Ohio Environmental Protection Agency

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

6/20/2016

Certified Mail

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

Michael Resar
PCS Nitrogen Ohio, L.P.
2200 Fort Amanda Road
Lima, OH 45804

RE: DRAFT AIR POLLUTION PERMIT-TO-INSTALL
Facility ID: 0302020370
Permit Number: P0120921
Permit Type: Administrative Modification
County: Allen

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, The Lima 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 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

Ohio EPA DAPC, Northwest District Office
347 North Dunbridge Road
Bowling Green, OH 43402

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 Ohio EPA DAPC, Northwest District Office at (419)352-8461.

Sincerely,

Michael E. Hopkins, P.E.
Assistant Chief, Permitting Section, DAPC

Cc: U.S. EPA Region 5 *-Via E-Mail Notification*
Ohio EPA-NWDO; Indiana

Ohio Environmental Protection Agency

Permit Strategy Write-Up

1. Check all that apply:

   _X_ Synthetic Minor Determination

   Netting Determination

2. Source Description:

   PCS Nitrogen Ohio, L.P. (PCS) operates a fertilizer manufacturing plant in Lima, Ohio (Allen County) that mainly produces ammonia and urea based fertilizer products. This is an administrative modification to permit to install (PTI) P0115063 which was issued January 17, 2014 for a proposed ammonia and urea expansion project at the existing facility. The project proposed to produce more ammonia to be used for: 1) additional shipment of anhydrous ammonia offsite to other PCS facilities and/or customers, and 2) additional urea synthesis to produce more urea solutions, such as diesel exhaust fluid (DEF) for additional shipment offsite to customers. This administrative modification addresses an increase in ammonia production from the originally proposed 2340 tons per day to 2600 tons per day.

3. Facility Emissions and Attainment Status:

   PCS is a major stationary source of multiple criteria and regulated pollutants for purposes of both Prevention of Significant Deterioration (PSD) and Title V permitting.

   The area where PCS is located (Allen County) is classified as attainment or unclassifiable for all criteria pollutants, particulate matter 10 microns and less in diameter (PM_{10}), particulate matter 2.5 microns and less in diameter ($PM_{2.5}$), sulfur dioxide (SO_2), nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOC), and lead (Pb).

4. Source Emissions:

   In 2014, PCS Nitrogen Ohio, L.P. was issued a PSD permit for a proposed project to the existing facility to increase the ammonia and urea production. The ammonia and urea expansion project involved the installation of 3 new air emissions units, shutdown of 1 emissions unit, and several other emissions units will be “modified” (9 units) or “affected” (12 units). That permit was administratively modified to remove all PSD references as the facility was only subject to PSD for Greenhouse Gases. The permit modifications addressed in this administrative action involve the following changes to synthetic minor limits based on updates to the original project design:

   - P520, P521, P522, P523: Revisions to increase the maximum ammonia production rate from 2350 tons/day to 2600 tons/day; and

   - B503: Revisions to allow for downtime of the Hydrogen Recovery Unit/Cryogenics (HRU/Cryo) operations that provide the stripping of ammonia from the purge/tail gas and flash gas streams. This revision will also include an increase in the maximum heat input from 750.1 million British Thermal Units (mmBtu) per hour to 1000 mmBtu per hour.

   The design modifications required PCS Nitrogen Ohio, L.P. to reevaluate NSR applicability determination. The following table identifies emission increases for the proposed project:

Ohio Environmental Protection Agency

PROJECT EMISSION INCREASES

Operations, Property, and/or Equipment Description	Emissions Unit ID	Emissions Unit Project Status	Pollutant Increases (tons/year)[a]							
			PM	PM10	PM2.5	SO2	NOx	VOC	CO	Carbon dioxide equivalent (CO2e)
Boiler #2 (227 mmBtu/hr – natural gas)	B502	Affected	1.30	1.30	1.30	0.10	23.96	0.94	14.37	20,577.52
Primary Reformer (1000 mmBtu/hr – natural gas and tail, flash, purge and regenerative fuel gas)	B503	Modified	0.36	0.36	0.36	0.00	0.00	1.07	0.00	23,374.57
Ammonia Load Heater (product area) (40 mmBtu/hr – natural gas)	B507	Affected	0.24	0.24	0.24	0.02	3.17	0.17	2.66	3827.58
Boiler #3 (227 mmBtu/hr – natural gas)	B509	Replacement	1.86	1.86	1.86	0.15	4.57	1.34	20.54	29,399.43
Urea Water or UAN Solution Truck/Railcar Loading	J001	Modified								
DEF Urea Water Solution Truck/Railcar Loading	J002	New								
Reforming Section (Ammonia Unit)	P520	Modified						0.35	3.75	
Purification Section (Ammonia Unit)	P521	Modified						1.43	7.89	
Synthesis Section (Ammonia Unit)	P522	Modified							0.68	
CO2 Stripper Section (Ammonia Unit)	P523	Modified						0.00	1.01	233,597.53
Synthesis Section (Urea Plant)	P526	Modified					0.54	9.95		
Concentrator Section (Urea Plant)	P529	Affected						4.87	0.16	
Ammonia (Anhydrous) Truck Loading	P554	Affected								
Ammonia (Anhydrous) Railcar Loading	P554	Affected								
Reactor Feed Section (Urea Plant)	P563	Modified						1.24		
UTI Hotwell Section (Urea Plant)	P564	Modified	0.04	0.04	0.04			7.59	0.89	
Ammonia (Anhydrous) Storage Tanks (T-d, T-6)	T518	Affected								
Ammonia (Anhydrous) Storage Spheres (S-1, S-3)	T537	Affected								
Ammonia (Anhydrous) Storage Drums (D-4, D-5)	T551	Affected								
DEF Urea Water 50% Storage/Blend Tank (T-324)	T622	Affected								
50% Urea Liquor Storage Tank	T623	New								

Natural Gas Feed Heater (3 mmBtu/hr – natural gas)		Affected	0.03	0.03	0.03		0.35	0.02	0.30	427.00
Diesel Fuel Storage Tank – Truck Mobiles		Affected						0.02		
DEF Urea Water 32.5% Storage Tank (T-325)										
Total Project Emission Increases			3.83	3.83	3.83	0.27	32.59	28.47	52.25	**310780.90**
PSD Significant Emissions Threshold Levels			25	15	10	40	40	40	100	75,000

[a]Modifications to CO2 Stripper Section will result in an actual decrease in VOC emissions while modifications to the Primary Reformer will result in an actual decrease in SO2, NOx and CO emissions. Because this project will not involve or require a determination of contemporaneous net emissions increases, a value of 0.00 was applied to the decreases indicated above for purposes of calculating the project emission increases.

The emissions increases associated with the proposed modifications exceed PSD significant emission threshold levels for CO2e (GHGs). Since the levels were only exceeded for GHGs, PSD permitting is not applicable and no BACT analysis is required. The proposed changes will not affect the synthetic minor determination. Therefore, BACT analysis is not required for PM10, PM2.5, SO2, NOx, CO, VOC, lead and CO2e.

PTI P0115063 established federally enforceable requirements for the following emissions units:

B503 .....Ammonia Unit - Primary Reformer
B507 .....Ammonia Load Heater (product area)
B509 ……..Ammonia Unit - Boiler #3
P520 .....Ammonia Unit - Reforming Section
P521 .....Ammonia Unit - Purification Section
P522 .....Ammonia Unit - Synthesis Section
P523 .....Ammonia Unit - CO2 Stripper Section
P526 .....Urea Plant - Synthesis Section
P563 .....Urea Plant - Reactor Feed Section
P564 .....Urea Plant - UTI Hotwell Section

Federally enforceable requirements are being established to:

- Restrict operations of the Ammonia Unit - Reforming Section (P520) including start-up to limit emissions of CO and VOC;
- Restrict methanol usage (as an anti-freeze) in Ammonia Unit - Synthesis Section (P522) to limit emissions of VOC;
- Restrict start-up operations of the Urea Plant - Synthesis Section (P526) to limit emissions of NOx;
- Establish mass emission limitations to represent potential to emit (PTE) based on maximum capacity under physical and operation design of emission units.

5. Conclusion:

Federally enforceable restrictions and limitations are being established mainly to reinforce and ensure the level of criteria pollutant emissions contained in this permit will indisputably represent the PTE and the resulting calculated emission increases associated with this project will be below PSD significant thresholds.

Ohio Environmental Protection Agency

6. Please provide additional notes or comments as necessary:

None

PUBLIC NOTICE

The following matters are the subject of this public notice by the Ohio Environmental Protection Agency. The complete public notice, including any additional instructions for submitting comments, requesting information, a public hearing, or filing an appeal may be obtained at:http://epa.ohio.gov/actions.aspx or Hearing Clerk, Ohio EPA, 50 W. Town St., Columbus, Ohio 43215. Ph: 614-644-2129 email:HClerk@epa.ohio.gov

Draft Air Pollution Permit-to-Install Administrative Modification
PCS Nitrogen Ohio, L.P.
Fort Amanda & Adgate Roads,None, Lima, OH 45804
ID#:P0120921
Date of Action: 6/20/2016
Permit Desc:Administrative modification to the original ammonia and urea expansion project to allow for an increase in ammonia production from 2350 tons/day to 2600 tons/day increasing the VOC emissions from P520-P523 and to increase the NOx emissions from B503 due to downtime associated with the HRU/Cryogenics operations (non-permitted processes)..
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 ID # or: Andrea Moore, Ohio EPA DAPC, Northwest District Office, 347 North Dunbridge Road, Bowling Green, OH 43402. Ph: (419)352-8461

DRAFT

Division of Air Pollution Control
Permit-to-Install
for
PCS Nitrogen Ohio, L.P.

Facility ID:	0302020370
Permit Number:	P0120921
Permit Type:	Administrative Modification
Issued:	6/20/2016
Effective:	To be entered upon final issuance

Ohio Environmental Protection Agency

Division of Air Pollution Control
Permit-to-Install
for
PCS Nitrogen Ohio, L.P.

Table of Contents

Authorization

Facility ID:	0302020370
Facility Description:	Nitrogenous Fertilizers
Application Number(s):	M0003967, M0003968
Permit Number:	P0120921
Permit Description:	Administrative modification to the original ammonia and urea expansion project to allow for an increase in ammonia production from 2350 tons/day to 2600 tons/day increasing the VOC emissions from P520-P523 and to increase the NOx emissions from B503 due to downtime associated with the HRU/Cryogenics operations (non-permitted processes).
Permit Type:	Administrative Modification
Permit Fee:	$5,500.00*DO NOT send payment at this time, subject to change before final issuance*
Issue Date:	6/20/2016
Effective Date:	To be entered upon final issuance

This document constitutes issuance to:

PCS Nitrogen Ohio, L.P.
Fort Amanda & Adgate Roads
Lima, OH 45804

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:

Ohio EPA DAPC, Northwest District Office
347 North Dunbridge Road
Bowling Green, OH 43402
(419)352-8461

The above named entity is hereby granted a Permit-to-Install for the emissions unit(s) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the emissions unit(s) of environmental pollutants will operate in compliance with applicable State and Federal laws and regulations, and does not constitute expressed or implied assurance that if constructed or modified in accordance with those plans and specifications, the above described emissions unit(s) of pollutants will be granted the necessary permits to operate (air) or NPDES permits as applicable.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency

Craig W. Butler
Director

Authorization (continued)

Permit Number: P0120921
Permit Description: Administrative modification to the original ammonia and urea expansion project to allow for an increase in ammonia production from 2350 tons/day to 2600 tons/day increasing the VOC emissions from P520-P523 and to increase the NOx emissions from B503 due to downtime associated with the HRU/Cryogenics operations (non-permitted processes).

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

Emissions Unit ID:	**B503**
Company Equipment ID:	NH3 Unit - Primary Reformer
Superseded Permit Number:	P0117742
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P520**
Company Equipment ID:	NH3 Unit - Reforming
Superseded Permit Number:	P0117742
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P521**
Company Equipment ID:	NH3 Unit - Purification
Superseded Permit Number:	P0117742
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P522**
Company Equipment ID:	NH3 Unit - Synthesis
Superseded Permit Number:	P0117742
General Permit Category and Type:	Not Applicable
Emissions Unit ID:	**P523**
Company Equipment ID:	NH3 Unit - CO2 Stripper
Superseded Permit Number:	P0119326
General Permit Category and Type:	Not Applicable

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 Ohio EPA DAPC, Northwest District Office.

(2) Quarterly written reports of (i) any deviations from federally enforceable emissionlimitations, operationalrestrictions, andcontroldeviceoperatingparameterlimitations, excluding deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06, that have been detected by the testing, monitoring and recordkeeping requirements specified in this permit, (ii) the probable cause of such deviations, and (iii) any corrective actions or preventive measures taken, shall be made to the Ohio EPA DAPC, Northwest District Office. 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, andreportingrequirements contained in this permit shall be submitted to the Ohio EPA DAPC, Northwest District Office every six months, by January 31 and July 31 of each year for the previous six calendar months. If no deviations occurred during a six-month period, the permittee shall submit a semi-annual report, which states that no deviations occurred during that period.

(4) This permit is for an emissions unit located at a Title V facility. Each written report shall be signed by a responsible official certifying that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

d) The permittee shall report actual emissions pursuant to OAC Chapter 3745-78 for the purpose of collecting Air Pollution Control Fees.

5. Scheduled Maintenance/Malfunction Reporting

Any scheduled maintenance of air pollution control equipment shall be performed in accordance with paragraph (A) of OAC rule 3745-15-06. The malfunction, i.e., upset, of any emissions units or any associated air pollution control system(s) shall be reported to theOhio EPA DAPC, Northwest District Officein 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 Ohio EPA DAPC, Northwest District Office concerning any schedule of compliance for meeting an applicable requirement. Progress reports shall be submitted semiannually or more frequently if specified in the applicable requirement or by the Director of the Ohio EPA. Progress reports shall contain the following:

(1) Dates for achieving the activities, milestones, or compliance required in any schedule of compliance, and dates when such activities, milestones, or compliance were achieved.

(2) An explanation of why any dates in any schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

7. Best Available Technology

As specified in OAC Rule 3745-31-05, new sources that must employ Best Available Technology (BAT) shall comply with the Applicable Emission Limitations/Control Measures identified as BAT for each subject emissions unit.

8. Air Pollution Nuisance

The air contaminants emitted by the emissions units covered by this permit shall not cause a public nuisance, in violation of OAC rule 3745-15-07.

9. Reporting Requirements

The permittee shall submit required reports in the following manner:

a) Reports of any required monitoring and/or recordkeeping of state-only enforceable information shall be submitted to the Ohio EPA DAPC, Northwest District Office.

b) Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursions) from state-only required emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to theOhio EPA DAPC, Northwest District Office. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted 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 beforeoperating 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 enteredupon 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.

B. Facility-Wide Terms and Conditions

1. All the following facility-wide terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only:

   a) None.

2. The permittee shall maintain the following records for emissions units B502, B503, B507, B509, B510, J001, J002, P520, P521, P522, P523, P526, P529, P554, P555, P563, P564, T518, T537, T551, T622, T623, T624 and T625 as described in Permit to Install Application No. M0003967 submitted on June 2, 2016 in order to demonstrate that the ammonia and urea units' expansion project does not trigger a major modification for PM2.5, NOx, CO and/or VOC:

   a) the projected actual annual emissions for PM2.5, NOx, CO and VOC, in tons per year, from the ammonia and urea units' expansion project as submitted in PTI application No. M0003967 submitted on June 2, 2016; and

   b) the total actual annual emissions for PM2.5, NOx, CO and VOC, in tons per year, from emissions units B502, B503, B507, B509, B510, J001, J002, P520, P521, P522, P523, P526, P529, P554, P555, P563, P564, T518, T537, T551, T622, T623, T624 and T625, combined, for ten calendar years after commencing operation of the ammonia and urea units' expansion project.

3. The permittee shall notify the Northwest District Office in writing if annual emissions from all emissions units in the ammonia and urea expansion project, as specified in facility-wide term and condition B.2.b., result in a significant PM2.5, NOx, CO and/or VOC emissions increase and exceed the projected actual PM2.5, NOx, CO and/or VOC emissions contained in the application for PTI No. M0003967, submitted June 2, 2016. This notification shall identify the cause for the significant emissions increase and the estimated PM2.5, NOx, CO and/or VOC emissions. This notification shall be submitted to the Northwest District Office within 120 days after the end of such year.

C. Emissions Unit Terms and Conditions

1. B503, NH3 Unit - Primary Reformer

Operations, Property and/or Equipment Description:

Ammonia Unit - Primary Reformer (1000 mmBtu/hr - Natural Gas and Tail & Flash & Purge & Regen. Fuel Gas)

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) b)(1)h. and d)(3).

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D)	7.73 lbs of particulate emissions/ particulate matter less than or equal to 10 microns in diameter/particulate matter less than or equal to 2.5 microns in diameter ($PE/PM_{10}/PM_{2.5}$)/hr and 32.82 tons of $PE/PM_{10}/PM_{2.5}$/yr 0.47 lb of sulfur dioxide (SO2)/hr and 2.06 tons of SO2/yr 655.79 lbs of nitrogen oxides (NOx)/hr and 1211.00 tons of NOx per rolling, 12-month period 6.82 lbs of carbon monoxide (CO)/hr and 28.97 tons of CO/yr 5.59 lbs of volatile organic compounds (VOC)/hr and 23.75 tons of VOC/yr See b)(2)a. through b)(2)c., c)(2) and c)(3)
b.	ORC 3704.03(T)	See b)(2)d.
c.	OAC rule 3745-17-07(A)	Visible particulate emissions (PE) shall not exceed 20% opacity as a six-minute average, except as provided by rule
d.	OAC rule 3745-17-10(B)(1)	0.020 lb of PE/mmBtu of actual heat input [See b)(2)e.]

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
e.	OAC rule 3745-18-08(D)(2)	1.27 lb of SO2/mmBtu of actual heat input [See b)(2)f.]
f.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)g. and b)(2)h.
g.	OAC rule 3745-31-05(A)(3), as effective 12/1/06	See b)(2)i.
h.	ORC 3704.03(F) and OAC rule 3745-114	See d)(3)

(2) Additional Terms and Conditions

a. The mass emission rate limitations for PE/PM10/PM2.5, SO2, CO and VOC and for the hourly NOx limitation in b)(1)a. above represent the potentials to emit (PTE), defined as the maximum capacity to emit an air pollutant under its physical and operational design. Therefore, no monitoring, record keeping, or reporting requirements are necessary to ensure compliance with these emission limitations. See f)(1)a., b, c., d., and e. for details regarding the PTEs.

b. It is assumed that all PE are equivalent to both PM_{10} and $PM_{2.5}$.

c. This permit establishes the following federally enforceable emission limitations for the purpose of representing the potentials to emit of this emissions unit:

i. 7.73 lbs of PE/PM_{10}/$PM_{2.5}$/hr and 32.82 tons of PE/PM_{10}/$PM_{2.5}$/yr;

ii. 0.47 lb of SO2/hr and 2.06 tons of SO2/yr;

iii. 655.79 lbs of NOx/hr and 1211.00 tons of NOx per rolling, 12-month period;

iv. 6.82 lbs of CO/hr and 28.97 tons of CO/yr; and

v. 5.59 lbs of VOC/hr and 23.75 tons of VOC/yr.

d. Best Available Technology (BAT) requirements for PE/PM_{10}/$PM_{2.5}$, NOx, CO and VOC emissions under ORC 3704.03(T) have been determined to be compliance with the annual emission limitations for PE/PM_{10}/$PM_{2.5}$, NOx, CO and VOC as established pursuant to OAC rule 3745-31-05(D).

e. The emission limitation of 0.020 lb of particulate emissions (PE) per million Btu of actual heat input specified by OAC 3745-17-10(B)(1) is less stringent than the PE limitation established pursuant to OAC rule 3745-31-05(D).

f. The emission limitation of 1.27 lb of sulfur dioxide (SO2) per million Btu of actual heat input specified by OAC rule 3745-18-08(D)(2) is less stringent than the SO2 limitation established pursuant to OAC rule 3745-31-05(D).

g. BAT requirements for SO2 emissions under OAC rule 3745-31-05(A)(3), as effective 11/30/01 have been determined to be compliance with the annual SO2 emission limitation as established pursuant to OAC rule 3745-31-05(D).

h. The permittee has satisfied the BAT requirements for SO2 emissions pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulation for NAAQS pollutant emissions less than 10 tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limits and control measures no longer apply.

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

The BAT requirements under OAC rule 3745-31-05(A)(3)(a) do not apply to the SO2 emissions since the potential to emit is less than 10 tons per year.

j. The Hydrogen Recovery Unit (HRU) and Cryogenics (Cryo) operations associated with this emissions unit is integral to the process equipment as a product recovery operation. Thus, there is no parametric monitoring necessary.

c) Operational Restrictions

(1) The permittee shall burn only natural gas, tail gas, flash gas, purge gas, or regeneration (regen.) fuel gas in this emissions unit.

(2) Emissions from normal operations and during reduced HRU/Cryo efficiency for the ammonia unit – primary reformer are limited by the following:

$$\sum_{M=1}^{12} \sum_{n} NOx_n \leq 1211.00 \text{ tons}$$

where:

M = the increment of the rolling, 12-month period;

n = type of operation (i.e. normal and reduced HRU/Cryo efficiency) during the period; and

NOx_n = calculated emissions of nitrogen oxides in tons.

(3) To ensure federal enforceability during the first 12 calendar months of operation under the provisions of this permit, emissions from normal operations and reduced HRU/Cryo efficiency for the ammonia unit – primary reformer are limited by the following:

Allowable Operation Limitations

Month(s)	$\sum_{n} NOx_n \leq$
1-1	300.00
1-2	600.00
1-3	900.00
1-4	1200.00
1-12	1211.00

After the first 12 calendar months of operation under the provisions of this permit, compliance with the allowable operation limitations shall be based upon a rolling, 12-month summation.

d) Monitoring and/or Recordkeeping Requirements

(1) For each day during which the permittee burns a fuel other than natural gas, tail, flash, purge or regen. fuel gas, the permittee shall maintain a record of the type and quantity of fuel burned in this emissions unit.

(2) The permittee shall collect and record the following information each month:

a. Type and time period of each operation (normal operations and reduced HRU/Cryo efficiency);

b. The calculated NOx emissions, in tons, associated with each type of operation, based on a detailed review of normal operations and reduced HRU/Cryo efficiency;

c. The total NOx emission rates, in tons, from all operation types [summation of d)(2)b. for normal operations and reduced HRU/Cryo efficiency];

d. For the first 12 calendar months of operation under the provisions of this permit, the cumulative monthly NOx emissions, in tons; and

e. After the first 12 months of operation under the provisions of this permit, the rolling, 12-month NOx emissions, in tons.

(3) Modeling to demonstrate compliance with the “Toxic Air Contaminant Statute”, ORC 3704.03(F)(4)(b), was not necessary for this permit action because actual emissions of the toxic air contaminant ammonia (NH3), as specified in OAC rule 3745-114-01, resulted in an actual decrease. Other than NH3, the maximum annual emissions for each toxic air contaminant (as specified in OAC rule 3745-114-01) that is not subject to

MACT and/or NESHAP regulations will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified permit-to-install (PTI) prior to making a "modification" as defined by OAC rule 3745-31-01.

The permittee is hereby advised that changes in the composition of the materials, or use of new materials, etc. that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new PTI.

e) Reporting Requirements

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

(2) The permittee shall submit quarterly deviation (excursion) reports that identify:

a. all exceedances of the rolling, 12-month operational restriction specified in c)(2); and

b. all exceedances of the allowable operational limitations for the first 12 months of operation as specified in c)(3);

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

f) Testing Requirements

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

a. Emission Limitations:

7.73 lbs of PE/PM_{10}/$PM_{2.5}$/hr and 32.82 tons of PE/PM_{10}/$PM_{2.5}$/yr

Applicable Compliance Method:

The hourly PE/PM_{10}/$PM_{2.5}$ emission limitation above was developed by the following ratio of fuel firing:

Total maximum heat input = 1000 million Btu/hr, which consists of a typical composite fuel heat input of 797.97 million Btu/hr from natural gas; plus 165.14 million Btu/hr from tail gas and purge gas, combined; plus 36.88 million Btu/hr from flash gas.

Fuel firing rates: Natural gas = (797.97 million Btu/hr)/(1,020 Btu/scf) = **0.7823 million scf/hr**

Tail gas and purge gas, combined = (165.14 million Btu/hr)/(302.0 Btu/scf) = **0.5468 million scf/hr**

Flash gas = (36.88 million Btu/hr)/(450.0 Btu/scf) = **0.0820 million scf/hr**

Emission factors: natural gas = 7.6 lbs/million scf from AP-42, Table 1.4-2 (dated 7/98); tail, purge and flash gas, combined = 2.837 lbs/million scf from ratio of fuel gas heat contents in AP-42, Table 1.4-2 (dated 7/98)

$PE/PM_{10}/PM_{2.5}$ emissions =

From natural gas: (7.6 lbs/million scf)(0.7823 million scf/hr) = 5.95 lbs $PE/PM_{10}/PM_{2.5}$/hr;

From tail gas and purge gas, combined: (2.837 lbs/million scf)(0.5468 million scf/hr) = 1.55 lb $PE/PM_{10}/PM_{2.5}$/hr; and

From flash gas: (2.837 lbs/million scf)(0.0820 million scf/hr) = 0.23 lb $PE/PM_{10}/PM_{2.5}$/hr

Total $PE/PM_{10}/PM_{2.5}$ emissions = 5.95 + 1.55 + 0.23 = **7.73 lbs/hr**

Compliance is presumed by only using natural gas, tail gas, flash gas, purge gas or regen. fuel gas, as required in c)(1).

If required, the permittee shall demonstrate compliance with the hourly emission limitation by conducting emission testing in accordance with the methods and procedures specified in Methods 1 through 4 of 40 CFR, Part 60, Appendix A and Methods 201, 201A and 202 of 40 CFR, Part 51, Appendix M. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

The annual emission limitation was established by multiplying the hourly emission limitation by the maximum operating schedule of 8,760 hrs/yr, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the lb/hr emission limitation, compliance with the annual emission limitation shall also be demonstrated.

b. Emission Limitations:

0.47 lb of SO2/hr and 2.06 tons of SO2/yr

Applicable Compliance Method:

The hourly SO2 emission limitation above was developed by multiplying the SO2 emission factor from AP-42, Table 1.4-2 (dated 7/98) (0.6 lb/million scf) by the maximum heat input of 797.97 million Btu/hr when firing natural gas (all other fuels fired have negligible sulfur content), then dividing by the natural gas heat content of 1,020 Btu/scf. Compliance is presumed by only using natural gas, tail gas, flash gas, purge gas or regen. fuel gas, as required in c)(1).

If required, the permittee shall demonstrate compliance with the hourly emission limitation by conducting emission testing in accordance with the methods and procedures specified in Method 1 through 4, and 6 of 40 CFR, Part 60, Appendix

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

The annual emission limitation was established by multiplying the hourly emission limitation by the maximum operating schedule of 8,760 hrs/yr, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the lb/hr emission limitation, compliance with the annual emission limitation shall also be demonstrated.

c. Emission Limitations:

655.79 lbs of NOx/hr and 1211.00 tons of NOx per rolling, 12-month period

Applicable Compliance Method:

The hourly NOx emission limitation above was developed by the following ratio of fuel firing:

Total maximum heat input = 1000 million Btu/hr, which consists of a typical composite fuel heat input of 797.97 million Btu/hr from natural gas; plus 165.14 million Btu/hr from tail gas and purge gas, combined; plus 36.88 million Btu/hr from flash gas.

Fuel firing rates: Natural gas = (797.97 million Btu/hr)/(1,020 Btu/scf) = **0.7823 million scf/hr**

Tail gas and purge gas, combined = (165.14 million Btu/hr)/(302.0 Btu/scf) = **0.5468 million scf/hr**

Flash gas = (36.88 million Btu/hr)/(450.0 Btu/scf) = **0.0820 million scf/hr**

Emission factors: natural gas = 252 lbs/million scf based on vendor guaranteed value which is a 10 percent reduction from AP-42, Table 1.4-1 (dated 7/98) emission factor of 280 lbs/million scf due to burner modifications and upgrades during maintenance turnaround conducted in 2010; tail gas, purge gas and flash gas, combined = 94.085 lbs/million scf from ratio of fuel gas heat contents in AP-42, Table 1.4-1 (dated 7/98); plus an additional 0.286 lb/lb ammonia combusted from tail gas, purge gas and flash gas based on vendor information and review of previous stack test reports

NOx emissions =

From natural gas: (252 lbs/million scf)(0.7823 million scf/hr) = 197.14 lbs NOx/hr;

From tail gas and purge gas, combined: (94.085 lbs/million scf)(0.5468 million scf/hr) = 51.45 lbs NOx/hr;

From flash gas: (94.085 lbs/million scf)(0.0820 million scf/hr) = 7.71 lbs NOx/hr; and

The hourly NOx emission limitation for combustion of ammonia introduced into the Primary Reformerfrom tail gas, purge gas and flash gas, combined, was developed by multiplying the NOx emission factor from vendor information: (0.286 lb/lb ammonia combusted) by an adjusted ammonia introduction rate into the Reformer (without HRU/Cryo operating) of (1,396.796 lb ammonia/hour) = 399.4837 lbs NOx/hr

Total NOx emissions = 197.14 + 51.45 + 7.71 + 399.48 = **655.79 lbs/hr**

The permittee shall demonstrate compliance with the hourly emission limitation by conducting emission testing in accordance with the methods and procedures specified in Method 1 through 4, and 7 of 40 CFR, Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

Compliance with the annual NOx emission limitation shall be demonstrated by the record keeping requirements specified in d)(2) of this permit.

d. Emission Limitations:

6.82 lbs of CO/hr and 28.91 tons of CO/yr

Applicable Compliance Method:

The hourly CO emission limitation above was developed from previous stack test, and adjusted to remove turbine emissions, plus a margin of 15 percent. Compliance is presumed by only using natural gas, tail, flash, purge or regeneration fuel gas, as required in c)(1).

If required, the permittee shall demonstrate compliance with the hourly emission limitation by conducting emission testing in accordance with the methods and procedures specified in Method 1 through 4, and 10 of 40 CFR, Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

The annual emission limitation was established by multiplying the hourly emission limitation by the maximum operating schedule of 8,760 hrs/yr, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the lb/hr emission limitation, compliance with the annual emission limitation shall also be demonstrated.

e. Emission Limitations:

5.59 lbs of VOC/hr and 23.75 tons of VOC/yr

Applicable Compliance Method:

The hourly VOC emission limitation above was developed by the following ratio of fuel firing:

Total maximum heat input = 1000 million Btu/hr, which consists of a typical composite fuel heat input of 797.97 million Btu/hr from natural gas; plus 165.14 million Btu/hr from tail gas and purge gas, combined; plus 36.88 million Btu/hr from flash gas.

Fuel firing rates: Natural gas = (797.97 million Btu/hr)/(1,020 Btu/scf) = **0.7823 million scf/hr**

Tail gas and purge gas, combined = (165.14 million Btu/hr)/(302.0 Btu/scf) = **0.5468 million scf/hr**

Flash gas = (36.88 million Btu/hr)/(450.0 Btu/scf) = **0.0820 million scf/hr**

Emission factors: natural gas = 5.5 lbs/million scf from AP-42, Table 1.4-2 (dated 7/98); tail gas, purge gas and flash gas, combined = 2.053 lbs/million scf from ratio of fuel gas heat contents in AP-42, Table 1.4-2 (dated 7/98)

VOC emissions =

From natural gas: (5.5 lbs/million scf)(0.7823 million scf/hr) = 4.30 lbs VOC/hr;

From tail gas and purge gas, combined: (2.053 lbs/million scf)(0.5468 million scf/hr) = 1.12 lb VOC/hr; and

From flash gas: (2.053 lbs/million scf)(0.0820 million scf/hr) = 0.17 lb VOC/hr

Total VOC emissions = 4.30 + 1.12 + 0.17 = **5.59 lbs/hr**

Compliance is presumed by only using natural gas, tail gas, flash gas, purge gas or regen. fuel gas, as required in c)(1).

If required, the permittee shall demonstrate compliance with the hourly emission limitation by conducting emission testing in accordance with the methods and procedures specified in Method 1 through 4, and 18, 25, or 25A, as applicable, of 40 CFR, Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

The annual emission limitation was established by multiplying the hourly emission limitation by the maximum operating schedule of 8,760 hrs/yr, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the lb/hr emission limitation, compliance with the annual emission limitation shall also be demonstrated.

f. Emission Limitation:

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

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with the visible particulate emission limitation above in accordance with the methods and procedures specified in Method 9 of 40 CFR, Part 60, Appendix A, and the requirements specified in OAC rule 3745-17-03(B)(1).

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

a. The emission testing shall be conducted within six months after permit issuance.

The emission testing shall be conducted to demonstrate compliance with the allowable emission rate of 655.79 lbs of NOx/hr.

b. The following test methods shall be employed to demonstrate compliance with the allowable mass emission rate for NOx: Methods 1 through 4, and 7 of 40 CFR, Part 60, Appendix A. Alternate U.S. EPA-approved test methods may be used with prior approval from the Ohio EPA.

c. The test(s) shall be conducted while the emissions unit is operating at its maximum capacity, unless otherwise specified or approved by the Ohio EPA, Northwest District Office.

d. Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the Ohio EPA, Northwest District Office. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s).

Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA, Northwest District Office's refusal to accept the results of the emission test(s).

e. Personnel from the Ohio EPA, Northwest District Office shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

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 Ohio EPA, Northwest District Office within 30 days following completion of the test(s). The permittee may request additional time for the submittal of the written report, where warranted, with prior approval from the Ohio EPA, Northwest District Office.

g) Miscellaneous Requirements

(1) None.

2. P520, NH3 Unit - Reforming

Operations, Property and/or Equipment Description:

Ammonia Unit - Reforming Section

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) b)(1)c. and d)(2).

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D)	2,439.85 lbs of carbon monoxide (CO)/hr during emissions unit start-up periods 9.10 lbs of CO/hr during normal production mode of operation 491.97 tons of CO per rolling, 12-month period during start-up periods and normal production mode of operation, combined 37.15 lbs of volatile organic compounds (VOC)/hr during emissions unit start-up periods 0.83 lb of VOC/hr during normal production mode of operation 10.40 tons of VOC per rolling, 12-month period during start-up periods and normal production mode of operation, combined See b)(2)a., b)(2)b., b)(2)d., c)(1), d)(1) and e)(1)
b.	ORC 3704.03(T)	See b)(2)c.
c.	ORC 3704.03(F) and OAC rule 3745-114	See d)(2)

(2) Additional Terms and Conditions

a. The mass emission rate limitations in b)(1)a. above represent the potentials to emit (PTE), defined as the maximum capacity to emit an air pollutant under the physical and operational design. Therefore, no monitoring, record keeping, or reporting requirements are necessary to ensure compliance with these emission limitations. See f)(1)a. and b., for details regarding the PTE.

b. This permit establishes the following federally enforceable emission limitations for the purpose of representing the potentials to emit of this emissions unit. The federally enforceable limitations are based on the operational restrictions in c)(1):

i. 2,439.85 lbs of CO/hr during emissions unit start-up periods;

ii. 9.10 lbs of CO/hr during normal production mode of operation;

iii. 491.97 tons of CO per rolling, 12-month period during start-up periods and normal production mode of operation, combined;

iv. 37.15 lbs of VOC/hr during emissions unit start-up periods;

v. 0.83 lb of VOC/hr during normal production mode of operation; and

vi. 10.40 tons of VOC per rolling, 12-month period during start-up periods and normal production mode of operation, combined.

c. Best Available Technology (BAT) requirements for CO and VOC emissions under ORC 3704.03(T) have been determined to be compliance with the annual emission limitations for CO and VOC as established pursuant to OAC rule 3745-31-05(D).

d. Criteria pollutant emissions resulting from shutdown events have been determined to be negligible for this emissions unit.

c) Operational Restrictions

(1) Start-up and normal operations for the ammonia reforming unit is limited by the following:

$$\sum_{M=1}^{12}\sum_{n} CO_n \leq 491.97 \; and \; \sum_{n} VOC_n \leq 10.40$$

where:

M = the increment of the rolling, 12-month period;

n = type of operation (i.e. normal, start-up) during the period;

CO_n = calculated emissions of carbon monoxide in tons;

VOC_n = calculated emissions of volatile organic compounds in tons;

(2) To ensure federal enforceability during the first 12 calendar months of operation under the provisions of this permit, start-up, and normal operations for the ammonia reforming unit is limited by the following:

Allowable Operation Limitations

Month(s)	$\sum_n CO_n \leq$	and	$\sum_n VOC_n \leq$
1-1	100.00	and	2.00
1-2	200.00	and	4.00
1-3	300.00	and	6.00
1-4	400.00	and	8.00
1-12	491.97	and	10.40

After the first 12 calendar months of operation under the provisions of this permit, compliance with the allowable operation limitations shall be based upon a rolling, 12-month summation.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following information each month:

a. Type and time period of each operation (startup, normal);

b. The calculated CO and VOC emissions, in tons, associated with each type of operation, based on a detailed review of startup and normal operations.

c. The total CO and VOC emission rates, in tons, from all operation types [summation of d)(1)b. for startup and normal operations];

d. For the first 12 calendar months of operation under the provisions of this permit, the cumulative monthly CO and VOC emissions, in tons; and

e. After the first 12 months of operation under the provisions of this permit, the rolling, 12-month CO and VOC emissions, in tons.

(2) Modeling to demonstrate compliance with, the “Toxic Air Contaminant Statute”, ORC 3704.03(F)(4)(b), was not necessary for this permit action because actual emissions of the toxic air contaminant ammonia (NH3), as specified in OAC rule 3745-114-01, resulted in an actual decrease. Other than NH3, the maximum annual emissions for each toxic air contaminant (as specified in OAC rule 3745-114-01) that is not subject to MACT and/or NESHAP regulations will be less than 1.0 ton per year. OAC Chapter

3745-31 requires a permittee to apply for and obtain a new or modified permit-to-install (PTI) prior to making a "modification" as defined by OAC rule 3745-31-01.

The permittee is hereby advised that changes in the composition of the materials, or use of new materials, etc. that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new PTI.

e) Reporting Requirements

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

a. all exceedances of the rolling, 12-month operational restriction specified in c)(1); and

b. all exceedances of the allowable operational limitations for the first 12 months of operation as specified in c)(2);

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

f) Testing Requirements

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

a. Emission Limitation:

2,439.85 lbs of CO/hr during emissions unit start-up periods

Applicable Compliance Method:

The hourly emission limitation during start-up periods is based on PCS Engineering staff system knowledge and a detailed review of operations history. Compliance shall be demonstrated by the recordkeeping requirements in d)(1).

If required, the permittee shall demonstrate compliance with the hourly emission limitation by conducting emission testing in accordance with the methods and procedures specified in Method 1 through 4, and 10 of 40 CFR, Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

b. Emission Limitation

9.10 lbs of CO/hr during normal production mode of operation

Applicable Compliance Method:

The hourly emission limitation is based on previous stack testing data, and reflects the potential to emit (PTE) for this emissions unit during normal production mode of operation.

Therefore, it is not necessary to develop any further monitoring, record keeping and/or reporting requirements to ensure compliance with this limitation.

If required, the permittee shall demonstrate compliance with the hourly emission limitation by conducting emission testing in accordance with the methods and procedures specified in Method 1 through 4, and 10 of 40 CFR, Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

c. Emission Limitation:

491.97 tons of CO per rolling, 12-month period during start-up periods and normal production mode of operation, combined

Applicable Compliance Method:

The annual emission limitation is based on 453.81 tons of CO/yr during emissions unit start-up periods: (2,439.85 lbs of CO/hr)(372 hrs/yr of start-up)/(2,000 lbs/ton); plus an additional 39.85 tons of CO during the remaining 8,388 hrs/yr. Compliance with the annual emission limitation shall be demonstrated by the recordkeeping requirements in d)(1).

The 39.85 tons of CO/yr is based on previous stack testing, and reflects the potential to emit (PTE) for this emissions unit during normal production operating mode.

Therefore, it is not necessary to develop any further monitoring, record keeping and/or reporting requirements to ensure compliance with this limitation.

d. Emission Limitation:

37.15 lbs of VOC/hr during emissions unit start-up periods

Applicable Compliance Method:

The hourly emission limitation during start-up periods is based on PCS Engineering staff system knowledge and a detailed review of operations history. Compliance shall be demonstrated by the recordkeeping requirements in d)(1).

If required, the permittee shall demonstrate compliance with the hourly emission limitation by conducting emission testing in accordance with the methods and procedures specified in Method 1 through 4, and 18, 25, or 25A, as applicable, of 40 CFR, Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

e. Emission Limitation:

0.83 lb of VOC/hr during normal production mode of operation

Applicable Compliance Method:

The hourly emission limitation is based on previous stack testing data, and reflects the potential to emit (PTE) for this emissions unit during normal production mode of operation.

Therefore, it is not necessary to develop any further monitoring, record keeping and/or reporting requirements to ensure compliance with this limitation.

If required, the permittee shall demonstrate compliance with the hourly emission limitation by conducting emission testing in accordance with the methods and procedures specified in Method 1 through 4, and 18, 25, or 25A, as applicable, of 40 CFR, Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

f. Emission Limitation:

10.40 tons of VOC per rolling, 12-month period during start-up periods and normal production mode of operation, combined

Applicable Compliance Method:

The annual emission limitation is based on 6.91 tons of VOC/yr during emissions unit start-up periods: (37.15 lbs of VOC/hr)(372 hrs/yr of start-up)/(2,000 lbs/ton); plus an additional 3.64 tons of VOC during the remaining 8,388 hrs/yr. Compliance with the annual emission limitation shall be demonstrated by the recordkeeping requirements in d)(1).

The 3.64 tons of VOC/yr is based on previous stack testing, and reflects the potential to emit (PTE) for this emissions unit during normal production operating mode.

Therefore, it is not necessary to develop any further monitoring, record keeping and/or reporting requirements to ensure compliance with this limitation.

g) Miscellaneous Requirements

(1) None.

3. P521, NH3 Unit - Purification

Operations, Property and/or Equipment Description:

Ammonia Production Unit Purification Section

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) b)(1)e. and d)(1).

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D)	2.90 lbs of carbon monoxide (CO)/hr and 12.71 tons of CO/yr 0.41 lb of volatile organic compounds (VOC)/hr and 1.80 tons of VOC/yr See b)(2)a. and b)(2)b.
b.	ORC 3704.03(T)	See b)(2)c.
c.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)d. and b)(2)e.
d.	OAC rule 3745-31-05(A)(3), as effective 12/1/06	See b)(2)f.
e.	ORC 3704.03(F) and OAC rule 3745-114	See d)(1)

(2) Additional Terms and Conditions

a. The mass emission rate limitations in b)(1)a. above represent the potential to emit (PTE), defined as the maximum capacity to emit an air pollutant under the physical and operational design. Therefore, no monitoring, record keeping, or reporting requirements are necessary to ensure compliance with these emission limitations. See f)(1)a. and b. for details regarding the PTE.

b. This permit establishes the following federally enforceable emission limitations for the purpose of representing the potentials to emit of this emissions unit:

i. 2.90 lbs of CO/hr and 12.71 tons of CO/yr; and

ii. 0.41 lb of VOC/hr and 1.80 tons of VOC/yr.

c. Best Available Technology (BAT) requirements for CO emissions under ORC 3704.03(T) have been determined to be compliance with the annual CO emission limitation as established pursuant to OAC rule 3745-31-05(D).

d. BAT requirements for VOC emissions under OAC rule 3745-31-05(A)(3), as effective 11/30/01 have been determined to be compliance with the annual VOC emission limitation as established pursuant to OAC rule 3745-31-05(D).

e. The permittee has satisfied the BAT requirements for VOC emissions pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulation for NAAQS pollutant emissions less than 10 tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limits and control measures no longer apply.

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

The BAT requirements under OAC rule 3745-31-05(A)(3)(a) do not apply to the VOC emissions since the potential to emit is less than 10 tons per year.

c) Operational Restrictions

(1) None.

d) Monitoring and/or Recordkeeping Requirements

(1) Modeling to demonstrate compliance with the "Toxic Air Contaminant Statute", ORC 3704.03(F)(4)(b), was not necessary for this permit action because actual emissions of the toxic air contaminant ammonia (NH3), as specified in OAC rule 3745-114-01, resulted in an actual decrease. Other than NH3, the maximum annual emissions for each toxic air contaminant (as specified in OAC rule 3745-114-01) that is not subject to MACT and/or NESHAP regulations will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified permit-to-install (PTI) prior to making a "modification" as defined by OAC rule 3745-31-01.

The permittee is hereby advised that changes in the composition of the materials, or use of new materials, etc. that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new PTI.

e) Reporting Requirements

(1) None.

f) Testing Requirements

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

a. Emission Limitations:

2.90 lbs of CO/hr and 12.71 tons of CO/yr

Applicable Compliance Method:

The hourly emission limitation is based on previous stack testing data, and reflects the potential to emit (PTE) for this emissions unit. Therefore, it is not necessary to develop any further monitoring, record keeping and/or reporting requirements to ensure compliance with this limitation.

If required, the permittee shall demonstrate compliance with the hourly emission limitation by conducting emission testing in accordance with the methods and procedures specified in Method 1 through 4, and 10 of 40 CFR, Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

The annual emission limitation was established by multiplying the hourly emission limitation by the maximum operating schedule of 8,760 hrs/yr, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the lb/hr emission limitation, compliance with the annual emission limitation shall also be demonstrated.

b. Emission Limitations:

0.41 lb of VOC/hr and 1.80 tons of VOC/yr

Applicable Compliance Method:

The hourly emission limitation is based on previous stack testing data, and reflects the potential to emit (PTE) for this emissions unit. Therefore, it is not necessary to develop any further monitoring, record keeping and/or reporting requirements to ensure compliance with this limitation.

If required, the permittee shall demonstrate compliance with the hourly emission limitation by conducting emission testing in accordance with the methods and procedures specified in Method 1 through 4, and 18, 25, or 25A, as applicable, of 40 CFR, Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

The annual emission limitation was established by multiplying the hourly emission limitation by the maximum operating schedule of 8,760 hrs/yr, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the lb/hr emission limitation, compliance with the annual emission limitation shall also be demonstrated.

g) Miscellaneous Requirements

(1) None.

4. P522, NH3 Unit - Synthesis

Operations, Property and/or Equipment Description:

Ammonia Unit - Synthesis Section

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) b)(1)e. and d)(4).

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D)	<u>Emissions from the flare:</u> Visible particulate emissions (PE) from the flare shall not exceed 5% opacity, as a 6-minute average. 2.66 lbs of carbon monoxide (CO)/hr and 11.65 tons of CO/yr during normal production mode of operation <u>Emissions from process equipment</u>: 6.05 tons of volatile organic compounds (VOC) per rolling, 12-month period during normal production mode of operation See b)(2)a., b)(2)b., b)(2)g., c)(1), d)(1) through d)(3), and e)(1) through e)(3)
b.	ORC 3704.03(T)	See b)(2)c.
c.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)d. and b)(2)e.
d.	OAC rule 3745-31-05(A)(3), as effective 12/1/06	See b)(2)f.
e.	ORC 3704.03(F) and OAC rule 3745-114	See d)(4)

(2) Additional Terms and Conditions

a. The mass emission rate limitations in b)(1)a. above represent the potentials to emit (PTE), defined as the maximum capacity to emit an air pollutant under the physical and operational design. Therefore, no monitoring, record keeping, or reporting requirements are necessary to ensure compliance with these emission limitations. See f)(1)b. and c., for details regarding the PTE.

b. This permit establishes the following federally enforceable emission limitations for the purpose of representing the potentials to emit of this emissions unit. The federally enforceable limitation for VOC is based on the operational restriction in c)(1):

i. 6.05 tons of VOC per rolling, 12-month period from process equipment during normal production mode of operation.

c. Best Available Technology (BAT) requirements for CO emissions under ORC 3704.03(T) have been determined to be compliance with the emission limitations and requirements established pursuant to OAC rule 3745-31-05(D).

d. BAT requirements for VOC emissions under OAC rule 3745-31-05(A)(3), as effective 11/30/01 have been determined to be compliance with the annual VOC emission limitation as established pursuant to OAC rule 3745-31-05(D).

e. The permittee has satisfied the BAT requirements for VOC emissions pursuant to OAC rule 3745-31-05(A)(3), as effective November 30, 2001, in this permit. On December 1, 2006, paragraph (A)(3) of OAC rule 3745-31-05 was revised to conform to ORC changes effective August 3, 2006 (S.B. 265 changes), such that BAT is no longer required by State regulation for NAAQS pollutant emissions less than 10 tons per year. However, that rule revision has not yet been approved by U.S. EPA as a revision to Ohio's State Implementation Plan (SIP). Therefore, until the SIP revision occurs and the U.S. EPA approves the revision to OAC rule 3745-31-05, the requirement to satisfy BAT still exists as part of the federally-approved SIP for Ohio. Once U.S. EPA approves the December 1, 2006 version of OAC rule 3745-31-05, then these emission limits and control measures no longer apply.

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

The BAT requirements under OAC rule 3745-31-05(A)(3)(a) do not apply to the VOC emissions since the potential to emit is less than 10 tons per year.

g. Criteria pollutant emissions resulting from shutdown events and from combustion of gas streams in the flare have been determined to be negligible for this emissions unit. The VOC emissions that vent through the flare (determined by previous stack testing) have been determined to be negligible (0.01 ton of VOC/yr). [See c)(1)c.]

c) Operational Restrictions

(1) The following operational restrictions have been included in this permit for establishing federally enforceable requirements which limit PTE for VOC [See b)(2)b.ii.]:

a. The maximum amount of methanol used as an anti-freeze agent shall not exceed 1,830 gallons methanol per rolling, 12 month period;

b. To ensure federal enforceability during the first 12 calendar months of operation under the provisions of this permit, methanol usage is limited by the following:

Maximum Allowable Methanol Usage

MONTH(S)	GALLONS
1-1	350
1-2	700
1-3	1,050
1-4	1,400
1-12	1,830

After the first 12 calendar months of operation under the provisions of this permit, compliance with the allowable operation limitations shall be based upon a rolling, 12-month summation.

c. The permittee shall employ a flare during all dryer depressuring, loop depressuring and refrigeration depressuring periods. [See b)(2)g.]

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall perform daily checks, when the emissions unit is being shut down and when the weather conditions allow, for any visible particulate emissions from the flare serving this emissions unit. The presence or absence of any visible emissions shall be noted in an operations log. If visible emissions are observed, the permittee shall also note the following in the operations log:

a. the color of the emissions;

b. whether the emissions are representative of normal operations;

c. if the emissions are not representative of normal operations, the cause of the abnormal emissions;

d. the total duration of any visible emissions incident; and

e. any corrective actions taken to eliminate the visible emissions.

(2) The permittee shall maintain records showing that emissions were vented to the flare during all dryer depressuring, loop depressuring and refrigeration depressuring events.

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

a. the number of gallons of methanol used for each month;

b. for the first 12 calendar months of operation under the provisions of this permit, the cumulative monthly usage of methanol in gallons; and

c. After the first 12 months of operation under the provisions of this permit, the rolling, 12-month usage of methanol in gallons.

(4) Modeling to demonstrate compliance with, the “Toxic Air Contaminant Statute”, ORC 3704.03(F)(4)(b), was not necessary for this permit action because actual emissions of the toxic air contaminant ammonia (NH3), as specified in OAC rule 3745-114-01, resulted in an actual decrease. Other than NH3, the maximum annual emissions for each toxic air contaminant (as specified in OAC rule 3745-114-01) that is not subject to MACT and/or NESHAP regulations will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified permit-to-install (PTI) prior to making a "modification" as defined by OAC rule 3745-31-01.

The permittee is hereby advised that changes in the composition of the materials, or use of new materials, etc. that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new PTI.

e) Reporting Requirements

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

a. all days during which any visible particulate emissions were observed from the flare serving this emissions unit; and

b. any corrective actions taken to eliminate the visible particulate emissions.

These reports shall be submitted to the Director (the Ohio EPA, Northwest District Office) by January 31 and July 31 of each year and shall cover the previous 6-month period.

(2) If emissions were not vented to the flare during all dryer depressuring, loop depressuring and/or refrigeration depressuring events, the permittee shall notify the Ohio EPA, Northwest District Office within 30 days of such occurrence. The notification shall include calculations that show the emissions of any criteria pollutants from the depressuring events, and if necessary, submit a PTI modification application.

(3) The permittee shall submit quarterly deviation (excursion) reports that identify:

a. all exceedances of the rolling, 12-month operational restriction specified in c)(1)a; and

b. all exceedances of the allowable methanol usage restrictions for the first 12 months of operation as specified in c)(1)b.;

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

f) Testing Requirements

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

a. Emission Limitation:

Visible PE from the flare shall not exceed 5% opacity, as a 6-minute average.

Applicable Compliance Method:

If required, the permittee shall demonstrate compliance with the visible PE limitation above in accordance with the methods and procedures specified in Method 9 in Appendix A of 40 CFR, Part 60.

b. Emission Limitations:

2.66 lbs of CO/hr and 11.65 tons of CO/yr from the flare during normal production mode of operation

Applicable Compliance Method:

The hourly emission limitation is based on previous stack testing data, and reflects the potential to emit (PTE) for this emissions unit during normal production mode of operation. Therefore, it is not necessary to develop any further monitoring, record keeping and/or reporting requirements to ensure compliance with this limitation.

If required, the permittee shall demonstrate compliance with the hourly emission limitation by conducting emission testing in accordance with the methods and procedures specified in Method 1 through 4, and 10 of 40 CFR, Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

The annual emission limitation was established by multiplying the hourly emission limitation by the maximum operating schedule of 8,760 hrs/yr, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the lb/hr emission limitation, compliance with the annual emission limitation shall also be demonstrated.

c. Emission Limitations:

6.05 tons of VOC per rolling, 12-month period from process equipment during normal production mode of operation

Applicable Compliance Method:

The VOC emissions are based on mass balance calculations for the use of methanol as an anti-freeze agent during colder weather months to prevent freezing of instrument air systems, and on previous stack testing data upstream of the flare. The annual potential to emit of methanol as an anti-freeze agent is based on using a maximum of 5 gallons of methanol per 12-hour shift, multiplied by two shifts/day, multiplied by 183 days/yr (October 15 to April 15 assumed), multiplied by a solvent density of 6.589 lbs VOC/gallon, then divided by 2,000 lbs/ton = 6.03 tons of VOC/yr. The potential VOC emissions that ventfrom the flare (determined by previous stack testingupstream of the flare) are 0.02 ton of VOC/yr.

Compliance shall also be based on the record keeping requirements in d)(3).

g) Miscellaneous Requirements

(1) None.

5. P523, NH3 Unit - CO2 Stripper

Operations, Property and/or Equipment Description:

Ammonia Unit - CO2 Stripper Section

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) b)(1)e. and d)(2).

b) Applicable Emissions Limitations and/or Control Requirements

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

	Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
a.	OAC rule 3745-31-05(D)	1.14 lbs of carbon monoxide (CO)/hr and 4.98 tons of CO/yr 214.68 lbs of volatile organic compounds (VOC)/hr and 268.17 tons of VOC per rolling, 12-month period See b)(2)b. and b)(2)c., c)(1) and c)(2)
b.	ORC 3704.03(T)	See b)(2)d.
c.	OAC rule 3745-31-05(A)(3), as effective 11/30/01	See b)(2)e. and b)(2)f.
d.	OAC rule 3745-31-05(A)(3), as effective 12/1/06	The Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3) do not apply to the CO emissions from this air contaminant source since the potential to emit is less than 10 tons per year taking into account the federally enforceable restriction in b)(1)a. above. See b)(2)g.
e.	ORC 3704.03(F) and OAC rule 3745-114	See d)(2)

(2) Additional Terms and Conditions

a. The Medium Pressure Condensate Stripper associated with this emissions unit is integral to the process equipment as a product recovery device. Thus, there is no parametric monitoring necessary.

b. The mass emission rate limitations for CO and the hourly VOC limitation in b)(1)a. above represent the potentials to emit (PTE), defined as the maximum capacity to emit an air pollutant under the physical and operational design. Therefore, no monitoring, record keeping, or reporting requirements are necessary to ensure compliance with these emission limitations. See f)(1)a. and b., for details regarding the PTE.

c. This permit establishes the following federally enforceable emission limitations for the purpose of representing the potentials to emit for this emissions unit. The federally enforceable limitations are based on the operational restrictions in c)(1) and c)(2):

i. 1.14 lbs of CO/hr and 4.98 tons of CO/yr; and

ii. 214.68 lbs of VOC/hr and 268.17 tons of VOC per rolling, 12-month period.

d. Best Available Technology (BAT) requirements for VOC emissions under ORC 3704.03(T) have been determined to be compliance with the annual VOC emission limitation as established pursuant to OAC rule 3745-31-05(D).

e. BAT requirements under OAC rule 3745-31-05(A)(3), as effective June 30, 2008 has been determined to be the following federally enforceable emission limitation established pursuant to OAC rule 3745-31-05(D):

i. 4.98 tons CO/yr.

f. The Best Available Technology (BAT) emission limit contained in b)(2)e. above applies until U.S. EPA approves Ohio Administrative Code (OAC) paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) into the Ohio State Implementation Plan (SIP).

It should be noted that the requirements of b)(2)e. above established pursuant to OAC rule 3745-31-05(D) will remain applicable after the above SIP revisions are approved by U.S. EPA.

g. These requirements apply once U.S. EPA approves OAC paragraph 3745-31-05(A)(3)(a)(ii) (the less than 10 tons per year BAT exemption) as part of the SIP.

c) Operational Restrictions

(1) Emissions from normal operations and reduced "MPCS" efficiency for the ammonia unit – CO2 stripper section are limited by the following:

$$\sum_{M=1}^{12} \sum_{n} VOC_n \leq 268.17$$

where:

M = the increment of the rolling, 12-month period;

n = type of operation (i.e. normal and reduced MPCS efficiency) during the period;

VOC_n = calculated emissions of volatile organic compounds in tons.

(2) To ensure federal enforceability during the first 12 calendar months of operation under the provisions of this permit, emissions from normal operations and reduced MPCS efficiency for the ammonia unit – CO2 stripper section is limited by the following:

Allowable Operation Limitations

Month(s)	$\sum_n VOC_n \leq$
1-1	50.00
1-2	100.00
1-3	150.00
1-4	200.00
1-12	268.17

After the first 12 calendar months of operation under the provisions of this permit, compliance with the allowable operation limitations shall be based upon a rolling, 12-month summation.

d) Monitoring and/or Recordkeeping Requirements

(1) The permittee shall collect and record the following information each month:

a. Type and time period of each operation (normal operations and reduced MPCS efficiency);

b. The calculated VOC emissions, in tons, associated with each type of operation, based on a detailed review of normal operations and reduced MPCS efficiency.

c. The total VOC emission rates, in tons, from all operation types [summation of d)(1)b. for normal operations and reduced MPCS efficiency];

d. For the first 12 calendar months of operation under the provisions of this permit, the cumulative monthly VOC emissions, in tons; and

e. After the first 12 months of operation under the provisions of this permit, the rolling, 12-month VOC emissions, in tons.

(2) Modeling to demonstrate compliance with, the “Toxic Air Contaminant Statute”, ORC 3704.03(F)(4)(b), was not necessary for this permit action because actual emissions of the toxic air contaminant ammonia (NH3), as specified in OAC rule 3745-114-01,

resulted in an actual decrease. Other than NH3, the maximum annual emissions for each toxic air contaminant (as specified in OAC rule 3745-114-01) that is not subject to MACT and/or NESHAP regulations will be less than 1.0 ton per year. OAC Chapter 3745-31 requires a permittee to apply for and obtain a new or modified permit-to-install (PTI) prior to making a "modification" as defined by OAC rule 3745-31-01.

The permittee is hereby advised that changes in the composition of the materials, or use of new materials, etc. that would cause the emissions of any toxic air contaminant to increase to above 1.0 ton per year may require the permittee to apply for and obtain a new PTI.

e) Reporting Requirements

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

a. all exceedances of the rolling, 12-month operational restriction specified in c)(1); and

b. all exceedances of the allowable operational limitations for the first 12 months of operation as specified in c)(2).

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

f) Testing Requirements

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

a. Emission Limitations:

1.14 lbs of CO/hr and 4.98 tons of CO/yr

Applicable Compliance Method:

The hourly CO emission limitation above was developed by multiplying an adjusted CO emission factor from AP-42, Table 8.1-1 (dated 7/93) (0.0105 lb/ton of ammonia, which was adjusted from PCS Engineering staff system knowledge, a detailed review of operations history, and process chemistry and conversion data) by the maximum ammonia production rate of 108.333 tons/hr.

If required, the permittee shall demonstrate compliance with the hourly emission limitation by conducting emission testing in accordance with the methods and procedures specified in Method 1 through 4, and 10 of 40 CFR, Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

The annual emission limitation was established by multiplying the hourly emission limitation by the maximum operating schedule of 8,760 hrs/yr, and then dividing by 2,000 lbs/ton. Therefore, provided compliance is shown with the lb/hr

emission limitation, compliance with the annual emission limitation shall also be demonstrated.

b. Emission Limitations:

214.68 lbs of VOC/hr and 268.17 tons of VOC per rolling, 12-month period

Applicable Compliance Method:

The hourly VOC emission limitation above was developed by multiplying an adjusted uncontrolled (without the MPCS operating) VOC emission factor from AP-42, Table 8.1-1 (dated 7/93) (1.9817 lb/ton of ammonia, which was adjusted from PCS Engineering staff system knowledge, a detailed review of operations history, and process chemistry and conversion data) by the maximum ammonia production rate of 108.333 tons/hr.

If required, the permittee shall demonstrate compliance with the hourly emission limitation by conducting emission testing in accordance with the methods and procedures specified in Method 1 through 4, and 18, 25, or 25A, as applicable, of 40 CFR, Part 60, Appendix A. Alternative U.S. EPA-approved test methods may be used with prior approval from Ohio EPA.

Compliance with the annual VOC emission limitation shall be demonstrated by the record keeping requirements specified in d)(1) of this permit.

g) Miscellaneous Requirements

(1) None.