



State of Ohio Environmental Protection Agency

**RE: FINAL PERMIT TO INSTALL  
CHAMPAIGN COUNTY**

**CERTIFIED MAIL**

Street Address:

50 West Town Street, Suite 700

Lazarus Gov. Center TELE: (614) 644-3020 FAX: (614) 644-2329

Mailing Address:

Lazarus Gov. Center  
P.O. Box 1049

**Application No: 05-14411**

**Fac ID: 0511010139**

**DATE: 5/1/2007**

PK Farm Fuels, LLC  
Jack Purdy  
12290 Irwin Rd.  
Irwin, OH 43029

Enclosed please find an Ohio EPA Permit to Install which will allow you to install the described source(s) in a manner indicated in the permit. Because this permit contains several conditions and restrictions, I urge you to read it carefully.

The Ohio EPA is urging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Pollution Prevention at (614) 644-3469.

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

Environmental Review Appeals Commission  
309 South Fourth Street, Room 222  
Columbus, OH 43215

Sincerely,

Michael W. Ahern, Manager  
Permit Issuance and Data Management Section  
Division of Air Pollution Control

CC: USEPA

SWDO



STATE OF OHIO ENVIRONMENTAL PROTECTION AGENCY

**Permit To Install**

**Issue Date: 5/1/2007**

**FINAL PERMIT TO INSTALL 05-14411**

Application Number: 05-14411  
Facility ID: 0511010139  
Permit Fee: **\$750**  
Name of Facility: PK Farm Fuels, LLC  
Person to Contact: Jack Purdy  
Address: 12290 Irwin Rd.  
Irwin, OH 43029

Location of proposed air contaminant source(s) [emissions unit(s)]:

**1766 State Route 559  
Woodstock, Ohio, Ohio**

Description of proposed emissions unit(s):

**5,000,000 gal/yr bio-diesel production facility.**

The above named entity is hereby granted a Permit to Install for the above described emissions unit(s) 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 above described 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



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Chris Korleski  
Director

PK Farm Fuels, LLC  
PTI Application: 05-14411  
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## Part I - GENERAL TERMS AND CONDITIONS

### A. Permit to Install General Terms and Conditions

#### 1. Compliance Requirements

The emissions unit(s) identified in this Permit to Install shall remain in full compliance with all applicable State laws and regulations and the terms and conditions of this permit.

#### 2. Reporting Requirements

The permittee shall submit required reports in the following manner:

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

#### 3. Records Retention Requirements

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.

#### 4. Inspections and Information Requests

The Director of the Ohio EPA, or an authorized representative of the Director, may, subject to the safety requirements of the permittee and without undue delay, enter upon

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the premises of this source at any reasonable time for purposes of making inspections, conducting tests, examining records or reports pertaining to any emission of air contaminants, and determining compliance with any applicable State air pollution laws and regulations and the terms and conditions of this permit. 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, reopening or revoking this permit or to determine compliance with this permit. Upon verbal or written request, the permittee shall also furnish to the Director of the Ohio EPA, or an authorized representative of the Director, copies of records required to be kept by this permit.

**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 of any emissions units or any associated air pollution control system(s) shall be reported to the appropriate Ohio EPA District Office or local air agency in accordance with paragraph (B) of 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 emissions unit(s) that is (are) served by such control system(s).

**6. Permit Transfers**

Any transferee of this permit shall assume the responsibilities of the prior permit holder. The appropriate Ohio EPA District Office or local air agency must be notified in writing of any transfer of this permit.

**7. 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.

**8. Termination of Permit to Install**

This Permit to Install shall terminate within eighteen months of the effective date of the Permit to Install if the owner or operator has not undertaken a continuing program of installation or modification or has not entered into a binding contractual obligation to undertake and complete within a reasonable time a continuing program of installation or modification. 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 party shows good cause for any such extension.

**9. Construction of New Sources(s)**

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The proposed emissions unit(s) shall be constructed in strict accordance with the plans and application submitted for this permit to the Director of the Ohio Environmental Protection Agency. There may be no deviation from the approved plans without the express, written approval of the Agency. Any deviations from the approved plans or the above conditions may lead to such sanctions and penalties as provided under Ohio law. Approval of these plans does not constitute an assurance that the proposed facilities will operate in compliance with all Ohio laws and regulations. Additional facilities shall be installed upon orders of the Ohio Environmental Protection Agency if the proposed sources cannot meet the requirements of this permit or cannot meet applicable standards.

If the construction of the proposed emissions unit(s) has already begun or has been completed prior to the date the Director of the Environmental Protection Agency approves the permit application and plans, the approval does not constitute expressed or implied assurance that the proposed facility has been constructed in accordance with the approved plans. 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 the Permit to Install does not constitute an assurance that the proposed source will operate in compliance with all Ohio laws and regulations. Approval of the plans in any case is not to be construed as an approval of the facility as constructed and/or completed. Moreover, issuance of the Permit to Install 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.

#### **10. 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.

#### **11. Applicability**

This Permit To Install is applicable only to the emissions unit(s) identified in the Permit To Install. Separate Permit To Install for the installation or modification of any other emissions unit(s) are required for any emissions unit for which a Permit To Install is required.

#### **12. Best Available Technology**

As specified in OAC Rule 3745-31-05, all new sources must employ Best Available Technology (BAT). Compliance with the terms and conditions of this permit will fulfill this requirement.

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**13. Source Operation and Operating Permit Requirements After Completion of Construction**

This facility is permitted to operate each source described by this Permit to Install for a period of up to one year from the date the source commenced operation. This permission to operate is granted only if the facility complies with all requirements contained in this permit and all applicable air pollution laws, regulations, and policies. Pursuant to OAC Chapter 3745-35, the permittee shall submit a complete operating permit application within ninety (90) days after commencing operation of the emissions unit(s) covered by this permit.

**14. Construction Compliance Certification**

The applicant shall provide Ohio EPA with a written certification (see enclosed form) that the facility has been constructed in accordance with the Permit to Install application and the terms and conditions of the Permit to Install. The certification shall be provided to Ohio EPA upon completion of construction but prior to startup of the source.

**15. 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 this Permit to Install.

**B. Permit to Install Summary of Allowable Emissions**

The following information summarizes the total allowable emissions, by pollutant, based on the individual allowable emissions of each air contaminant source identified in this permit.

SUMMARY (for informational purposes only)  
 TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS

<u>Pollutant</u>	<u>Tons Per Year</u>
VOC	6.44
SO <sub>2</sub>	3.05
NO <sub>x</sub>	0.93
CO	0.19
PE	0.08

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PM10

0.06

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**PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)****A. Applicable Emissions Limitations and/or Control Requirements**

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

**Operations, Property, and/or Equipment - (P801) - 5,000,000 gallon per year Bio-Diesel Production-Fugitive Emissions from Liquid Storage and Process Equipment Leaks**

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
OAC rule 3745-31-05(C)	The fugitive organic compound (OC) emissions from this emissions unit shall not exceed 6.44 tons per rolling 12-month period.
40 CFR Part 60, Subpart VV	See Section A.2.a and A.2.b
OAC rule 3745-21-09(DD)	See Section A.2.a and A.2.c
OAC rule 3745-21-07(D)(2)	All storage tanks for volatile photochemically reactive material shall be equipped with submerged fill pipe.
OAC rule 3745-17-10(B)(1)	The particulate emissions from the use of fuel oil or bio-diesel shall not exceed 0.040 pound per million Btu of actual heat input
OAC rule 3745-17-07(A)(1)(b)	Visible particulate emissions from the exhaust stack shall not exceed 20% opacity as a 6-minute average, except as provided by rule.
OAC rule 3745-114-01	Ohio Toxic Policy

**2. Additional Terms and Conditions**

- 2.a The permittee shall implement a volatile organic compound (VOC) leak detection and repair program in accordance with 40 CFR Part 60.480 through 60.489 and OAC rule 3745-21-09(DD) within 60 days after achieving maximum production and not more than 180 days after initial start up.
- 2.b Any equipment in vacuum service is excluded from compliance with the leak detection and repair requirements of 40 CFR Part 60.482-2 through 60.482-10 if it is identified as required in 40 CFR Part 60.486(e)(5).
- 2.c Any equipment in vacuum service is excluded from compliance with the

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requirements of OAC rule 3745-21-09(DD)(2) to (DD)(6) according to OAC rule 3745-21-09(DD)(17)(b)(ii).

- 2.d** The permittee shall employ best available control measures for the emissions for the purpose of ensuring compliance with the above mentioned applicable requirements. The permittee has committed to implementing a Leak Detection and Repair (LDAR) program to ensure compliance.

The permittee shall include the appropriate process equipment and regulated components in the LDAR program. The LDAR program shall comply with the appropriate provisions (including operational restrictions, monitoring and record keeping reporting and testing) of OAC rule 3745-21-09(DD) (Leaks from Process Units that Produce Synthetic Organic Chemicals) and 40 CFR Part 60, Subpart VV (Standards for Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry). In the case of overlapping provisions, the permittee shall comply with the more stringent requirement.

- 2.e** The annual allowable emission rate is based on the maximum design capacity of the process at the annual production rate of 6,000,000 gallons of bio diesel. Since the annual emission rate is based on the maximum design capacity of the process, no operational restrictions, monitoring or record keeping requirements are necessary to ensure that this emissions unit does not exceed its annual allowable emission rate.

## **B. Operational Restrictions**

1. The methyl alcohol storage tanks shall be equipped with a submerged fill pipe.

## **C. Monitoring and/or Record Keeping Requirements**

1. The permittee shall implement a leak detection and repair plan and keep records in accordance with the requirements of 40 CFR Part 60.482 and 60.486.
2. The permittee shall implement a leak detection and repair plan and keep records in accordance with the requirements of OAC rules 3745-21-09(DD)(2) to (DD)(6) and 21-09(DD)(14).
3. The permit to install for this emissions unit (P801) was evaluated based on the actual materials (typically coatings) and the design parameters of the emissions unit's exhaust system, as specified by the permittee in the permit to install application. The Ohio

Emissions Unit ID: **P801**

EPA's "Review of New Sources of Air Toxic Emissions" policy ("Air Toxic Policy") was applied for each pollutant emitted by this emissions unit using data from the permit to install application and the SCREEN 3.0 model (or other Ohio EPA approved model). The predicted 1-hour maximum ground-level concentration from the use of the ISCST3 model was compared to the Maximum Acceptable Ground-Level Concentration (MAGLC) calculated as described in the Ohio EPA guidance document entitled "Review of New Sources of Air Toxic Emissions, Option A". The following summarizes the results of the modeling for the "worst case" pollutant(s):

Pollutant: Methyl Alcohol

TLV (mg/m<sup>3</sup>): 262.1

Maximum Hourly Emission Rate (lbs/hr): 1.47

Predicted 1-Hour Maximum Ground-Level Concentration (mg/m<sup>3</sup>): 0.22

MAGLC (mg/m<sup>3</sup>): 62.4

Physical changes to or changes in the method of operation of the emissions unit after its installation or modification could affect the parameters used to determine whether or not the "Air Toxic Policy" is satisfied. Consequently, prior to making a change that could impact such parameters, the permittee shall conduct an evaluation to determine that the "Air Toxic Policy" will still be satisfied. If, upon evaluation, the permittee determines that the "Air Toxic Policy" will not be satisfied, the permittee will not make the change. Changes that can affect the parameters used in applying the "Air Toxic Policy" include the following:

- a. Changes in the composition of the materials used (typically for coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value previously modeled;
  - b. Changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant with a listed TLV that was proposed in the application and modeled; and
  - c. Physical changes to the emissions unit or its exhaust parameters (e.g., increased/decreased exhaust flow, changes in stack height, changes in stack diameter, etc.).
4. If the permittee determines that the "Air Toxic Policy" will be satisfied for the above changes, the Ohio EPA will not consider the change(s) to be a "modification" under OAC rule 3745-31-01 solely due to the emissions of any type of toxic air contaminant

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not previously emitted, and a modification of the existing permit to install will not be required, even if the toxic air contaminant emissions are greater than the de minimis level in OAC rule 3745-15-05. If the change(s) is (are) defined as a modification under other provisions of the modification definition, then the permittee shall obtain a final permit to install prior to the change.

5. The permittee shall collect, record, and retain the following information when it conducts evaluations to determine that the changed emissions unit will still satisfy the "Air Toxic Policy":
  - a. A description of the parameters changed (composition of materials, new pollutants emitted, change in stack/exhaust parameters, etc.);
  - b. Documentation of its evaluation and determination that the changed emissions unit still satisfies the "Air Toxic Policy"; and
  - c. Where computer modeling is performed, a copy of the resulting computer model runs that show the results of the application of the "Air Toxic Policy" for the change.

**D. Reporting Requirements**

1. The permittee shall submit semiannual reports in accordance with the requirements of 40 CFR Part 60.487.
2. The permittee shall submit semiannual reports in accordance with the requirements of OAC rule 3745-21-09(DD)(2)(mm) and OAC 3745-21-09(DD)(15).

**E. Testing Requirements**

1. Compliance with the emissions limitations in section A.1 of these terms and conditions shall be determined in accordance with the following methods:

- a. Emission Limitation -

The fugitive OC emissions from this emissions unit shall not exceed 6.44 tons per year.

Applicable Compliance Method -

Emissions Unit ID: **P801**

Compliance with annual fugitive OC emissions limitation shall be based upon the following equation:

$$\text{AER} = \text{LER} + \text{Pc} + \text{Sr}$$

where:

AER = Annual Emission Rate, in tons/yr;  
 LER = Leak Emission Rate, in tons/yr\*;  
 Pc = Products of combustion, in tons/yr\*\*; and  
 Sr = Solvent reclamation, in tons/yr\*\*\*.

\* Leak Emission Rate is based on the following equation:

$$\text{LER} = [\square ( \text{E}_f \times \text{WF}_{\text{toc}} \times \text{N} )] \times 8760 \text{ hr/yr} \times 1 \text{ ton}/2000 \text{ lbs}$$

where:

$\text{E}_f$  = Emission factor from "EPA Protocol for Equipment Estimates"(EPA 453/R-95-017), Table 2-1, in lbs/hr/source, (0.009 for valves, 0.044 for pump seals, 0.044 for agitator seals, 0.004 connectors, 0.004 open-ended lines, and 0.033 sampling connections);  
 $\text{WF}_{\text{toc}}$  = Average fraction of total organic in stream, (8.85% by weight, from Emission Activity Sheet); and  
 $\text{N}$  = Number of each specific type of equipment, (46 valves, 6 pump seals, 3 agitator seals, 19 connectors, 2 open-ended lines, and 6 sampling connectors).

\*\* Products of combustion is based on the following equation:

$$\text{Pc} = [(\text{E}_f \times 0.004 \text{ 1000gals/hr}) \times 8760 \text{ hrs/yr} \times 1 \text{ ton}/2000 \text{ lbs}] \times 2 \text{ boilers}$$

where:

$\text{E}_f$  = Emission factor, lbs/ 1000gals, (0.556, diesel fuel employed).

\*\*\* Solvent Reclamation:

$$\text{Sr} = [\square ( \text{E}_f \times \text{M}_p )] \times 8760 \text{ hr/yr} \times 1 \text{ ton}/2000 \text{ lbs}$$

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where:

Ef = Emission factor from AP-42 Table 4.7-1, in lbs/ton processed, (0.02 tanks, 3.3 condenser vent, 0.2 spillage, and 0.72 loading); and

Mp = Amount of methanol processed, in tons/hr, (0.323 tons/hr, from Emission Activity Sheet).

2. Compliance with the emissions limitations in section A.1 of these terms and conditions shall be determined in accordance with the following methods:

- a. Emission Limitation -

The particulate emissions from the use of fuel oil or bio-diesel in this emissions unit shall not exceed 0.040 lbs/MMBTU heat input.

Applicable Compliance Method -

Compliance with the above emission limitation shall be based upon the following equation:

$$\text{PER} = (\text{Ef} \times \text{Fo}) / \text{Hi}$$

where:

PER = Particulate Emission Rate, in lbs/MMBTU;  
 Ef = Emission Factor, in lbs/1000 gals, ( 2 lbs/1000 gals, AP-42 Table 1.3-3);  
 Fo = Fuel oil usage, 1000 gals/hr, (0.0044, calculation sheet); and  
 Hi = Heat input, MMBTU/hr, (0.62 MMBTU/hr, PTI Application and cover sheet).

- b. Emission Limitation:

20% Opacity, as a six minute average, from the stack.

Applicable Compliance Method:

Compliance shall be determined in accordance with Test Method 9 as set forth in "Appendix on Test Methods" in 40 CFR, Part 60 ("Standards of Performance for New Stationary Sources"), as such Appendix existed on July 1, 1996, and the

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modifications listed in OAC rule 3745-17-03.

3. In accordance with the requirements of 40 CFR Part 60.482 and OAC rule 3745-21-09(DD)(2) to (DD)(6) 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 60 days after achieving the maximum production rate at which the emissions unit will be operated, but not later than 180 days after initial startup of the emissions unit to demonstrate compliance with the leak detection and repair requirements of 40 CFR Part 60, Subpart VV and OAC rule 3745-21-09(DD).
  - b. U.S. EPA Reference Method 21 of 40 CFR Part 60 Appendix A shall be employed to demonstrate compliance.
  - c. The permittee shall semiannual reports in accordance with the requirements of 40 CFR Part 60.487 and OAC rule 3745-21-09(DD)(2)(m).

**F. Miscellaneous Requirements**

1. The following terms and conditions are federally enforceable: A., B., C.1., 2., D. and E.