



7/21/2014

Certified Mail

Mr. Ryne Stefanacci, P.E.  
Cargill, Inc. - Dayton  
3201 Needmore Road  
Dayton, OH 45414

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL  
Facility ID: 0857041124  
Permit Number: P0108199  
Permit Type: Administrative Modification  
County: Montgomery

No	TOXIC REVIEW
No	PSD
No	SYNTHETIC MINOR TO AVOID MAJOR NSR
No	CEMS
No	MACT/GACT
No	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:

A draft of the Ohio Administrative Code (OAC) Chapter 3745-31 Air Pollution Permit-to-Install for the referenced facility has been issued for the emissions unit(s) listed in the Authorization section of the enclosed draft permit. This draft action is not an authorization to begin construction or modification of your emissions unit(s). The purpose of this draft is to solicit public comments on the permit. A public notice will appear in the Ohio Environmental Protection Agency (EPA) Weekly Review and the local newspaper, Dayton Daily News. A copy of the public notice and the draft permit are enclosed. This permit can be accessed electronically on the Division of Air Pollution Control (DAPC) Web page, [www.epa.ohio.gov/dapc](http://www.epa.ohio.gov/dapc) by clicking the "Search for Permits" link under the Permitting topic on the Programs tab. Comments will be accepted as a marked-up copy of the draft permit or in narrative format. Any comments must be sent to the following:

Andrew Hall  
Permit Review/Development Section  
Ohio EPA, DAPC  
50 West Town Street, Suite 700  
P.O. Box 1049  
Columbus, Ohio 43216-1049

and Regional Air Pollution Control Agency  
117 South Main Street  
Dayton, OH 45422-1280

Comments and/or a request for a public hearing will be accepted within 30 days of the date the notice is published in the newspaper. You will be notified in writing if a public hearing is scheduled. A decision on issuing a final permit-to-install will be made after consideration of comments received and oral testimony if a public hearing is conducted. Any permit fee that will be due upon issuance of a final Permit-to-Install is indicated in the Authorization section. Please do not submit any payment now. If you have any questions, please contact Regional Air Pollution Control Agency at (937)225-4435.

Sincerely,

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

Cc: U.S. EPA Region 5 -Via E-Mail Notification  
RAPCA; Indiana; Kentucky





## Permit Strategy Write-Up

1. Check all that apply:

Synthetic Minor Determination

Netting Determination

Other

2. Source Description:

Cargill Inc., 0857041124, is engaged in the production of sweeteners and animal feed products in both the national and international markets. The purpose of this administrative modification is to incorporate Consent Decree provisions into this PTI that are identified below. The previous effective permits for these sources are PTI 08-3290 and the latest Title V permit. In addition, these prior permits include parametric monitoring for the impingement (tray) scrubbers and venturi scrubbers (water flow, pressure drop and pH). These parameters have not been verified with compliant emissions testing.

The permit is for the two following emissions units:

P067 – Refinery Carbon Regeneration Furnace  
P582 – FX Carbon Regeneration Furnace.

- Paragraph 23 and Appendix H of the Consent Decree requires a Corn Processing VOC Emissions Control Plan for Process VOC Sources. For the Dayton facility, the carbon furnaces shall be controlled using the zero hearth furnace, which includes an afterburner control, attaining 95% VOC control or an outlet VOC concentration not to exceed 10 ppm. Compliance monitoring is afterburner operating temperature measured on a 3-hour average. The afterburner temperature established during June 2008 emissions testing were 1448 F for P067 and 1445 F for P582.
- Paragraph 25 and Appendix J of the Consent Decree limits process source VOC emissions and boiler NO<sub>x</sub> emissions to 854 tons per rolling 12-month period (ozone cap). Annual emissions testing shall be conducted to determine a VOC emissions factor in lbs VOC per ton carbon. This emissions factor multiplied by the rolling, 12-month carbon production rate will be used, in part, to determine compliance with the ozone cap.
- Paragraph 26 and Appendix K of the Consent Decree requires a Corn Processing CO Emissions Control Plan. For the Dayton facility, the carbon furnaces shall be controlled using the zero hearth furnace, which includes an afterburner control, attaining 90% CO control or an outlet CO concentration not to exceed 100 ppm. Compliance monitoring is afterburner operating temperature measured on a 3-hour average. The afterburner temperature established during June 2008 emissions testing were 1448 F for P067 and 1445 F for P582.
- Appendix M established the initial performance testing requirements. Initial testing was required to be completed within 3 years of Consent Decree lodging. Thus the latest compliant test date was September 1, 2008. The emissions testing occurred in June 2008.
- Appendix O established the test method for measuring the CO and VOC destruction efficiencies. It is not possible to directly measure inlet emissions to the afterburner. Therefore, to determine an inlet



emissions rate used to calculate the destruction efficiency, 3 outlet emissions test runs will be conducted with the afterburner off. These uncontrolled test runs simulate the inlet emissions rate into the afterburner.

3. Facility Emissions and Attainment Status:

Cargill is located in Montgomery County, which is attainment for all criteria pollutants except PM2.5, which is classified as basic nonattainment. The Cargill facility is classified as a Title V facility and a major facility for major NSR (particulate, NOx, and VOC). Emissions from these two sources combined are in the table below. The VOC emissions decreased and the CO emissions increased. This was due to the Consent Decree requiring testing.

4. Source Emissions:

Table with 6 columns: Emissions Units, PE, VOC, NOx, CO, SO2. Rows include P067, P582, and Total.

5. Conclusion: This permit modification was not a change in the method of operation, therefore it was an administrative modification. The permit is neither a synthetic minor, ora netting permit, and was issued draft based on the company's request.

6. Please provide additional notes or comments as necessary:

None

7. Total Permit Allowable Emissions Summary (for informational purposes only):

Summary table with 2 columns: Pollutant, Tons Per Year. Rows include Particulate Emissions, Volatile Organic Compounds, Nitrogen Oxides, Carbon Monoxide, and Sulfur Dioxide.

PUBLIC NOTICE  
Issuance of Draft Air Pollution Permit-To-Install  
Cargill, Inc. - Dayton

Issue Date: 7/21/2014

Permit Number: P0108199

Permit Type: Administrative Modification

Permit Description: Administrative modification to address Consent Decree requirements (United States v. Cargill, Inc., No. 05-2037 (D. Minn.)). Specifically, this permit addresses the following paragraphs and appendices of the Consent Decree: Paragraph 15 and Appendix B, Paragraph 18 and Appendix D, Paragraph 23 and Appendix H, Paragraph 24 and Appendix I, Paragraph 25 and Appendix J, Paragraph 26 and Appendix K, and Paragraph 39. This permit also makes technical corrections to several emissions units not named therein but are affected by other facility changes required in the Consent Decree.

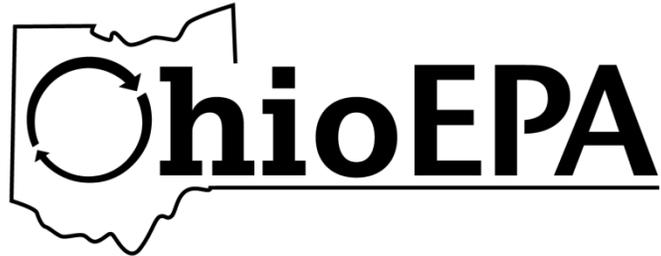
Facility ID: 0857041124

Facility Location: Cargill, Inc. - Dayton  
3201 Needmore Road, P.O. Box 1400 A  
Dayton, OH 45413-8001

Facility Description: Wet Corn Milling

The Director of the Ohio Environmental Protection Agency issued the draft permit above. The permit and complete instructions for requesting information or submitting comments may be obtained at: <http://epa.ohio.gov/dapc/permitsonline.aspx> by entering the permit # or: Christopher Clinefelter, Regional Air Pollution Control Agency, 117 South Main Street, Dayton, OH 45422-1280. Ph: (937)225-4435





**DRAFT**

**Division of Air Pollution Control  
Permit-to-Install  
for  
Cargill, Inc. - Dayton**

Facility ID:	0857041124
Permit Number:	P0108199
Permit Type:	Administrative Modification
Issued:	7/21/2014
Effective:	To be entered upon final issuance





**Division of Air Pollution Control**  
**Permit-to-Install**  
for  
Cargill, Inc. - Dayton

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**Draft Permit-to-Install**  
Cargill, Inc. - Dayton  
**Permit Number:** P0108199  
**Facility ID:** 0857041124

**Effective Date:** To be entered upon final issuance

## Authorization

Facility ID: 0857041124  
Facility Description: wet corn milling  
Application Number(s): M0000528, A0039663  
Permit Number: P0108199  
Permit Description: Administrative modification to address Consent Decree requirements (United States v. Cargill, Inc., No. 05-2037 (D. Minn.)). Specifically, this permit addresses the following paragraphs and appendices of the Consent Decree: Paragraph 15 and Appendix B, Paragraph 18 and Appendix D, Paragraph 23 and Appendix H, Paragraph 24 and Appendix I, Paragraph 25 and Appendix J, Paragraph 26 and Appendix K, and Paragraph 39. This permit also makes technical corrections to several emissions units not named therein but are affected by other facility changes required in the Consent Decree.  
Permit Type: Administrative Modification  
Permit Fee: \$500.00 *DO NOT send payment at this time, subject to change before final issuance*  
Issue Date: 7/21/2014  
Effective Date: To be entered upon final issuance

This document constitutes issuance to:

Cargill, Inc. - Dayton  
3201 Needmore Road  
P.O. Box 1400 A  
Dayton, OH 45413-8001

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:

Regional Air Pollution Control Agency  
117 South Main Street  
Dayton, OH 45422-1280  
(937)225-4435

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



**Draft Permit-to-Install**  
Cargill, Inc. - Dayton  
**Permit Number:** P0108199  
**Facility ID:** 0857041124

**Effective Date:** To be entered upon final issuance

## Authorization (continued)

Permit Number: P0108199

Permit Description: Administrative modification to address Consent Decree requirements (United States v. Cargill, Inc., No. 05-2037 (D. Minn.)). Specifically, this permit addresses the following paragraphs and appendices of the Consent Decree: Paragraph 15 and Appendix B, Paragraph 18 and Appendix D, Paragraph 23 and Appendix H, Paragraph 24 and Appendix I, Paragraph 25 and Appendix J, Paragraph 26 and Appendix K, and Paragraph 39. This permit also makes technical corrections to several emissions units not named therein but are affected by other facility changes required in the Consent Decree.

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

<b>Emissions Unit ID:</b>	<b>P067</b>
Company Equipment ID:	RF Carbon Regeneration Furnace
Superseded Permit Number:	08-3290
General Permit Category and Type:	Not Applicable
<b>Emissions Unit ID:</b>	<b>P582</b>
Company Equipment ID:	FX Carbon Regeneration Furnace
Superseded Permit Number:	08-3290
General Permit Category and Type:	Not Applicable



**Draft Permit-to-Install**  
Cargill, Inc. - Dayton  
**Permit Number:** P0108199  
**Facility ID:** 0857041124  
**Effective Date:** To be entered upon final issuance

## **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 Regional Air Pollution Control 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 Regional Air Pollution Control Agency. The written 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. 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 Regional Air Pollution Control 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 Regional Air Pollution Control 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 Regional Air Pollution Control 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 Regional Air Pollution Control 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 Regional Air Pollution Control 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.



**Draft Permit-to-Install**  
Cargill, Inc. - Dayton  
**Permit Number:** P0108199  
**Facility ID:** 0857041124  
**Effective Date:** To be entered upon final issuance

## **B. Facility-Wide Terms and Conditions**



**Draft Permit-to-Install**  
Cargill, Inc. - Dayton  
**Permit Number:** P0108199  
**Facility ID:** 0857041124

**Effective Date:** To be entered upon final issuance

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.



**Draft Permit-to-Install**  
Cargill, Inc. - Dayton  
**Permit Number:** P0108199  
**Facility ID:** 0857041124  
**Effective Date:** To be entered upon final issuance

## **C. Emissions Unit Terms and Conditions**



**1. P067, RF Carbon Regeneration Furnace**

**Operations, Property and/or Equipment Description:**

RF Carbon Regeneration Furnace

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)	<p>The Particulate emissions (PE) from this emissions unit shall not exceed 1.26 lbs/hr.</p> <p>The Sulfur dioxide (SO<sub>2</sub>) emissions from this emissions unit shall not exceed 0.93 lb/hr.</p> <p>The Nitrogen oxides (NO<sub>x</sub>) emissions from this emissions unit shall not exceed 7.85 lbs/hr.</p> <p>The visible PE from the stack serving this emissions unit shall not exceed 10 percent opacity as a six-minute average.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rule 3745-31-05(D) [Synthetic minor to avoid PSD rule requirements].</p>
b.	OAC rule 3745-31-05(D) (Synthetic minor to avoid PSD rule requirements)	<p>The PE from this emissions unit shall not exceed 5.52 tons per year (TPY) as a rolling, 12-month summation.</p> <p>The SO<sub>2</sub> emissions from this emissions unit shall not exceed 4.38 TPY as a rolling, 12-month summation.</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
		The NO <sub>x</sub> emissions from this emissions unit shall not exceed 34.40 TPY as a rolling, 12-month summation.
c.	OAC rule 3745-31-05(D) (Limitations pursuant to Consent Decree, United States v. Cargill, Incorporated, (Civil Action No. 05-2037 JMR/FLN), which was lodged with the United States District Court for the District of Minnesota on September 1, 2005)	<p>The Volatile organic compounds (VOC) emissions from this emissions units shall be reduced by 95% or achieve an outlet concentration of less than or equal to 10 ppm.</p> <p>The combined NO<sub>x</sub> emissions from emissions units B004 and B006 and combined Volatile Organic Compounds (VOC) emissions from emissions units P037, P040, P058, P067, and P582, and the group of emission units that vent to the RTO; P032, P104 (replaced P033), P105 (replaced P034), P052, P066, P088, P057, and P072 shall not exceed 854 TPY as a rolling, 12-month summation (Appendix J, Dayton, Ohio Corn Processing Ozone Cap). Those sources venting to the RTO will have a combined VOC emissions rate.</p> <p>The Carbon monoxide (CO) emissions from this emission unit shall be reduced by 90% or achieve an outlet concentration of less than or equal to 100 ppm.</p> <p>The CO emissions from this emissions unit shall not exceed 79.0 TPY as a rolling, 12-month summation.</p> <p>See b)(2)c.</p>
d.	OAC rule 3745-17-07(A) OAC rule 3745-17-11(B) and OAC rule 3745-18-06(E)	The emission limitations specified by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3).

(2) Additional Terms and Conditions

- a. The emissions from this emissions unit shall be vented to the afterburner, impingement scrubber and venturi scrubber at all times while the emissions unit is in operation.



- b. Emissions units P033 and P034 were replaced by new emissions units P104 and P105, respectively. See Permit P0108283, issued 7/14/2011.
- c. This permit reflects the NOx and VOC emissions cap for certain emissions units ("Dayton, Ohio Corn Processing Ozone Cap"). This permit also reflects a percent control limit and/or outlet concentration limit for both VOC and CO, all of which were required pursuant to the Consent Decree that was entered by the United States District Court for the District of Minnesota on March 3, 2006 in United States v. Cargill, Inc., No. 05-2037 (D.Minn.). The Consent Decree sets out a process for Cargill and permitting authorities to update permit limits for certain emissions units. Specifically, paragraphs 23, 25, and 26, Appendix H-Corn Processing VOC Emissions Control plan, Appendix J-Dayton Corn Processing, and Appendix K-Corn Processing CO Emissions Control Plan. As well as paragraph 39 which requires Cargill to seek modifications to permits to impose or modify the VOC and CO emission limits.

c) Operational Restrictions

- (1) None.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain monthly records of the following information for this emissions unit:
  - a. The PE, NO<sub>x</sub>, SO<sub>2</sub>, and CO emissions, in tons;
  - b. The rolling, 12-month summation of PE, NO<sub>x</sub>, SO<sub>2</sub>, and CO emissions, in tons; and
  - c. The rolling, 12 month summation of the Ozone Cap, in tons.
- (2) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the following control equipment operating parameters shall not be less than the following values. The temperature, pressure drop, recirculation liquid flow rate, and pH shall be maintained unless the source can demonstrate (through testing) that the control equipment can meet the associated emissions limitations at lesser rates.

<u>Control Equipment Operating Parameter</u>	<u>Compliant Value</u>
Afterburner temperature	1446 F
*Impingement (tray) scrubber pressure drop	8.4 inches of water
Impingement (tray) scrubber recirculation liquid flow rate	320 gallons per minute
*Venturi scrubber pressure drop	13.7 inches of water
Venturi scrubber recirculation liquid flow rate	76.3 gallons per minute
Shared scrubber pH of the scrubber liquor	6.40



Compliant values for all parameters were determined according to the compliance testing that took place in August of 2013. There was an error in the 2012 test production data, which is why the 2013 test was used

\*For the first 3 hours after furnace startup, the pressure drop for both scrubbers shall be excluded from the monitoring requirements in this permit.

- (3) The permittee shall properly install, operate, and maintain equipment to continuously monitor the venturi scrubber and impingement (tray) scrubber recirculation liquid flow rates, liquid pHs, and the afterburner temperature during operation of this emissions unit, including periods of startup and shutdown. The pressure drop will also be continuously monitored, across both scrubbers, except for the first three hours after furnace startup. All parameters will be recorded on a three hour block average. The permittee shall collect and record the following information for the venturi scrubber and impingement (tray) scrubber as well as the afterburner. 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 any parameter listed in d)(2) and d)(3) deviates below the minimum limits 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 control equipment parameters at or above the minimum limits 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 the 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 drops, flow rates, pHs and afterburner temperature 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.

These minimum limits for the pressure drops, recirculation liquid flow rates, pHs and afterburner temperature are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the permitted minimum limit for the pressure drops, liquid flow rates, pHs or afterburner temperature based upon information obtained during future performance tests that demonstrate compliance with the allowable emission rates for this emissions unit. In addition, approved revisions to the limit(s) will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

- (4) The permittee shall perform monthly operational status inspections of process and air pollution control equipment that is important to the performance of the emissions capture system for this emissions unit (e.g., pressure sensors, dampers and damper switches). This inspection shall include observations of the physical appearance of the equipment (e.g., presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in ductwork, and fan erosion). Any deficiencies shall be noted and appropriate action taken. Records shall be maintained of the results of each monthly inspection and shall include any corrective actions taken by the permittee. Records shall be kept on site for at least five years and shall be available for inspection by the Regional Air Pollution Control Agency.

e) Reporting Requirements

- (1) The permittee shall submit quarterly deviation (excursion) reports that identify the following:
- a. all exceedances of the rolling, 12-month PE limitation of 5.5 tons;
  - b. all exceedances of the rolling, 12-month SO<sub>2</sub> emission limitation of 4.38 tons;
  - c. all exceedances of the rolling, 12-month NO<sub>x</sub> emission limitation of 34.40 tons;
  - d. all exceedances of the rolling, 12-month CO emission limitation of 79.0 tons;
  - e. all exceedances of the rolling, 12-month Ozone Cap emissions limitation of 854 tons.
  - f. each period of time (start time and date, and end time and date) when the pressure drop across either scrubber, the recirculation liquid flow rate, the liquid pH or the afterburner temperature deviated below the applicable limit contained in this permit;



- g. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the afterburner, impingement (tray) scrubber and venturi scrubber;
- h. each incident of deviation described in e)(1)g. (above) where a prompt investigation was not conducted;
- i. each incident of deviation described in e)(1)g. where prompt corrective action, that would bring the pressure drop, recirculation liquid flow rate, scrubber liquid pH and/or afterburner temperature into compliance with the minimum limit, was determined to be necessary and was not taken; and
- j. each incident of deviation described in e)(1)g. 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.

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)(1) of these terms and conditions shall be determined in accordance with the following methods:

- a. Emission Limitation:

PE from this emissions unit shall not exceed 1.26 lbs/hr.

Applicable Compliance Method:

Compliance shall be demonstrated through performance testing as described in f)(2).

- b. Emission Limitation:

SO<sub>2</sub> emissions from this emissions unit shall not exceed 0.93 lb/hr.

Applicable Compliance Method:

Compliance shall be demonstrated through performance testing as described in f)(2).

- c. Emission Limitation:

NO<sub>x</sub> emissions from this emissions unit shall not exceed 7.85 lbs/hr.

Applicable Compliance Method:

Compliance shall be demonstrated through performance testing as described in f)(2).



d. Emission Limitation:

Visible PE shall not exceed 10% opacity as a 6-minute average.

Applicable Compliance Method:

If required, compliance shall be determined by visible emission evaluations performed using the methods and procedures specified in USEPA Reference Method 9.

e. Emission Limitation:

PE from this emissions unit shall not exceed 5.5 TPY as a rolling, 12-month summation.

Applicable Compliance Method:

Compliance with the emissions limitation shall be based upon the record keeping specified in d)(1) and shall be determined by using the following equation:

$$PE = (\text{PE emissions factor in lbs/ton carbon}) * (\text{annual carbon fed into the furnace in tons/yr}) / (2,000 \text{ lbs/ton})$$

where:

the PE factor in lb/ton carbon derived from the most recent performance test that demonstrated the emissions unit was in compliance. The current emissions factor is 0.55 lb/ton carbon derived from emissions testing conducted on 8/12. This emissions factor is biased low due to an error in production data during the 8/12 test. The situation was corrected and a new emissions factor will be established during the 2014 test.

f. Emission Limitation:

SO<sub>2</sub> emissions from this emissions unit shall not exceed 4.38 TPY as a rolling, 12-month summation.

Applicable Compliance Method:

Compliance with the emissions limitation shall be based upon the record keeping specified in d)(1) and shall be determined by using the following equation:

$$\text{SO}_2 \text{ emissions} = (\text{SO}_2 \text{ emissions factor in lbs/ton carbon}) * (\text{annual carbon fed into the furnace in tons/yr}) / (2,000 \text{ lbs/ton})$$

where:

the SO<sub>2</sub> emissions factor in lb/ton carbon derived from the most recent performance test that demonstrated the emissions unit was in compliance. The current emissions factor is 0.62 lb/ton carbon derived from emissions testing conducted on 8/12. This emissions factor is biased low due to an error in



production data during the 8/12 test. The situation was corrected and a new emissions factor will be established during the 2014 test.

g. Emission Limitation:

NO<sub>x</sub> emissions from this emissions unit shall not exceed 34.40 TPY as a rolling, 12-month summation.

Applicable Compliance Method:

Compliance with the emissions limitation shall be based upon the record keeping specified in d)(1) and shall be determined by using the following equation:

NO<sub>x</sub> emissions = (NO<sub>x</sub> emissions factor in lb/ton carbon) \* (annual carbon fed into the furnace in tons/yr) / (2,000 lbs/ton)

where:

the NO<sub>x</sub> emissions factor in lbs/ton carbon derived from the most recent performance test that demonstrated the emissions unit was in compliance. The current emissions factor is 2.59 lbs/ton carbon derived from emissions testing conducted on 8/12. This emissions factor is biased low due to an error in production data during the 8/12 test. The situation was corrected and a new emissions factor will be established during the 2014 test.

h. Emission Limitation:

The VOC emissions from this emissions units shall be reduced by 95% or achieve an outlet concentration of less than or equal to 10 ppm.

Applicable Compliance Method:

Compliance shall be demonstrated through performance testing as described in f)(4).

i. Emission Limitation:

The CO emissions from this emission unit shall be reduced by 90% or achieve an outlet concentration of less than or equal to 100 ppm.

Applicable Compliance Method:

Compliance shall be demonstrated through performance testing as described in f)(4).

j. Emission Limitation:

CO emissions from this emissions unit shall not exceed 79.0 TPY.



Applicable Compliance Method:

Compliance with the emissions limitation shall be based upon the record keeping specified in d)(1) and shall be determined by using the following equation:

$$\text{CO emissions} = (\text{CO emissions factor in lbs/ton carbon}) * (\text{annual carbon fed into the furnace in tons/yr}) / (2,000 \text{ lbs/ton})$$

where:

the CO emissions factor in lbs/ton carbon derived from the most recent performance test that demonstrated the emissions unit was in compliance. The current emissions factor is 5.27 lbs/ton carbon derived from emissions testing conducted on 8/12. This emissions factor is biased low due to an error in production data during the 8/12 test. The situation was corrected and a new emissions factor will be established during the 2014 test.

k. Emission Limitations:

The combined NOx emissions from emissions units B004 and B006 and combined Volatile Organic Compounds (VOC) emissions from emissions units P037, P040, P058, P067, and P582, and the group of emission units that vent to the RTO; P032, P104 (replaced P033), P105 (replaced P034), P052, P066, P088, P057, and P072 shall not exceed 854 TPY as a rolling, 12-month summation (Appendix J, Dayton, Ohio Corn Processing Ozone Cap). Thosesources venting to the RTO will have a combined VOC emissions rate.

Applicable Compliance Method:

Compliance shall be based upon Appendix J, Dayton, Ohio Corn Processing Ozone Cap, from the sources listed above in f)(1)k. Refer to f)(3) for emissions unit P067.

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

a. The emissions testing shall be conducted every 5 years to:

i. demonstrate compliance with the following allowable emissions rates for this emissions unit:

(a) 1.26 lbs/hr of PE;

(b) 0.93 lb/hr of SO<sub>2</sub>; and

(c) 7.85 lbs/hr of NO<sub>x</sub>.

ii. demonstrate compliance with the control operating parameter values listed in d)(2).



- b. The following test methods shall be employed to demonstrate compliance with the above emissions limitations:
  - i. Methods 1 through 4 from 40 CFR Part 60, Appendix A for velocity traverses, velocity and volumetric flow rates, gas analysis, and moisture content;
  - ii. Method 5 of 40 CFR Part 60, Appendix A for filterable PE;
  - iii. Method 6 from 40 CFR Part 60, Appendix A for SO<sub>2</sub>;
  - iv. Method 7 from 40 CFR Part 60, Appendix A for NO<sub>x</sub>;

Alternative U.S. EPA approved test methods may be used with prior approval from the Regional Air Pollution Control Agency.

- c. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.
  - d. Not later than 60 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
  - e. Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.
  - f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.
- (3) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
- a. The emissions testing shall be conducted annually by the end of September of each calendar year.
  - b. The emissions testing shall be conducted to:



- i. determine the emissions factor, in lbs VOC/ton carbon, that will be used to demonstrate compliance with the following allowable emissions rates for these emissions units:
    - (a) Combined Nitrogen Oxides (NO<sub>x</sub>) emissions from emissions units B004 and B006 and combined Volatile Organic Compounds (VOC) emissions from emissions units P037, P040, P058, P067, and P582, along with the emission units that vent to the RTO, P032, P104 (replaced P033), P105 (replaced P034), P052, P066, P088, P057, and P072 shall not exceed 854 TPY as a rolling, 12-month summation (Appendix J, Dayton, Ohio Corn Processing Ozone Cap). Those sources venting to the RTO will have a combined VOC emissions rate.
  - c. The following test methods shall be employed to develop the emissions factor used to demonstrate compliance with the above emissions limitation:
    - i. Methods 1 through 4 from 40 CFR Part 60, Appendix A for velocity traverses, velocity and volumetric flow rates, gas analysis, and moisture content; and
    - ii. Method 25A from 40 CFR Part 60, Appendix A for VOC (include scaling factor of 2.2 as appropriate).

Alternative U.S. EPA approved test methods may be used with prior approval from the Regional Air Pollution Control Agency.
  - d. See f)(2)c. through f)(2)f. for emissions test requirements regarding operating capacity, ITT, witnesses, and test report.
- (4) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
- a. The emissions testing shall be conducted every 5 years to:
    - i. demonstrate compliance with the following allowable emissions rates for this emissions unit:
      - (a) VOC emissions reduced by 95% or an outlet concentration not to exceed 10 ppm VOC; and
      - (b) CO emissions reduced by 90% or an outlet concentration not to exceed 100 ppm CO.
  - b. The following test methods shall be employed to demonstrate compliance with the above emissions limitations:
    - i. Methods 1 through 4 from 40 CFR Part 60, Appendix A for velocity traverses, velocity and volumetric flow rates, gas analysis, and moisture content;



- ii. Method 10 from 40 CFR Part 60, Appendix A for CO; and
- iii. Method 25A from 40 CFR Part 60, Appendix A for VOC.

Alternative U.S. EPA approved test methods may be used with prior approval from the Regional Air Pollution Control Agency.

- c. It is not possible to directly measure inlet emissions to the afterburner. Therefore, to determine an inlet emissions rate used to calculate the destruction efficiency, three outlet emissions test runs will be conducted with the afterburner off. These uncontrolled test runs simulate the inlet emissions rate into the afterburner.
- d. See f)(2)c. through f)(2)f. for emissions test requirements regarding operating capacity, ITT, witnesses, and test report.

g) **Miscellaneous Requirements**

- (1) None.



**2. P582, FX Carbon Regeneration Furnace**

**Operations, Property and/or Equipment Description:**

FX Carbon Regeneration Furnace

- 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)	<p>The Particulate emissions (PE) from this emissions unit shall not exceed 0.104 lb/hr.</p> <p>The Sulfur dioxide (SO<sub>2</sub>) emissions from this emissions unit shall not exceed 0.93 lb/hr.</p> <p>The Nitrogen oxides (NO<sub>x</sub>) emissions from this emissions unit shall not exceed 2.27 lbs/hr.</p> <p>The requirements of this rule also include compliance with the requirements of OAC rules 3745-17-07(A) and 3745-31-05(D) [Synthetic minor to avoid PSD rule requirements].</p>
b.	OAC rule 3745-31-05(D) (Synthetic minor to avoid PSD rule requirements)	<p>The PE from this emissions unit shall not exceed 0.49 tons per year (TPY) as a rolling, 12-month summation.</p> <p>The SO<sub>2</sub> emissions from this emissions unit shall not exceed 4.38 TPY as a rolling, 12-month summation.</p> <p>The NO<sub>x</sub> emissions from this emissions unit shall not exceed 9.96 TPY as a rolling, 12-month summation.</p>



	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
c.	<p>OAC rule 3745-31-05(D)            (Limitations pursuant to Consent Decree, United States v. Cargill, Incorporated, (Civil Action No. 05-2037 JMR/FLN), which was lodged with the United States District Court for the District of Minnesota on September 1, 2005)</p>	<p>The Volatile organic compounds (VOC) emissions from this emissions units shall be reduced by 95% or achieve an outlet concentration of less than or equal to 10 ppm.</p> <p>The combined NOx emissions from emissions units B004 and B006 and combined Volatile Organic Compounds (VOC) emissions from emissions units P037, P040, P058, P067, and P582, and the group of emission units that vent to the RTO; P032, P104 (replaced P033), P105 (replaced P034), P052, P066, P088, P057, and P072 shall not exceed 854 TPY as a rolling, 12-month summation (Appendix J, Dayton, Ohio Corn Processing Ozone Cap). Those sources venting to the RTO will have a combined VOC emissions rate.</p> <p>The Carbon monoxide (CO) emissions from this emission unit shall be reduced by 90% or achieve an outlet concentration of less than or equal to 100 ppm.</p> <p>The CO emissions from this emissions unit shall not exceed 31.4 TPY as a rolling, 12-month summation.</p> <p>See b)(2)c.</p>
d.	<p>OAC rule 3745-17-07(A)</p>	<p>The visible PE from the stack serving this emissions unit shall not exceed 20 percent opacity as a six-minute average, except as provided by rule.</p>
e.	<p>OAC rule 3745-17-11(B) and            OAC rule 3745-18-06(E)</p>	<p>The emission limitations specified by these rules are less stringent than the emission limitations established pursuant to OAC rule 3745-31-05(A)(3).</p>



(2) Additional Terms and Conditions

- a. The emissions from this emissions unit shall be vented to the afterburner, impingement scrubber and venturi scrubber at all times while the emissions unit is in operation.
- b. Emissions units P033 and P034 were replaced by new emissions units P104 and P105, respectively. See Permit P0108283, issued 7/14/2011.
- c. This permit reflects the NO<sub>x</sub> and VOC emissions cap for certain emissions units ("Dayton, Ohio Corn Processing Ozone Cap"). This permit also reflects a percent control limit and/or outlet concentration limit for both VOC and CO, all of which were required pursuant to the Consent Decree that was entered by the United States District Court for the District of Minnesota on March 3, 2006 in United States v. Cargill, Inc., No. 05-2037 (D.Minn.). The Consent Decree sets out a process for Cargill and permitting authorities to update permit limits for certain emissions units. Specifically, paragraphs 23, 25, and 26, Appendix H-Corn Processing VOC Emissions Control plan, Appendix J-Dayton Corn Processing, and Appendix K-Corn Processing CO Emissions Control Plan. As well as paragraph 39 which requires Cargill to seek modifications to permits to impose or modify the VOC and CO emission limits.

c) Operational Restrictions

- (1) The annual amount of carbon fed into the furnace for this emissions unit shall not exceed 8030 tons, based upon a rolling, 12-month summation of the monthly carbon feed rates.

d) Monitoring and/or Recordkeeping Requirements

- (1) The permittee shall maintain monthly records of the following information for this emissions unit:
  - a. The carbon fed into the furnace, in tons;
  - b. The rolling, 12-month summation of the monthly carbon fed into the furnace, in tons;
  - c. The PE, NO<sub>x</sub>, SO<sub>2</sub>, and CO emissions, in tons;
  - d. The rolling, 12-month summation of PE, NO<sub>x</sub>, SO<sub>2</sub>, and CO emissions, in tons; and
  - e. The rolling, 12 month summation of the Ozone Cap, in tons.
- (2) In order to maintain compliance with the applicable emission limitation(s) contained in this permit, the following control equipment operating parameters shall not be less than the following values. The temperature, pressure drop, recirculation liquid flow rate, and pH shall be maintained unless the source can demonstrate (through testing) that the control equipment can meet the associated emissions limitations at lesser rates.



<u>Control Equipment Operating Parameter</u>	<u>Compliant Value</u>
Afterburner temperature	1453 F
*Impingement (tray) scrubber pressure drop	3.4 inches of water
Impingement (tray) scrubber recirculation liquid flow rate	127.9 gallons per minute
*Venturi scrubber pressure drop	12 inches of water
Venturi scrubber recirculation liquid flow rate	60 gallons per minute
Shared scrubber pH of the scrubber liquor	6.0

Compliant values for all parameters were established during the compliance testing that took place in August 2013.

\*For the first 3 hours after furnace startup, the pressure drop for both scrubbers shall be excluded from the monitoring requirements in this permit.

- (3) The permittee shall properly install, operate, and maintain equipment to continuously monitor the venturi scrubber and impingement (tray) scrubber recirculation liquid flow rates, liquid pHs, and the afterburner temperature during operation of this emissions unit, including periods of startup and shutdown. The pressure drop will also be continuously monitored, across both scrubbers, except for the first three hours after furnace startup. All parameters will be recorded on a three hour block average. The permittee shall collect and record the following information for the venturi scrubber and impingement (tray) scrubber as well as the afterburner. 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 any parameter listed in d)(2) and d(3) deviates below the minimum limits 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 control equipment parameters



at or above the minimum limits 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 the 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 drops, flow rates, pHs and afterburner temperature 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.

These minimum limits for the pressure drops, recirculation liquid flow rates, pHs and afterburner temperature are effective for the duration of this permit, unless revisions are requested by the permittee and approved in writing by the appropriate Ohio EPA District Office or local air agency. The permittee may request revisions to the permitted minimum limit for the pressure drops, liquid flow rates, pHs or afterburner temperature based upon information obtained during future performance tests that demonstrate compliance with the allowable emission rates for this emissions unit. In addition, approved revisions to the limit(s) will not constitute a relaxation of the monitoring requirements of this permit and may be incorporated into this permit by means of an administrative modification.

- (4) The permittee shall perform monthly operational status inspections of process and air pollution control equipment that is important to the performance of the emissions capture system for this emissions unit (e.g., pressure sensors, dampers and damper switches). This inspection shall include observations of the physical appearance of the equipment (e.g., presence of holes in ductwork or hoods, flow constrictions caused by dents or accumulated dust in ductwork, and fan erosion). Any deficiencies shall be noted and appropriate action taken. Records shall be maintained of the results of each monthly inspection and shall include any corrective actions taken by the permittee. Records shall be kept on site for at least five years and shall be available for inspection by the Regional Air Pollution Control Agency.

e) Reporting Requirements

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



- a. all exceedances of the rolling, 12-month limitation of 8030 tons, of carbon fed into the furnace;
- b. all exceedances of the rolling, 12-month PE limitation of 0.49 tons;
- c. all exceedances of the rolling, 12-month SO<sub>2</sub> emission limitation of 4.38 tons;
- d. all exceedances of the rolling, 12-month NO<sub>x</sub> emission limitation of 9.96 tons;
- e. all exceedances of the rolling, 12-month CO emission limitation of 31.4 tons; and
- f. all exceedances of the rolling, 12-month Ozone Cap emissions limitation of 854 tons.
- g. each period of time (start time and date, and end time and date) when the pressure drop across either scrubber, the recirculation liquid flow rate, the liquid pH or the afterburner temperature deviated below the applicable limit contained in this permit;
- h. any period of time (start time and date, and end time and date) when the emissions unit was in operation and the process emissions were not vented to the afterburner, impingement scrubber and venturi scrubber;
- i. each incident of deviation described in e)(1)h. (above) where a prompt investigation was not conducted;
- j. each incident of deviation described in e)(1)h. where prompt corrective action, that would bring the pressure drop, recirculation liquid flow rate, scrubber liquid pH and/or afterburner temperature into compliance with the minimum limit, was determined to be necessary and was not taken; and
- k. each incident of deviation described in e)(1)h. 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.

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)(1) of these terms and conditions shall be determined in accordance with the following methods:
  - a. Emission Limitation:  
PE from this emissions unit shall not exceed 0.104 lb/hr.



Applicable Compliance Method:

Compliance shall be demonstrated through performance testing as described in f)(2).

b. Emission Limitation:

SO<sub>2</sub> emissions from this emissions unit shall not exceed 0.93 lb/hr.

Applicable Compliance Method:

Compliance shall be demonstrated through performance testing as described in f)(2).

c. Emission Limitation:

NO<sub>x</sub> emissions from this emissions unit shall not exceed 2.27 lbs/hr.

Applicable Compliance Method:

Compliance shall be demonstrated through performance testing as described in f)(2).

d. Emission Limitation:

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

Applicable Compliance Method:

If required, compliance shall be determined by visible emission evaluations performed using the methods and procedures specified in USEPA Reference Method 9.

e. Emission Limitation:

PE from this emissions unit shall not exceed 0.49 TPY as a rolling, 12-month summation.

Applicable Compliance Method:

Compliance with the emissions limitation shall be based upon the record keeping specified in d)(1) and shall be determined by using the following equation:

$$PE = (\text{PE emissions factor in lbs/ton carbon}) * (\text{annual carbon fed into the furnace in tons/yr}) / (2,000 \text{ lbs/ton})$$

where:



the PE factor in lbs/ton carbon derived from the most recent performance test that demonstrated the emissions unit was in compliance. The current emissions factor is 0.051 lb/ton carbon derived from emissions testing conducted on 6/12.

f. Emission Limitation:

SO<sub>2</sub> emissions from this emissions unit shall not exceed 4.38 TPY as a rolling, 12-month summation.

Applicable Compliance Method:

Compliance with the emissions limitation shall be based upon the record keeping specified in d)(1) and shall be determined by using the following equation:

$$\text{SO}_2 \text{ emissions} = (\text{SO}_2 \text{ emissions factor in lbs/ton carbon}) * (\text{annual carbon fed into the furnace in tons/yr}) / (2,000 \text{ lbs/ton})$$

where:

the SO<sub>2</sub> emissions factor in lbs/ton carbon derived from the most recent performance test that demonstrated the emissions unit was in compliance. The current emissions factor is 0.48 lb/ton carbon derived from emissions testing conducted on 6/12.

g. Emission Limitation:

NO<sub>x</sub> emissions from this emissions unit shall not exceed 9.96 TPY as a rolling, 12-month summation.

Applicable Compliance Method:

Compliance with the emissions limitation shall be based upon the record keeping specified in d)(1) and shall be determined by using the following equation:

$$\text{NO}_x \text{ emissions} = (\text{NO}_x \text{ emissions factor in lbs/ton carbon}) * (\text{annual carbon fed into the furnace in tons/yr}) / (2,000 \text{ lbs/ton})$$

where:

the NO<sub>x</sub> emissions factor in lbs/ton carbon derived from the most recent performance test that demonstrated the emissions unit was in compliance. The current emissions factor is 1.81 lbs/ton carbon derived from emissions testing conducted on 6/12.

h. Emission Limitation:

The VOC emissions from this emissions units shall be reduced by 95% or achieve an outlet concentration of less than or equal to 10 ppm.



Applicable Compliance Method:

Compliance shall be demonstrated through performance testing as described in f)(4).

i. Emission Limitation:

The CO emissions from this emission unit shall be reduced by 90% or achieve an outlet concentration of less than or equal to 100 ppm..

Applicable Compliance Method:

Compliance shall be demonstrated through performance testing as described in f)(4).

j. Emission Limitation:

CO emissions from this emissions unit shall not exceed 31.4 TPY.

Applicable Compliance Method:

Compliance with the emissions limitation shall be based upon the record keeping specified in d)(1) and shall be determined by using the following equation:

$$\text{CO emissions} = (\text{CO emissions factor in lbs/ton carbon}) * (\text{annual carbon fed into the furnace in tons/yr}) / (2,000 \text{ lbs/ton})$$

where:

the CO emissions factor in lbs/ton carbon derived from the most recent performance test that demonstrated the emissions unit was in compliance. The current emissions factor is 3.25 lbs/ton carbon derived from emissions testing conducted on 6/12.

k. Emission Limitations:

The combined NOx emissions from emissions units B004 and B006 and combined Volatile Organic Compounds (VOC) emissions from emissions units P037, P040, P058, P067, and P582, and the group of emission units that vent to the RTO; P032, P104 (replaced P033), P105 (replaced P034), P052, P066, P088, P057, and P072 shall not exceed 854 TPY as a rolling, 12-month summation (Appendix J, Dayton, Ohio Corn Processing Ozone Cap). Those sources venting to the RTO will have a combined VOC emissions rate.

Applicable Compliance Method:

Compliance shall be based upon Appendix J, Dayton, Ohio Corn Processing Ozone Cap, from the sources listed above in f)(1)k. Refer to f)(3) for emissions unit P582.



- (2) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
- a. The emissions testing shall be conducted every 5 years to:
    - i. demonstrate compliance with the following allowable emissions rates for this emissions unit:
      - (a) 0.104 lbs/hr of PE;
      - (b) 0.93 lb/hr of SO<sub>2</sub>; and
      - (c) 2.27 lbs/hr of NO<sub>x</sub>.
    - ii. demonstrate compliance with the control operating parameter values listed in d)(2).
  - b. The following test methods shall be employed to demonstrate compliance with the above emissions limitations:
    - i. Methods 1 through 4 from 40 CFR Part 60, Appendix A for velocity traverses, velocity and volumetric flow rates, gas analysis, and moisture content;
    - ii. Method 5 of 40 CFR Part 60, Appendix A for filterable PE;
    - iii. Method 6 from 40 CFR Part 60, Appendix A for SO<sub>2</sub>;
    - iv. Method 7 from 40 CFR Part 60, Appendix A for NO<sub>x</sub>;

Alternative U.S. EPA approved test methods may be used with prior approval from the Regional Air Pollution Control Agency.
  - c. The test(s) shall be conducted while the emissions unit is operating at or near its maximum capacity, unless otherwise specified or approved by the appropriate Ohio EPA District Office or local air agency.
  - d. Not later than 60 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local air agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the emission test(s).
  - e. Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.



- f. A comprehensive written report on the results of the emissions test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the appropriate Ohio EPA District Office or local air agency.
- (3) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements:
- a. The emissions testing shall be conducted annually by the end of September of each calendar year.
- b. The emissions testing shall be conducted to:
- i. determine the emissions factor, in lbs VOC/ton carbon, that will be used to demonstrate compliance with the following allowable emissions rates for these emissions units:
- a) The combined NO<sub>x</sub> emissions from emissions units B004 and B006 and combined Volatile Organic Compounds (VOC) emissions from emissions units P037, P040, P058, P067, and P582, and the group of emission units that vent to the RTO; P032, P104 (replaced P033), P105 (replaced P034), P052, P066, P088, P057, and P072 shall not exceed 854 TPY as a rolling, 12-month summation (Appendix J, Dayton, Ohio Corn Processing Ozone Cap). Those sources venting to the RTO will have a combined VOC emissions rate.
- c. The following test methods shall be employed to develop the emissions factor used to demonstrate compliance with the above emissions limitation:
- i. Methods 1 through 4 from 40 CFR Part 60, Appendix A for velocity traverses, velocity and volumetric flow rates, gas analysis, and moisture content; and
- ii. Method 25A from 40 CFR Part 60, Appendix A for VOC (include scaling use of the VOC scaling factor of 2.2 as appropriate.
- Alternative U.S. EPA approved test methods may be used with prior approval from the Regional Air Pollution Control Agency.
- d. See f)(2)c. through f)(2)f. for emissions test requirements regarding operating capacity, ITT, witnesses, and test report.
- (4) The permittee shall conduct, or have conducted, emission testing for this emissions unit in accordance with the following requirements.
- a. The emissions testing shall be conducted every 5 years to:



- i. demonstrate compliance with the following allowable emissions rates for this emissions unit:
  - (a) VOC emissions reduced by 95% or an outlet concentration not to exceed 10 ppm VOC; and
  - (b) CO emissions reduced by 90% or an outlet concentration not to exceed 100 ppm CO.

- b. The following test methods shall be employed to demonstrate compliance with the above emissions limitations:
  - i. Methods 1 through 4 from 40 CFR Part 60, Appendix A for velocity traverses, velocity and volumetric flow rates, gas analysis, and moisture content;
  - ii. Method 10 from 40 CFR Part 60, Appendix A for CO; and
  - iii. Method 25A from 40 CFR Part 60, Appendix A for VOC.

Alternative U.S. EPA approved test methods may be used with prior approval from the Regional Air Pollution Control Agency.

- c. It is not possible to directly measure inlet emissions to the afterburner. Therefore, to determine an inlet emissions rate used to calculate the destruction efficiency, three outlet emissions test runs will be conducted with the afterburner off. These uncontrolled test runs simulate the inlet emissions rate into the afterburner.
- d. See f)(2)c. through f)(2)f. for emissions test requirements regarding operating capacity, ITT, witnesses, and test report.

g) Miscellaneous Requirements

- (1) None.