



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
TIDEWATER REGIONAL OFFICE

5636 Southern Boulevard, Virginia Beach, Virginia 23462

(757) 518-2000 Fax (757) 518-2009

www.deq.virginia.gov

David K. Paylor
Director

Maria R. Nold
Regional Director

Molly Joseph Ward
Secretary of Natural Resources

STATEMENT OF LEGAL AND FACTUAL BASIS

Perdue Foods LLC
22520 Lankford Highway, Accomac, Virginia
Permit No. (TRO- 61685)

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Perdue Foods LLC has applied for a Title V Operating Permit for its Accomac, Virginia facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Permit Writer:

Yen T. Bao
(757) 518-2195

Date: October 24, 2014

Regional Air Permits
Manager:

Troy D. Breathwaite

Date: October 27, 2014

Regional Director:

Maria R. Nold

Date: October 27, 2014

I. FACILITY INFORMATION

Permittee

Perdue Foods LLC
22520 Lankford Highway
Accomac, Virginia 23301

Responsible Official

Rodd Flagg
Vice President

Facility

Perdue Foods LLC - Accomac Complex
22520 Lankford Highway
Accomac, Virginia 23301

County-Plant Identification Number: 51-001-00051

A. SOURCE DESCRIPTION

NAICS Code: 311615 – Poultry slaughtering and processing

The facility processes live poultry (27,000 birds/hr maximum rated capacity) into fresh poultry food products. Any by-products are sent out to other companies for rendering.

This new Title V permit is issued to Perdue Foods LLC facility in Accomac which is the remainder of Perdue Farms Incorporated facility following the sale of the rendering operation to Valley Proteins, Inc. The latter gets the old Registration Number 40483.

Equipment at Perdue Foods LLC includes two boilers (manufactured before 1971), an emergency generator, an ammonia refrigeration system, and a wastewater treatment plant. The latter has a lime silo with fabric filter. There are feather singers using LPG with a combined rated heat input capacity of 4.4 mmBtu/hour as listed under the Insignificant Activities section. The emergency generator is the only emission unit that was initially permitted by a minor NSR permit (03/15/2005 NSR, amended on 8/03/07). The others were grandfathered existing units or exempt from permitting.

The facility is a Title V major source of sulfur dioxide. This source is located in an attainment area for all pollutants, and is a PSD major source of SO₂ because of the potential to emit of the boilers burning residual oil. The underlying permit is a new State Operating Permit (SOP) which was recently issued on 10/14/2014 to cover all equipment under Perdue's ownership. The SOP is derived from the 8/03/07 NSR, and the 1/23/06 SOP which addressed odor control and monitoring at the plant (see section on State-only Enforceable Requirements).

II. COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit, has been conducted; the last inspection took place on 6/27/12. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at this time.

III. EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emissions units at this facility consist of the following:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Fuel Burning Equipment							
ES1	EP1	Cleaver Brooks Boiler CB600, #6 fuel oil-fired, manufactured before 1971 (MACT JJJJJ)	29 mmBtu/hr	-	-	-	10/14/2014 SOP
ES2	EP2	Cleaver Brooks Boiler CB600, #6 fuel oil-fired, manufactured before 1971 (MACT JJJJJ)	29 mmBtu/hr	-	-	-	10/14/2014 SOP
ES13	EP13	Diesel Emergency Generator, 2005	2,593 hp; 1,825 kW	-	-	-	10/14/2014 SOP
Process Equipment							
ES5	EP5	Ammonia Refrigeration System, compressor room air exhaust	-	-	-	-	10/14/2014 SOP
Wastewater Treatment Plant							
ES6	EP6	Bulk storage silo for dry lime	150 lbs/hr	Fabric Filter, C.P. Environmental-99-M57-405	CD6	PM	10/14/2014 SOP

*The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement.

IV. EMISSIONS INVENTORY

A copy of the 2013 annual emission update is attached. Emissions are summarized in the following table.

2013 Actual Emissions

2013 Actual Criteria Pollutant Emission in Tons/Year					
VOC	CO	SO ₂	PM ₁₀	NO _x	Pb
0.1	2.6	153.9	12.9	27.9	0

V. FUEL BURNING EQUIPMENT APPLICABLE REQUIREMENTS – (Emission Units ID# ES1, ES2, and ES13)

A. Limitations

Boilers ES1 and ES2 are pre-1972, subject to the emission limits for existing sources in 9 VAC 5 Chapter 40. The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable (see Conditions 1-3):

- 9 VAC 5-40-20 Compliance for Existing Sources
- 9 VAC 5-40-80 Existing Source Standard for Visible Emissions
- 9 VAC 5-40-900 Existing Source Standard for Particulate Matter
- 9 VAC 5-40-930 Existing Source Standard for Sulfur Dioxide

The boilers are subject to MACT Subpart JJJJJ as existing units at an area source of HAP. The facility indicated that the required Initial Notification, initial biennial tune-up, one-time energy assessment, and Notification of Compliance Status have been completed prior to the compliance date (March 21, 2014). Therefore, those requirements are not repeated here.

Generator ES13 was initially permitted in the 3/15/2005 NSR for any use. However, with an engine size of 1825 kW (2593 hp), ES13 is not exempt from minor NSR permitting even if it was limited to emergency use only. The permit limits operation to 407 equivalent full load (prime power) operating hours per year and the fuel sulfur content to 0.05% to meet presumptive BACT and to avoid PSD permitting. The generator is not subject to NSPS Subpart IIII due to its manufacture date earlier than 4/01/2006. As the MACT Subpart ZZZZ comes into effect and the generator has not been used for any purpose other than emergency, the facility decided to limit the generator to emergency-use only (letter request dated 9/27/10) so that only the reduced MACT requirements for existing emergency compression ignition (CI) stationary reciprocating internal combustion engines (RICE) at area sources are applicable. As the MACT does not limit hours of operation for emergency and allows up to 50 hours of operation for non-emergency purpose (40 CFR 63.40 CFR 63.6640(f)(1)(i) to (iii)), the operating hour limitation in Condition 4 is a combination of the initial limitation and the MACT requirements. Operation and maintenance practice requirements from the MACT are added in Condition 10. Other limitations on diesel fuel (0.05% S), criteria pollutant emissions and visible emissions are carried over from the 10/14/2014 SOP to the Title V permit without change (see Conditions 5-9).

The Maintenance/Operating Procedures in Condition 11 is from General Condition 19 of the 10/14/2014 SOP which has no equivalent in the General Condition section of the Title V permit. This condition is deemed appropriate and necessary for the boilers and the emergency generators to cover all training, written operating procedures and

maintenance requirements. Similarly, Condition 14 on Violation of Ambient Air Quality Standards is from General Condition 18 of the 10/14/2014 SOP which has no equivalent in the General Condition section of the Title V permit.

B. Monitoring

For periodic monitoring of boilers, weekly visual observations for opacity are required for each boiler stack (Condition 15). If any opacity is indicated, the opacity condition shall be corrected, or an EPA Method 9 visible emissions evaluation will be performed.

No periodic monitoring for PM or SO₂ is required in the permit. The following demonstration is provided to show that there is no likelihood that the emission limits will be exceeded:

Using: Emission factor for PM (filterables) (AP-42, Table 1.3-5, 9/98)
= $8.34[1.12(S) + 0.37]$
= $[9.34(S) + 3.09]$ lb/1000 gal
where S = weight percent of sulfur in the fuel
Heating Value of No.6 fuel oil = 150,000 Btu/gal
Maximum weight percent of sulfur = 2.5
Emission Unit ES1 = 29 mmBtu/hr
Emission Unit ES2 = 29 mmBtu/hr

Fuel consumption for ES1 and ES2, each = $29 \text{ mmBtu/hr} / 150,000 \text{ Btu/gal} = 193.3 \text{ gal/hr}$
Maximum PM emissions from ES1 and ES2, each = $[9.34(2.5) + 3.09] \text{ lb/1000 gal} \times 193.3 \text{ gal/hr}$
= 5.1 lbs/hr
< 7.8 lbs/hr permitted rate (see Condition 1)

Using: Emission factor for SO₂ (AP-42, Table 1.3-1, 9/98)
= 157S lb/1000 gal

Maximum SO₂ emissions from ES1 and ES2, each = $[(157)(2.5) \text{ lb/1000 gal}] \times 193.3 \text{ gal/hr}$
= 75.9 lbs/hr
< 76.6 lbs/hr SO₂ permitted rate (see Condition 2)

The MACT Subpart JJJJJ requirement of biennial tune-up for the boilers for continuing compliance demonstration is in Condition 16. Each biennial tune up should not be more than 25 months from the previous tune-up.

The MACT Subpart ZZZZ requirement of the installation of a non-resettable hour meter (40 CFR 63.6625(f)) for generator ES13 is shown in Condition 17. Other MACT operation and maintenance practice requirements in Condition 10 ensure continuous compliance with other limitations.

C. Testing

The details of the biennial boiler tune-up procedure in accordance with 40 CFR 63.11223(b) are required in Condition 18.

Test port shall be provided upon request at the appropriate locations, and any additional stack testing necessary to demonstrate compliance with an emission limit or standard shall use an appropriate method as approved by DEQ (Conditions 19 and 20).

D. Recordkeeping

The permit includes requirements for maintaining records of all monitoring and testing required by the permit. These records include information on the fuels burned, hours of operation of the emergency generator, operation and maintenance records required by MACT ZZZZ on the emergency generator, written operating procedure, operator training and maintenance records for the boilers and generator, and all visible emissions monitoring.

Additionally, the facility shall keep records as required by MACT JJJJJ at 40 CFR 63.11225(c) for the boilers, including, but not limited to, copies of all Initial Notifications, Notifications of Compliance Status, biennial compliance certification reports and energy assessment report, and records of biennial tune-ups with all supporting documentations, malfunctions and corrective actions. Note that monthly fuel consumption records for the boilers are not required by the MACT (40 CFR 63.11225(c)(iv)) or any minor NSR permit conditions.

E. Reporting

Biennial Compliance Certification reports must be prepared but submitted only upon request (40 CFR 63.11225(b)). The first report should be prepared by 3/01/2015 and subsequent ones by 3/01 every other year, as clarified in the EPA Implementation Tools website- Table of Requirements for Area Source Boilers dated 4/25/14 at <http://www.epa.gov/ttn/atw/boiler/boilerpg.html>.

F. Streamlined Requirements

There are no streamlined requirements other than General Conditions in the 10/14/2014 SOP.

VI. WASTEWATER TREATMENT PLANT APPLICABLE REQUIREMENTS- (Emission Unit ID# ES6)

A. Limitations

There is no minor NSR permit applicable to the existing wastewater treatment plant.

It has a lime silo (Unit ES6) with fabric filter. The standards for particulate matter in 9 VAC 5-40-260 applies with the allowable emission rates calculated from the process weight rate (9 VAC 5-40-22 C) as described in Condition 23. Even though there are potential particulate emissions from process equipment, they are small; the main concern is odor. As the odor regulations are state-only enforceable (9 VAC 5-40-130 et seq. and 9 VAC 5-50-130 et seq.), the facility's 10/14/2014 SOP conditions that address odor control will be addressed under Section VIII. State-Only Enforceable Requirements.

Visible emission standards of 9 VAC 5-50-80 are also applicable as shown in Condition 24.

B. Monitoring

The permittee shall determine the allowable particulate emission standards based on process weight rate (Condition 25). Exceedance of the applicable emission limits is not likely for the lime silo (ES6) because emissions are controlled by fabric filter.

CAM is not applicable because the pre-controlled particulate emissions are less than the major source levels. This can be illustrated for the lime silo, using the PM emission factor of 0.72 lbs/ton for uncontrolled cement uploading to elevated storage silo from AP-42 (Table 11.12-2, 6/06), or the more conservative allowable PM emission rate from 9 VAC 5-40-260:

$0.72 \text{ lbs/ton} \times 143 \text{ lbs/hr} \times 1 \text{ ton}/2000 \text{ lbs} \times 8760 \text{ hrs/yr} \times 1 \text{ ton}/2000 \text{ lbs} = 0.24 \text{ tons/yr}$

or

$$E = 4.10P^{0.67} = 4.1 \times (143/2000)^{0.67} = 0.70 \text{ lbs/hr}$$

where:

E = emission rate in lb/hr

P = process weight rate in tons/hr

$$0.70 \text{ lbs/hr} \times 8760 \text{ hrs/yr} \times 1 \text{ ton}/2000 \text{ lbs} = 3.1 \text{ tons/yr}$$

Compliance to visible emission limits is monitored by visual observations for opacity during each loading event. If any opacity is indicated, the opacity condition shall be corrected, or an EPA Method 9 visible emissions evaluation will be performed.

C. Testing

The permit does not require source tests. The VADEQ and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

D. Recordkeeping

Records are required for emission limit determinations from process weight rates and all visible emission observations and visible emission evaluations (EPA Method 9).

E. Streamlined Requirements

There are no streamlined requirements.

VII. GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

Comments on General Conditions

a. Conditions 33-38. Permit Expiration

These conditions refer to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.2-604 and §10.1-1185 of the *Code of Virginia*, and the "Department of Environmental Quality Agency Policy Statement No. 2-09".

These general conditions cite the Article that follows:

Article 1 (9 VAC 5-80-50 et seq.), Part II of 9 VAC 5 Chapter 80. Federal Operating Permits for Stationary Sources

These general conditions cite the sections that follow:

9 VAC 5-80-80. Application

9 VAC 5-80-140. Permit Shield

9 VAC 5-80-150. Action on Permit Applications

b. Condition 44. Failure/Malfunction Reporting

Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four daytime business hours of discovery of the malfunction.

c. Condition 48. Permit Modification

This general condition cites the sections that follow:

9 VAC 5-80-50. Applicability, Federal Operating Permit For Stationary Sources

9 VAC 5-80-190. Changes to Permits.

9 VAC 5-80-260. Enforcement.

9 VAC 5-80-1100. Applicability, Permits For New and Modified Stationary Sources

9 VAC 5-80-1605. Applicability, Permits For Major Stationary Sources and Modifications Located in Prevention of Significant Deterioration Areas

9 VAC 5-80-2000. Applicability, Permits for Major Stationary Sources and Major Modifications Locating in Nonattainment Areas

d. Conditions 62-65. Malfunction as an Affirmative Defense

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition U and General Condition F. For further explanation see the comments on general condition F.

These general conditions cite the sections that follow:

9 VAC 5-20-180. Facility and Control Equipment Maintenance or Malfunction

9 VAC 5-80-110. Permit Content

e. Condition 69. Asbestos Requirements

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

This general condition contains a citation from the Code of Federal Regulations that follow:

40 CFR 61.145, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to demolition and renovation.

40 CFR 61.148, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to insulating materials.

40 CFR 61.150, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to waste disposal.

This general condition cites the regulatory sections that follow:

9 VAC 5-60-70. Designated Emissions Standards

9 VAC 5-80-110. Permit Content

VIII. STATE-ONLY ENFORCEABLE REQUIREMENTS

State standards on odorous emissions (9 VAC 5-40-130 et seq. and 9 VAC 5-50-130 et seq.) are identified as applicable to the facility.

The facility had an SOP dated 1/23/2006 (while under registration number 40483) which was originated from a Consent Order (dated 3/03/2003, terminated on 3/24/06) to specifically address odor control. Following the sale of the rendering operation to Valley Proteins in 2012, the wastewater treatment plant is the only source of odor that remains with the facility under the new registration number 61685. Therefore, the relevant requirements are carried over to the facility's new SOP dated 10/14/2014, and then to this Title V permit. They address operating procedures, monitoring, maintenance, stand-by lagoon, odor response plan, operator training, odor complaint investigations, and recordkeeping (Conditions 73-80).

Two documents that were also required by the Consent Order, the Odor Control and Monitoring Plan and the Odor Control System Operation and Maintenance Manual, both dated July 2005, form the basis of the corrective action to eliminate odor, and are referred to by almost every condition in the SOP. The Odor Control System Operation and Maintenance Manual does not address the wastewater treatment plant, hence, it does not apply to the remaining Perdue facility. The latter revised the Odor Control and Monitoring Plan to suit their facility, subject to DEQ's review and approval. The plan was approved by DEQ as attached to the 10/14/2014 SOP. Any changes to the plan shall have to be approved by DEQ as stated in the permit conditions.

IX. FUTURE APPLICABLE REQUIREMENTS

No future applicable requirements have been identified.

X. INAPPLICABLE REQUIREMENTS

The startup, shut down, and malfunction opacity exclusion listed in 9 VAC 5-40-20 A 4 cannot be included in any Title V permit (for example, see Condition 3). This portion of the regulation is not part of the federally approved state implementation plan. The opacity standard applies to existing sources at all times including startup, shutdown, and malfunction. Opacity exceedances during malfunction can be affirmatively defended provided all requirements of the affirmative defense section of this permit are met. Opacity exceedances during startup and shut down will be reviewed with enforcement discretion using the requirements of 9 VAC 5-40-20 E, which state that "At all times, including periods of startup, shutdown, soot blowing and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions."

The following have also been identified as inapplicable requirements.

Citation	Title of Citation	Description of Applicability
40 CFR 60 Subpart Dc	Standards of Performance for Small Industrial- Commercial-Institutional Steam generating Units	Units ES1 and ES2 were installed prior to 6/9/1989, the applicability date of the NSPS.
40 CFR 60 Subpart IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE)	This subpart applies to new CI ICE that was ordered after July 11, 2005, and manufactured after April 1, 2006; or CI ICE that was modified or reconstructed after July 11, 2005. Unit ES13 at the facility was ordered and manufactured earlier in 2005 (original permit date 3/15/05).

XI. INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation ¹	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
ES3, ES4, and three others	Five (5) feather singers using LPG, 4.4 mmBtu/hr combined	9 VAC 5-80-720 B	PM/PM-10, NOx	
P-6	No. 6 fuel oil storage tank, 20,000-gal AST	9 VAC 5-80-720 B	VOC	
G-1	Diesel fuel storage tank, 15,000-gal AST	9 VAC 5-80-720 B	VOC	
G-2	Motor oil storage tank, 1,000-gal AST	9 VAC 5-80-720 B	VOC	
G-3	Used oil storage tank, 2,000-gal AST	9 VAC 5-80-720 B	VOC	
G-4	Hydraulic oil storage tank, 550-gal AST	9 VAC 5-80-720 B	VOC	
W-3	Diesel fuel storage tank, 1,250-gal AST	9 VAC 5-80-720 B	VOC	

¹The citation criteria for insignificant activities are as follows:

9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application

9 VAC 5-80-720 B - Insignificant due to emission levels

9 VAC 5-80-720 C - Insignificant due to size or production rate

XII. CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

XIII. PUBLIC PARTICIPATION

The proposed permit will be placed on public notice in the Eastern Shore News newspaper from Wednesday, September 10, 2014 to Friday, October 10, 2014.