating restriction in OAC 3745-31-03(A)(4)(b) and taken together with emissions units B023 and B024 contained within this permit their NOx emissions will be limited to 39.9 tons per year (less than 40 tons per year PSD significant rate), based upon a 12-month summation of their monthly NOx emissions.