COMMONWEALTH of VIRGINIA

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COMMONWEALTH OF VIRGINIA

Department of Environmental Quality
Tidewater Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

Perdue Grain and Oilseed, LLC
501 Barnes Road, Chesapeake, Virginia 23324
Permit No. (TRO-**60277**)

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 Grain and Oilseed, LLC has applied for a Title V Operating Permit for its Chesapeake facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Permit Writer / Contact: _____ Date: **July 12, 2017**
Dan Dobbins
(757) 518-2138

Regional Air Permits Manager: JFW for CRN Date: **July 12, 2017**
Craig R. Nicol

Regional Deputy Director: Janet F. Weyland Date: **July 12, 2017**
Janet F. Weyland

FACILITY INFORMATION

Permittee
Perdue Grain and Oilseed, LLC
501 Barnes Road
Chesapeake, Virginia 23324

Facility
Perdue Grain and Oilseed, LLC
501 Barnes Road
Chesapeake, Virginia 23324

State-County Plant ID No.: 51-550-00038

SOURCE DESCRIPTION

This facility originally was two separate plants, one that received and shipped out grains and the other a soybean processing plant to manufacture both soybean oil and soybean meal. The facilities became so interdependent that in 2010, it was determined that these operations were one facility.

The grain side of the operation is a bulk grain transfer facility (i.e., grain elevator).

Grain receiving - Grain is received at the facility by truck, rail, barge and vessels. Grain is tested for various criteria and stored in the appropriate tanks.

Grain handling - Grain is transferred as needed to ensure the quality of the each grain for shipment. Tanks may be blended for maximum quality.

Grain Shipping - Grain is loaded on vessels, barges, railcars and trucks (international and domestic) to meet the customer's needs. Grain is conveyed from the various storage tanks to the loading area.

Grain Drying - Soybeans are dried to meet the requirements and sent to the oil extraction plant for processing. All other grains are dried as needed for customers and shipped by marine vessels.

The other half of the plant consists of a soybean oil extraction plant.

Soybean Preparation - This involves receiving the dried raw soybeans, then cleaning, cracking, dehulling and flaking (thinly slicing) the soybeans. There are two products resulting from this process: hulls and flakes of dehulled soybeans. The hulls are ground up, pelletized, stored and then stored in preparation for shipment. The flaked soybeans are transferred to the soybean oil extraction section.

Oil Production and Soybean Oil Extraction - Mixtures of hexanes are used as a solvent to extract soybean oil from the soybean flakes. The extraction process produces a soybean oil/hexane mixture and hexane-laden flakes. Hexane from each product is recovered for reuse from a distillation system involving the following stages: an extraction step, hexane recovery units, condensers, solvent-hexane separators and hexane accumulation tanks. Hexane not removed is emitted to the atmosphere through the final vent and as fugitive emissions from leaks. Soybean oil is the primary product of this operation which is stored on site until ready for shipment.

Soybean Meal Processing - The hexane laden flakes go through a Desolventizer-Toaster (to remove the solvent from the flakes) and a dryer-cooler, where the hexane is driven off, collected and routed to the solvent recovery system. The spent flakes are then ground (after hexane has been removed) into a meal. The meal is sprayed lightly with soybean oil and is stored on-site and then conveyed to the container loading area for shipment.

Additional operations at the plant consist of steam generation. The facility uses a natural gas fired boiler for steam generation[1]. The natural gas fired boilers can use No. 2 fuel oil in the event of gas curtailment.

This facility is a Title V major source of PM10, VOC and HAPs. This source is located in an attainment area for all pollutants, and is a PSD major source. The source is subject to NSPS Subparts Dc and DD and MACT Subparts GGGG and DDDDD.

SIGNIFICANT MODIFICATION INFORMATION

The facility is currently being permitted for a project subject to PSD for VOC. The 7/12/17 PSD permit and this Title V significant modification are being processed concurrently. Changes to the 7/12/17 PSD permit will be made in this permit as well. As Perdue's project is facility-wide, the 7/12/17 PSD permit will supersede all permits at the source with the exception of the permit for the current boilers dated September 28, 2015. The current boilers will be permanently shutdown upon installation of the new boilers as part of the PSD project. This Statement of Basis focuses on the activities associated with the significant modification application. Additional information may be found in the Statement of Basis covering the renewal issued March 31, 2015.

Minor administrative changes to the underlying permits to create a single reference to the DEQ Regional Office and other similar administrative clarifications, for example in usage of "facility-wide" in the underlying permits, were made as necessary. This is due to multiple permits being applicable to the facility.

The two underlying permits both refer to "boilers." This Title V permit refers to the two boilers subject to the September 28, 2015 permit (TB-1 and TB-2) as "temporary boilers" for clarity as these are the boilers that will be permanently shutdown. TB-2 is a back-up in case of failure of TB-1.

COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit, has been conducted. 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.

[1] While two current 'temporary' boilers (TB-1, TB-2) may be maintained on site, the underlying permit restricts operation to only one boiler at a time.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION
The emission units at the facility are reflected in the Title V permit in Emission Units table on Page 2 of the permit and Condition 134 (Insignificant Units).

EMISSIONS INVENTORY
A copy of the 2015 emission inventory is attached.

EMISSION UNIT APPLICABLE REQUIREMENTS
The following section discusses requirements for the emissions units at the facility that are subject to Title V permitting. These requirements come from the NSR permits and other applicable federal requirements. The conditions are not repeated verbatim from the permit. The regulatory authority for each condition is listed in parentheses () below each condition in the permit.

Citations
The following citations denote the underlying authorities to implement the specific conditions in the NSR permits:
9VAC5-50-20, 9VAC5-50-30, 9VAC5-50-50, 9VAC5-50-90, 9VAC5-50-260, 9VAC5-50-280, 9VAC5-50-410, 9VAC5-80-1180, 9VAC5-80-1200, 9VAC5-80-1705 C, and 9VAC5-80-1985.

Boilers and Engine Requirements

Limitations
The NSR permits contain limitations regarding control devices use, control and capture efficiencies, process throughputs, and emission limitations, including visible emissions. There are two sets of fuel throughput limitations, one limit for each fuel for each set of boilers. The temporary boilers are being replaced by the new boilers (B-1 through B-4) and are required to cease operation after a shakedown period. The engine is subject to a VOC limit due to the 7/12/17 PSD permit. The engine is an emergency engine and must burn 15 ppm sulfur diesel.

The engine does not have to meet the requirements of MACT ZZZZ as provided in 40CFR63.6590(b)(3)(iii). The unit is not subject to NSPS IIII since its manufacture date is 1988 and it is not undergoing a NSPS modification.

All boilers are all subject to MACT 5D. The boilers are proposed as Gas 1 units subject to the work practices in Table 3. The new boilers will have oxygen trim systems that maintain an optimum air to fuel ratio; therefore they are subject to a tune-up once every five years. Where the installed temporary boiler does not have an oxygen trim system it would be subject to an annual tune-up.

NSPS Dc applies to the new boilers (B-1 through B-4) and is assumed to apply[2] to the temporary boilers (TB-1 and TB-2). Compliance with the applicable SO2 standards found in§60.42c(d) is met with the

[2] It is possible that Perdue could bring in a temporary boiler that does not meet the definition of affected facility for NSPS Dc. In that case, the underlying permit conditions, which are substantially similar to the NSPS, still apply.

sulfur concentration demonstration of the fuel (§60.42c(d) and §60.42c(h)(4)) as well as record keeping requirements in §60.48c(f)(1) and §60.48c(f)(4). As the units are less than 30 MMBtu/hr when firing oil, the units are not subject to the PM or opacity standards contained in 40CFR60.43c. The record keeping and reporting requirements of §60.48c(a), (f), and (g)(2) apply.

Monitoring, Testing, and Recordkeeping
Monitoring conditions for the boilers include visible observations, having a site specific monitoring plan for the opacity, requiring an annual tune-up in accordance with the Boiler MACT. Condition 24 specifies that the monitoring plan referenced in the condition is an opacity monitoring plan specified in the NSPS. Visible emissions observations for the emergency engine are contained in the Facility-wide section. Considering the above monitoring, the lack of visible emissions from natural gas units, and the MACT compliance requirements, the monitoring is sufficient to assure compliance with the requirements of this section.

Streamlined Requirements
The one-time energy assessment required by MACT 5D and Condition 14 of the September 28, 2015 NSR permit and related reporting requirements have not included because the actions have been completed.

Grain Elevator Facility Requirements

Limitations
As discussed in the source description, this area of the source contains grain handling equipment, most of which is subject to NSPS DD. Many units in this area of the plant are subject to the requirements of NSPS DD. The NSR permit contains requirements to control particulate emissions, natural gas as the approved fuel for the dryers, and various throughput and emission limits. Units are subject to the visible emission limits contained in the Facility-wide section of the permit. There is also a grain elevator facility emission limit condition that also includes the fugitive component not otherwise represented in the short-term limits.

Monitoring, Testing, and Recordkeeping
The internal grain handling is subject to CAM, which is included in this section. The area is also subject to various recordkeeping requirements. The remaining equipment is subject to visible emission monitoring and annual cyclone integrity checks contained in the Facility-wide Section. Based on the monitoring in this and the Facility-wide section, the monitoring is sufficient to assure compliance with the requirements of this section.

Streamlined Requirements
None, the requirements of NSPS DD are identical to many requirements of the underlying NSR permit.

Soybean Oil Plant Requirements

Limitations

This area of the facility is subject to both an underlying NSR permit (7/12/17 PSD) and MACT GGGG. The requirements of the NSR permit include controlling particulate and VOC emissions, throughput limits, and emission limits. The underlying permit contains two throughput limits for this area to ensure particulates do not experience a significant emission increase during the extended construction window. The permit includes two solvent loss ratios (SLRs): one from the underlying permit, which is tiered due to the construction schedule; one from the MACT GGGG. Both limits are included because the standards apply over different operating scenarios. The MACT requires a secondary calculation of compliance ratio; therefore, the MACT SLR must be included to assure a correct compliance ratio is calculated. Units are also subject to VE limits in the Facility-wide Section.

Monitoring, Testing, and Recordkeeping

Several units in this area are subject to CAM; a table is included in the permit. The facility must develop and implement a leak detection and repair plan, including a daily audio/visual/olfactory check of leak components. Other devices are subject to the monitoring requirements in the Facility-wide Section. The area is also subject to various recordkeeping requirements. The remaining equipment is subject to visible emission monitoring and annual cyclone integrity checks contained in the Facility-wide Section. Based on the monitoring in this and the Facility-wide sections, the monitoring is sufficient to assure compliance with the requirements of this section.

Streamlined Requirements

None

Facility-wide Requirements

Limitations

Many pieces of equipment are subject to identical requirements, such as visible emission limits and work practices. These limits are included here to limit duplication.

Monitoring, Testing, and Recordkeeping

The facility is required to monitor visible emissions as well as conduct an annual integrity inspection for each cyclone.

Streamlined Requirements

None

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9VAC5-80-110 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

Permit Expiration
This condition refers 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".

This general condition cite(s) the Article(s) that follow(s):
Article 1 (9VAC5-80-50 et seq.), Part II of 9VAC5 Chapter 80. Federal Operating Permits for Stationary Sources

This general condition cites the sections that follow:
9VAC5-80-80. Application
9VAC5-80-140. Permit Shield
9VAC5-80-150. Action on Permit Applications

Failure/Malfunction Reporting
9VAC5-20-180 requires malfunction and excess emission reporting within four hours of discovery. 9VAC5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. 9VAC5-20-180 is from the general regulations. All affected facilities are subject to 9VAC5-20-180 including Title V facilities. 9VAC5-80-250 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 9VAC5-20-180 and 9VAC5-80-250. The report must be made within four daytime business hours of discovery of the malfunction.

In order for emission units to be relieved from the requirement to make a written report in 14 days the emission units must have continuous monitors meeting the requirements of 9VAC5-50-410 or 9VAC5-40-41.

This general condition cites the sections that follow:
9VAC5-40-41. Emissions Monitoring Procedures for Existing Sources
9VAC5-40-50. Notification, Records and Reporting
9VAC5-50-50. Notification, Records and Reporting

This general condition contains a citation from the Code of Federal Regulations as follows:
40 CFR 60.13 (h). Monitoring Requirements.

Permit Modification
This general condition cites the sections that follow:
9VAC5-80-50. Applicability, Federal Operating Permit For Stationary Sources
9VAC5-80-190. Changes to Permits
9VAC5-80-260. Enforcement
9VAC5-80-1100. Applicability, Permits For New and Modified Stationary Sources
9VAC5-80-1605. Applicability, Permits For Major Stationary Sources and Modifications Located in Prevention of Significant Deterioration Areas
9VAC5-80-2000. Applicability, Permits for Major Stationary Sources and Major Modifications Locating in Nonattainment Areas

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:
9VAC5-60-70. Designated Emissions Standards
9VAC5-80-110. Permit Content

STATE ONLY APPLICABLE REQUIREMENTS
None

FUTURE APPLICABLE REQUIREMENTS
None

INAPPLICABLE REQUIREMENTS
No new inapplicable requirements were included in the application.

The hexane storage tanks are part of the affected source of MACT GGGG; however there are no standards for these units. Storage tanks that are part of another source category are not subject to the requirements of 40CFR63 Subpart EEEE.

The facility does not have any applicable requirements for greenhouse gases.

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 9VAC5-80-110.

Insignificant emission units are shown in the table contained in Condition 134 of the permit.

CONFIDENTIAL INFORMATION

No confidential information request has been made. All portions of the Title V permit and application are available for public review.

PUBLIC PARTICIPATION

The draft permit will be published in the **Virginian-Pilot** newspaper on **Wednesday, May 24, 2017**. The public comment period runs from **Wednesday, May 24, 2017** to **Friday, June 23, 2017**.