

**COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Valley Regional Office**

STATEMENT OF LEGAL AND FACTUAL BASIS

Valley Proteins, Inc.
1635 Indian Hollow Road
P.O. Box 3588
Winchester, Virginia
Permit No. VRO80092

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, Valley Proteins, Inc. has applied for renewal of the Title V Operating Permit for its animal rendering facility in Winchester, Virginia. The Department has reviewed the application and has prepared a Title V Operating Permit.

Engineer/Permit Contact:



Jeremy W. Funkhouser
(540)-574-7820

Date: 10/28/14

Air Permit Manager:

-signed original-

Janardan R. Pandey, P.E.

Date: 10/29/14

Facility Information

Permittee

Valley Proteins, Inc.
P.O. Box 3588
1635 Indian Hollow Road
Winchester, Virginia 22604

Responsible Official

Robert D. Golightly
General Manager

Facility

Valley Proteins, Inc. – Winchester Division
1635 Indian Hollow Road
Winchester, VA 22603

Contact Person

Robert T. Vogler
Director of Environmental Affairs
(540) 877-2590

Plant Identification Number: 51-069-0011

Facility Description: SIC Code 2077 – Rendering of animal by-products and fats,
NAISC 311613 – Rendering & Meat Byproduct Processing

Valley Proteins, Inc. (VP) renders inedible animal by-products and used cooking oil from restaurants to produce protein solids and fats that are sold to feed mills. One 25.0 ton/hr continuous cooker and two 1.75 ton/hr feather cookers breakdown and dehydrate raw animal materials and used cooking oil into solids and fats using steam from two residual and finished animal/vegetable oil-fired boilers. Odor vapor streams containing volatile organic compounds (VOCs) are vented to the boiler firebox for incineration or to the packed tower scrubber. Room air from the facility is directed to a 66,000 cfm cross-flow scrubber. Fats and solids are stored in fat tanks and feed bins, respectively. The processed animal/vegetable oil may be mixed with distillate oil and may be used as a fuel for the boilers, depending on market and availability. The facility is also capable of storing up to 333,825 gallons of fuel oil and gasoline for use in the boilers and transportation trucks.

The facility is a Title V major source of sulfur dioxide (SO₂). Per 9 VAC 5-20-206 1.e., the facility is located in a VOC Control Area. The facility is located in an attainment area for other pollutants. This facility operates under a minor NSR permit dated 8/19/04 as amended 2/1/06, 12/6/06, 7/30/08, 9/9/09, 12/21/12, and 8/26/14.

Changes to Existing Title V Permit

Changes to the existing Title V permit are:

- Update of references and conditions from the minor NSR permit dated 8/19/04 as amended 2/1/06, 12/6/06, 7/30/08, 9/9/09, 12/21/12, and 8/26/14. Changes to the minor NSR permit include the inclusion of natural gas as an approved fuel for the boilers, and the replacement of the two smaller packed tower scrubbers with a single larger packed tower scrubber.
- Inclusion of the applicable requirements of 40 CFR 63 Subpart JJJJJ for the boilers (B-1 and B-2).
- Updates to the Permit condition numbering with current numbering format.
- Updates to the Insignificant Emission Units.

These changes are discussed in more detail below.

Compliance Status

A full compliance evaluation of this facility, including a site visit, was conducted on May 28, 2014. 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.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emissions units at this facility consist of the following:

Table 1: Significant Emission Units

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
Fuel Burning Equipment							
B-1	B1E-1	Cleaver Brooks CB655-700 boiler, manufactured in 1967 (modified in 2002)	23.4 MMBtu/hr maximum heat input	---	---	---	8/19/04 Permit as amended 2/1/06, 12/6/06, 7/30/08, 9/9/09, 12/21/12, and 8/26/14
B-2	B2E-1	Cleaver Brooks CB662-700 boiler, manufactured in 1967 (modified in 2002)	23.4 MMBtu/hr maximum heat input	---	---	---	8/19/04 Permit as amended 2/1/06, 12/6/06, 7/30/08, 9/9/09, 12/21/12, and 8/26/14

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
Process Equipment							
CC-1	B1E-1 B2E-2 PTSE-1 PTSE-2 CFS-1	320U Dupps continuous cooker equipped with two air cooled condensers (cooker manufactured in 2002)	25.0 tons/hr maximum solids input	6000 cfm Venturi Scrubber 3000 cfm Venturi Scrubber 15000 cfm Packed Tower Scrubber Cross Flow Scrubber	VS-1 VS-2 PTS-3 CFS-1	VOC and PM	8/19/04 Permit as amended 2/1/06, 12/6/06, 7/30/08, 9/9/09, 12/21/12, and 8/26/14
FC-1, FC-2	B1E-1 B2E-2 PTSE-1 PTSE-2 CFS-1	Dupps 5x12 feather cookers (manufactured prior to 1972)	1.75 tons/hr maximum combined solids input	6000 cfm Venturi Scrubber 3000 cfm Venturi Scrubber 15000 cfm Packed Tower Scrubber Cross Flow Scrubber	VS-1 VS-2 PTS-3 CFS-1	VOC and PM	8/19/04 Permit as amended 2/1/06, 12/6/06, 7/30/08, 9/9/09, 12/21/12, and 8/26/14

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

EMISSIONS INVENTORY

A copy of the 2013 CEDS emission inventory is included as Attachment A. Emissions are summarized in the following table.

Table II. 2013 Actual Criteria Pollutant Emissions for the Rendering Facility

	Criteria Pollutant Emissions (tons/yr)				
	VOC	CO	SO ₂	PM-10	NO _x
Rendering (CC-1, FC-1 and FC-2)	3.70	--	--	2.20	--
Boilers (B-1 and B-2)	0.49	2.08	84.31	6.99	29.68
Total	4.19	2.07	84.31	9.18	29.68

Insignificant amounts of hazardous air pollutants are emitted from fuel burning and have not been included in the inventory.

EMISSION UNIT APPLICABLE REQUIREMENTS

Fuel Burning Equipment (B-1 and B-2)

Limitations

The following limitations are requirements from the minor NSR permit issued on 8/19/04, as amended 2/1/06, 12/6/06, 7/30/08, 9/9/09, 12/21/12, and 8/26/14. Please note that the condition numbers are from the NSR permit; a copy of the permit is enclosed as Attachment B.

- Condition 2: Approved fuels for the boilers are residual oil, natural gas, and processed animal fat.
- Condition 3: Processed animal fat may be blended with distillate oil at a ratio of 10 gallons of distillate oil per 6500 gallons of processed animal fat.
- Condition 4: Fuel throughput limits for the boilers.
- Condition 5: Fuel specification requirements.
- Condition 7: Hourly emissions limits for each boiler when burning processed animal fat.
- Condition 8: Hourly emissions limits for each boiler when burning residual oil.
- Condition 9: Hourly emission limits for each boiler when burning natural gas.
- Condition 10: Combined annual emissions limits for the boilers.
- Condition 11: Visible emission limit for the boilers when burning residual oil or natural gas.
- Condition 12: Visible emission limit for the boilers when burning processed animal fat.
- Condition 13: The condition requires the boilers (B-1 and B-2) to operate in compliance with the requirements of 40 CFR 63, Subpart JJJJJ.
- Condition 31: The condition establishes the facility shall maintain and operate the affected source, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions.

In addition to the conditions from the NSR permit, the following conditions have been added to the Title V permit for the boilers in accordance with 40 CFR 63 Subpart JJJJJ; condition number refers to the Title V permit:

Condition 13: The condition establishes the boilers must comply with the applicable standards (40 CFR 63.11201), work practice standard, emission reduction measure, and management practice (Table 2 to 40 CFR 63, Subpart JJJJJ). The permittee must also conduct an initial tune-up of each boiler (40 CFR 63.11214) and conduct a tune-up of each boiler biennially (40 CFR 63.11223).

Condition 14: The condition establishes that the permittee shall comply with the applicable requirements of the General Provisions of 40 CFR 63 Subpart A, as outlined in Table 8 to 40 CFR 63, Subpart JJJJJ (40 CFR 63.11235).

Condition 15: For each boiler (B-1 and B-2), the permittee shall comply with the applicable general compliance requirements (40 CFR 63.11205).

Condition 16: The condition outlines the continuous compliance requirements for the boilers (B-1 and B-2) in 40 CFR 63.11223.

Periodic Monitoring and Recordkeeping

The monitoring and recordkeeping requirements in Conditions 6, 27, and 28 of the minor NSR permit dated 8/19/04, as amended 2/1/06, 12/6/06, 7/30/08, 9/9/09, 12/21/12, and 8/26/14 have been modified to meet Part 70 requirements.

The permit requires proper operation and maintenance of the boilers to comply with the particulate matter and the visible emission requirements for the Cleaver Brooks Boilers.

Opacity has been chosen as a surrogate indicator for particulate matter emissions. The permittee will perform weekly inspections of the boiler stacks to determine the presence of visible emissions when burning liquid fuels. Visible emissions are not anticipated from the boilers when burning natural gas. If during the inspection, visible emissions are observed, the permittee has the option of either taking timely corrective action so that the stack operates with no visible emissions (the permittee must initiate corrective action within four hours and return to no visible emissions within 24 hours of the inspection) or conducting an EPA Method 9 (40 CFR Part 60, Appendix A) visible emission evaluation (VEE). The VEE will be conducted for a minimum of six minutes. If any of the observations exceed the applicable opacity limit, the observation period will continue for a total of 60 minutes of observation or until a violation of the opacity standard is recorded.

If the results of the VEE exceed the opacity standard, the permittee is required to do a particulate matter performance test within 90 days of the exceedance. No more than one test per year per boiler is required as long as the performance test results do not exceed the particulate matter emission limit. A concurrent VEE is required with the performance test.

The permittee will monitor the sulfur content of each shipment of distillate oil and residual oil, and will maintain certifications from each fuel supplier to include the name of the fuel supplier, the date the distillate oil or residual oil was received, the volume of distillate oil or residual oil delivered in the shipment, the sulfur content of the distillate oil or residual oil, and a statement that certifies the oil meets either the specification for number 2 fuel oil or the specification for number 6 fuel oil.

Hourly emission limits for each boiler were calculated based on maximum rated capacity of the boiler and on the emission factors and higher heating values submitted with VP's application. Annual emissions are calculated using the equation in Condition 18 of the Title V permit. As long as the throughput limit is not exceeded (Condition 3 of the Title V permit), the annual emissions limits should not be exceeded.

The permittee will keep records of: monthly and annual throughput of each type of fuel, sulfur content, heating value, emissions calculations demonstrating compliance with annual emissions limitations, daily log of the type and percent sulfur content of the fuel burned in the two boilers, weekly inspection log, results of all VEEs and performance tests, written operating procedures, maintenance schedules for the boilers, and operator and training procedure records.

The following periodic monitoring and recordkeeping conditions are established in accordance with 40 CFR 63 Subpart JJJJJ; condition numbers refer to the Title V permit:

Condition 22: The condition establishes the Subpart JJJJJ recordkeeping requirements of 40 CFR 63.11225 for the two boilers.

The recordkeeping established in 40 CFR 63 Subpart JJJJJ for the two boilers provide a means of demonstrating continued compliance with the MACT Subpart JJJJJ emission limitations.

Compliance Assurance Monitoring (CAM)

Units B-1 and B-2 have no add-on control equipment and are therefore not subject to CAM.

Testing

The permit requires stack testing for particulate matter if there is a violation of the opacity standard. Additionally, DEQ can request visible emission evaluations on the boilers. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

The following reporting requirement is established in accordance with 40 CFR 63 Subpart JJJJJ; the condition number refers to the Title V permit:

Condition 25: The condition establishes the notification and reporting requirements in 40 CFR 63.11225 for the two boilers.

Streamlined Requirements

The 10 percent opacity limit for the boilers when burning processed animal fat is more stringent than the Virginia Administrative Code Standard for visible emissions, 9 VAC 5-50-80. Therefore, only the more stringent opacity limit was included in the permit.

Process Equipment Requirements (CC-1, FC-1 and FC-2)

Limitations

The following limitations are requirements from the minor NSR permit issued on 8/19/04, as amended 2/1/06, 12/6/06, 7/30/08, 9/9/09, 12/21/12, and 8/26/14. Please note that the condition numbers are from the NSR permit; a copy of the permit is enclosed as Attachment B.

Condition 14: Requires particulate matter and volatile organic compounds from processing equipment to be controlled by wet and chemical scrubbers or incinerated as combustion air in the boilers.

Condition 15: Requires a positive oxidation-reduction potential (ORP) be maintained at all times when exhaust gases are directed to the scrubbers.

Condition 18: Requires exhaust temperature of the emissions leaving the Venturi scrubbers to be maintained below 130 degrees Fahrenheit.

Condition 21: Annual rendering throughput limit.

Condition 22: Hourly and annual emissions limits for the scrubber PTS-3.

Condition 23: Visible emission limit for scrubbers PST-3 and CFS-1.

Monitoring and Recordkeeping

The monitoring and recordkeeping requirements in Conditions 16, 17, 19, 20, and 28 of the minor NSR permit dated 8/19/04, as amended 2/1/06, 12/6/06, 7/30/08, 9/9/09, 12/21/12, and 8/26/14 have been modified to meet Part 70 requirements.

Proper operation of the scrubbers and boilers provide reasonable assurance that the particulate matter and volatile organic compound emission and visible emission limits are being met. Proper operation of the boilers is covered in the previous section. Proper operation of the packed tower scrubbers will be monitored by equipping the scrubbers with devices to continuously measure the oxidation-reduction potential of the chlorine dioxide solution, or DEQ-approved equivalent solution, used in each of the scrubbers. Additionally, the Venturi scrubbers are equipped with devices to continuously measure the scrubber exhaust temperature. These devices are to be observed and logged by the permittee at least once per day. Additionally, the permittee is required to perform daily inspections on each packed tower scrubber. The permittee has the option of initiating corrective action to return the stack to no visible emissions or to conduct a visible emissions evaluation.

The permittee will keep records of monthly and annual throughput of material processed by the continuous cooker (CC-1) and the feather cookers (FC-1 & FC-2), log of all daily monitoring device observations (ORP & temperature), daily inspection log, VEE and stack test results, and scheduled and unscheduled maintenance and operator training.

Compliance Assurance Monitoring (CAM)

Although Units CC-1, FC-1 and FC-2 are all controlled either by boiler incineration, Venturi scrubbers, or the packed tower scrubber, the control equipment is primarily for odor control. Additionally uncontrolled particulate matter and volatile organic compound emissions are less than 100 tons/yr. Therefore, CAM does not apply to these units. See Attachment C.

Testing

The permittee may be required to conduct additional performance tests and VEEs if requested by the Virginia DEQ. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

No specific reporting has been included in the permit for the process operations.

Streamlined Requirements

The 10 percent opacity limit for the scrubbers is more stringent than the Virginia Administrative Code Standard for visible emissions, 9 VAC 5-50-80. Therefore, only the more stringent opacity limit was included in the permit.

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 permit 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, including those caused by upsets, within four daytime business hours.

Comments on General Conditions

Permit Expiration (Conditions 44 – 49)

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. 2-2003”.

This general condition cite(s) the Article(s) that follow(s):

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

This general condition cites the sections that follow:

9 VAC 5-80-80. Application

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

Failure/Malfunction Reporting (Condition 55)

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.

Permit Modification (Condition 59)

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

Malfunction as an Affirmative Defense (Conditions 73 - 76)

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 Conditions 57 through 60 and General Condition 39. For further explanation see the comments on Failure/Malfunction Reporting (Condition 39).

This general condition cites the sections that follow:

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

9 VAC 5-80-110. Permit Content

STATE-ONLY APPLICABLE REQUIREMENTS

Valley Proteins requested to have all state-only requirements from the minor NSR permit dated 8/19/04, as amended 2/1/06, 12/6/06, 7/30/08, 9/9/09, 12/21/12, and 8/26/14 excluded from the Title V permit. Therefore, the state-only requirements have not been included.

FUTURE APPLICABLE REQUIREMENTS

The facility has not identified any future applicable requirements in the application.

INAPPLICABLE REQUIREMENTS

This facility is located in Frederick County, Virginia, an area that has been designated as a VOC control area and therefore Reasonably Available Control Technology (RACT) rules apply. However, no RACT rules were found to apply to this facility.

The provisions of 40 CFR Part 98 – Mandatory Greenhouse Gas Reporting require owners and operators of general stationary fuel combustion sources that emit 25,000 metric tons CO_{2e} or more per year in combined emissions from such units, to report greenhouse gas (GHG) emissions, annually. The definition of “applicable requirement” in 40 CFR 70.2 and 71.2 does not include requirements such as those included in Part 98, promulgated under Clean Air Act (CAA) section 114(a)(1) and 208. Therefore, the requirements of 40 CFR Part 98 are not applicable under the Title V permitting program.

As a result of several EPA actions regarding GHG under the CAA, emissions of GHG must be addressed for a Title V permit renewed after January 1, 2011. The current NSR permit for Valley Proteins, Inc. – Winchester Division contains no GHG-specific applicable requirements and there have been no modifications at the facility requiring a PSD permit. Therefore, there are no applicable requirements for the facility specific to GHG.

In addition to the inapplicable requirements listed above, the permittee identified 40 CFR 60 Subpart Dc *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units* as being in applicable to Boilers B-1 or B-2. Neither boiler (B-1 or B-2) has

been modified, as defined in 40 CFR 60 Subpart A, and each boiler was constructed prior to June 9, 1989.

COMPLIANCE PLAN

Valley Proteins, Inc. - Winchester Division has not been found to be in violation of any state or federal applicable requirements at this time. No compliance plan was included in the application or in the permit.

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:

Table III. Insignificant Emission Units

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
F-1	Truck shop furnace (0.4 MMBtu/hr)	9 VAC 5-80-720 A	---	---
FB-1 to FB-4	Feed bin storage silos (30 tons each)	9 VAC 5-80-720 B	PM and PM-10	---
FB-5 to FB-6	Feed bin storage silos (18 tons each)	9 VAC 5-80-720 B	PM and PM-10	---
T-1	Distillate oil fuel tank (10,000 gals)	9 VAC 5-80-720 B	VOC	---
T-2	Distillate oil fuel tank (2,000 gals)	9 VAC 5-80-720 B	VOC	---
TG-1	Gasoline tank (550 gals)	9 VAC 5-80-720 B	VOC	---
TP-4	Residual oil fuel tank (20,000 gals)	9 VAC 5-80-720 B	VOC	---
A-5	#2 heating oil tank (275 gals)	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

CONFIDENTIAL INFORMATION

Valley Proteins, Inc. did not submit a request for confidentiality. Therefore, all portions of the Title V application are suitable for public review.

PUBLIC PARTICIPATION

A public notice regarding the draft permit was placed in the *Winchester Star* newspaper, in Winchester, Virginia, on September 10, 2014. All persons on the Title V mailing list were sent a copy of the public notice by either electronic mail or in letters on September 10, 2014. The affected states of West Virginia, Pennsylvania, and Maryland were sent a copy of the public notice by either electronic mail or in letters on September 10, 2014. The 30-day public comment period ran from September 10, 2014 through September 10, 2014. No comments were received during the public comment period.

EPA was notified of the public notice and sent a copy of the draft permit on September 8, 2014. The 45-day EPA review period ran concurrently with the public comment period and ended on October 27, 2014. No comments were received from the EPA.

ATTACHMENTS

- Attachment A – 2013 CEDS Emissions Inventory Report
- Attachment B – Minor NSR Permit (dated 8/19/04 Permit as amended 2/1/06, 12/6/06, 7/30/08, 9/9/09, 12/21/12, and 8/26/14)
- Attachment C – Emission Calculations

ATTACHMENT A

2013 CEDS Emission Inventory Report

ATTACHMENT B

Minor NSR Permit

(dated August 19, 2004 as amended February 1, 2006,
December 6, 2006, July 30, 2008, September 9, 2009, December 21, 2012, and August 26, 2014)

ATTACHMENT C

Emission Calculations