

Facility ID: 1431073463 Issuance type: Final State Permit To Operate

This version of facility specific terms and conditions was converted from a database format to an HTML file during an upgrade of the Ohio EPA, Division of Air Pollution Control's permitting software. Every attempt has been made to convert the terms and conditions to look and substantively conform to the permit issued or being drafted in STARS. However, the format of the terms may vary slightly from the original. In addition, although it is not expected, there is a slight possibility that a term and condition may have been inadvertently "left out" of this reproduction during the conversion process. Therefore, if this version is to be used as a starting point in drafting a new version of a permit, it is imperative that the entire set of terms and conditions be reviewed to ensure they substantively mimic the issued permit. The official version of any permit issued final by Ohio EPA is kept in the Agency's Legal section. The Legal section may be contacted at (614) 644-3037.

In addition to the terms and conditions, hyperlinks have been inserted into the document so you may more readily access the section of the document you wish to review.

Finally, the term language under "Part II" and before "A. Applicable Emissions Limitations..." has been added to aid in document conversion, and was not part of the original issued permit.

THIS IS NOT AN OFFICIAL VERSION OF THE PERMIT. SEE PAGE 1 FOR ADDITIONAL INFORMATION

Facility ID: 1431073463 Emissions Unit ID: P001 Issuance type: Final State Permit To Operate

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Part II - Special Terms and Conditions

This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).

1. For the purpose of a permit-to-install document, the emissions unit terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (a) None.
2. For the purpose of a permit-to-operate document, the emissions unit terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (a) None.

A. Applicable Emissions Limitations and/or Control Requirements

1. The specific operation(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be employed. Additional applicable emissions limitations and/or control measures (if any) may be specified in narrative form following the table.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
P001 - Hydrogen Generating Process with 31.9 mmBtu/hr Natural Gas Fired Reformer Furnace	OAC rule 3745-31-05(A)(3) PTI 14-05789	The following emissions limitations shall not be exceeded: 0.098 pound nitrogen oxides (NOx) per million British thermal units and 13.7 tons per year NOx. 0.002 pound of sulfur dioxide (SO2) per million British thermal units and 0.285 ton per year SO2. 0.0824 pound carbon monoxide (CO) per million British thermal units and 13.98 tons per year CO. 0.0054 pound of volatile organic compounds (VOC) per million British thermal units and 0.753 ton per year VOC. 0.0075 pound of particulate emissions (PE) and 0.0075 pound of particulate matter emissions 10 microns or less in diameter (PM10) per million British thermal units and 1.04 tons per year PE/PM10. See terms and conditions A.2.e and B.1. The requirements of this rule also include compliance with the requirements of OAC rule 3745-17-07(A)(1), OAC rule 3745-21-08(B) and OAC rule 3745-23-06 (B).
	OAC rule 3745-17-07(A)(1)	Visible particulate emissions from any stack shall not exceed 20 percent opacity, as a six-minute average, except as specified by rule.
	OAC rule 3745-17-10(B)(1)	The emissions limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(A)(3).
	OAC rule 3745-21-08(B)	See term and condition A.2.c.
	OAC rule 3745-23-06(B)	See term and condition A.2.d.

2. Additional Terms and Conditions

- (a) Compliance with OAC rule 3745-31-05(A)(3) shall be demonstrated by the visible emission limitation, the mass emission limitations and the use of natural gas. The lb/mmBtu emission limitations outlined in term A. 1 are based upon the emissions unit's potential to emit. Therefore, no records are required to demonstrate compliance with these emission limitations. The permittee shall satisfy the "best available control techniques and operating practices" required pursuant to OAC rule 3745-21-08(B) by committing to comply with the best available technology (BAT) requirements established pursuant to OAC rule 3745-31-05(A)(3) in this permit to install. The design of

the emissions unit and the technology associated with the current operating practices satisfy the BAT requirements.

On November 5, 2002, OAC rule 3745-21-08 was revised to delete paragraph (B); therefore, paragraph (B) is no longer part of the State regulations. This rule revision was submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Until the U.S. EPA approves the revision to OAC rule 3745-21-08, the requirement to satisfy the "best available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

The permittee shall satisfy the "latest available control techniques and operating practices" required pursuant to OAC rule 3745-23-06 by committing to comply with the best available technology (BAT) requirements established pursuant to OAC rule 3745-31-05(A)(3) in this permit to install. The design of the emissions unit and the technology associated with the current operating practices satisfy the BAT requirements.

On February 15, 2005, OAC rule 3745-23-06 was rescinded; therefore, this rule is no longer part of the State regulations. This rule revision was submitted to the U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Until the U.S. EPA approves the revision to OAC rule 3745-23-06, the requirement to satisfy the "latest available control techniques and operating practices" still exists as part of the federally-approved SIP for Ohio.

Total annual CO emission limitation specified in term and condition A.1 shall include startup emissions of process syngas and PSA purge gas as provided in the permit to install application 14-05789 submitted on November 21, 2005. The short term CO emissions rate specified in term and condition A.1 shall be exclusive of the process syngas and PSA purge gas emissions during the startup of the hydrogen plant.

B. Operational Restrictions

1. The permittee shall burn only natural gas and purge gas in this emissions unit.

C. Monitoring and/or Record Keeping Requirements

1. The permittee shall collect once per month a sample of purge gas. Each sample shall be analyzed for heat content (Btu/scf).
2. The permittee shall record the heat content of the purge gas on a monthly basis (BTU/scf).
3. The permittee shall record the type and amount of each fuel combusted each day.

D. Reporting Requirements

1. The permittee shall notify the Hamilton County Department of Environmental Services in writing of any fuel burned in this emissions unit other than natural gas and purge gas. The notification shall include a copy of such record and shall be sent to the Hamilton County Department of Environmental Services within 45 days after the deviation occurs.

E. Testing Requirements

1. Emission Limitation:

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

Applicable compliance method:

If required, compliance shall be determined in accordance with Test Method 9, as set forth in "Appendix on Test Methods" in 40 CFR Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 2002, except as specified by rule.

Emissions Limitations:

Nitrogen Oxide (NOx) emissions shall not exceed 0.098 lb of NOx/mmBtu and 13.7 TPY.

Sulfur Dioxide (SO₂) emissions shall not exceed 0.002 lb/mmBtu and 0.285 TPY.

Carbon Monoxide (CO) emissions shall not exceed 0.0824 lb/mmBtu and 13.98 TPY*.

Volatile Organic Compound (VOC) emissions shall not exceed 0.0054 lb/mmBtu and 0.753 TPY.

Particulate Emissions(PE**) shall not exceed 0.0075 lb/mmBtu PE and 1.04 TPY.

*Total annual CO emissions include startup emissions of process syngas and PSA purge gas as provided in the permit to install application 14-05789 submitted on November 21, 2005.

**It is assumed the PM₁₀ emissions rate is equivalent to the PE rates.

Applicable Compliance Method:

Compliance shall be determined by multiplying the hourly gas burning capacity of the emissions unit (mm cu. ft/hr) by the AP-42, Fifth Edition, Section 1.4 (revised 7/98) emission factors using calculation methods provided in the permit to install application 14-05789 submitted on November 21, 2005, then dividing by the maximum hourly heat input of the emissions unit (mmBtu/hr). The actual annual emissions rates shall be calculated by using the actual fuel usage, emission factors and methodologies specified above.

2. Compliance with the operation restriction in term and condition B.1 shall be demonstrated by the record keeping requirement in term and condition C.3.

F. Miscellaneous Requirements

1. The terms and conditions of permit to install 14-05789 shall supersede the terms and conditions of Permit to Install 14-02410 as issued on February 13, 1992 and Permit to Install 14-02410 as modified on October 12,

2000.