

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Air Permit Review

Permit Issue Date: **????, 2005**

Region: Fayetteville Regional Office
County: Anson
NC Facility ID: 0400034
Inspector's Name: Robert Kennedy
Date of Last Inspection: 04/20/2005
Compliance Code: 3/In Compliance - Inspection

Facility Data			Permit Applicability (this application only)
Applicant (Facility's Name): Valley Protein Inc - Wadesboro Div Facility Address: Valley Protein Inc - Wadesboro Div Little Duncan Road Wadesboro, NC 28170 SIC: 2077 / Animal And Marine Fats And Oil NAICS: 311613 / Rendering and Meat Byproduct Processing Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V			SIP: NSPS: NESHAP: PSD: PSD Avoidance: NC Toxics: 112(r): Other:
Contact Data			Application Data
Facility Contact	Authorized Contact	Technical Contact	Application Number: 0400034.03C Date Received: 12/01/2003 Application Type: Renewal Application Schedule: TV-Renewal Existing Permit Data Existing Permit Number: 06467/T11 Existing Permit Issue Date: 07/21/2005 Existing Permit Expiration Date: 01/21/2006
Dean Deibert General Manager (704) 694-3701 Little Duncan Road Wadesboro NC, 28170	Dean Deibert General Manager (704) 694-3701 Little Duncan Road Wadesboro NC, 28170	Van Jones Environmental Manager (704) 864-9941 5533 South York Road Gastonia NC, 28052	
Review Engineer: Wallace Pitts Review Engineer's Signature: _____ Date: _____		Comments / Recommendations: Issue 06467/T12 Permit Issue Date: Permit Expiration Date:	

I. Purpose of Application

This permitting action is a renewal of an existing Title V permit pursuant to 2Q .0513. The initial Title V permit (06467T05) was issued on September 27, 1999 with an effective date of October 27, 1999, and is currently scheduled to expire on August 31, 2004. The complete renewal application was received on December 1, 2003, or at least nine months prior to the expiration date. Therefore, the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied.

II. Facility Description

The facility renders chicken feathers, blood, fat and organs for a number of processors. They use several rendering methods to make four products: feather meal, pet-food-grade protein meal, feed-grade meal (poultry food additive), and fat. The majority of the fat is sold as a feed additive but can also be used as boiler fuel when fuel prices warrant. There are four uncontrolled boilers that supply steam to the processes. The primary control for the rendering emission is the evaporation of condensables, then oxidation within the boilers. An alternate

scenario is directing non-condensable emissions through the wet scrubber and cross-flow scrubber, normally used only for room air control. This facility employs 136 workers and operates 24 hours each day.

The following table identifies all emission sources and associated control devices for which the Title V Operating Permit is being issued.

Emission Source I.D.	Emission Source Description	Control Device I.D. No.	Control Device Description
B-1 and B-2	Two (2) natural gas/No. 6 fuel oil/ On Specification recycled No. 4 equivalent fuel oil/saleable fat -fired boilers (33.0 million Btu per hour heat input rate each)	NA	NA
B-3 NSPS	One (1) natural gas/No. 2 fuel oil/saleable fat -fired boiler (48.4 million Btu per hour heat input)	NA	NA
B-4	One (1) natural gas/No. 2 fuel oil/No. 6 fuel oil/ On Specification recycled No. 4 equivalent fuel oil / saleable fat -fired boiler (33.5 million Btu per hour heat input)	NA	NA
E2, E3, E4-a, E4-b, E4-c, E5-a, and E5-b E6	Feather and Blood Rendering process consisting of: a) seven (7) batch cookers, and b) one (1) rotary steam tube dryer	C5 C1 C2 CY1 CM1 B-1 to B-3	One (1) air cooled condenser in series with one (1) venturi scrubber (minimum scrubber liquid inlet pressure 9 psig) with a mist eliminator in series with one (1) cyclone (60 inch diameter) with a mist eliminator in series with a combination of three (3) natural gas/fuel oil /saleable fat -fired boilers
Emission Source I.D.	Emission Source Description	Control Device I.D. No.	Control Device Description
E1 E18	Rendering process consisting of: one (1) three stage slurry system evaporative condenser cooker, and one (1) fluidizer tank.	C6 C1 C2	One (1) air cooled condenser in series with one (1) venturi scrubber (minimum scrubber liquid inlet pressure 9 psig) with a mist eliminator, in series with

		CY1 CM1 B-1 to B-3	one (1) cyclone (60 inch diameter) with a mist eliminator in series with a combination of three (3) natural gas/fuel oil /saleable fat -fired boilers
E7	one (1) 320U cooker, and	C7 C1 C2 CY1 CM1 B-1 to B-3	One (1) air cooled condenser in series with one (1) venturi scrubber (minimum scrubber liquid inlet pressure 9 psig) in series with one (1) mist eliminator in series with one (1) cyclone (60 inch diameter) with a mist eliminator in series with a combination of three (3) natural gas/fuel oil/saleable saleable fat-fired boilers
E8	press/centrifuge process.	C1 C2 CY1 CM1 B-1 to B-3	One (1) venturi scrubber (minimum scrubber liquid inlet pressure 9 psig) with a mist eliminator in series with one (1) cyclone (60 inch diameter) with a mist eliminator in series with a combination of three (3) natural gas/fuel oil /saleable fat -fired boilers
E22	Plant room air system	C8	one, two stage, crossflow type wet scrubber, minimum scrubber liquid inlet pressure 13 psig with mist eliminator, utilizing chlorine dioxide

III. History/Background/Application Chronology

September 27, 1999 – Initial title V permit 06467T05 issued, October 27, 1999 effective date.

November 1, 2000 – Permit 06467T06 issued; 502(b)(10) modification to add saleable animal fat as fuels for boiler ES-B1, ES-B2, and ES-B3 (NSPS). Also added PSD avoidance condition for CO.

June 8, 2001 –Permit 06467T07 issued as a 502(b)(10) modification to replace boiler ES-B2 with an identical boiler.

June 20, 2002 – Permit 06467T08 issued as a 502(b)(10) modification to replace load from boiler ES-B3 with boiler ES-B4. Boiler ES-B3 had a catastrophic failure. Boiler ES-B4 was manufactured in 1981. Boiler ES-B3 remained on the permit.

March 11, 2003 – Permit 06467T09 issued as a 502(b)(10) modification to allow burning of # 6 fuel oil in boiler ES-B4.

October 23, 2003 – Permit 06467T10 issued allowing the use of boilers ES-B1, B2, and B3 for odor control under 15A NCAC 2D .0539.

December 1, 2003 – Permit renewal application received.

March 10, 2004 –Letter sent to Permittee requesting information to allow DAQ to conduct SO2 dispersion modeling.

June 16, 2004 – Email sent to Permittee alerting them to modeling results indicating potential non compliance with 3-hour, 24-hour, and annual SO2 AAL. Requested that Permittee conduct detailed modeling and determine what modifications necessary for facility to demonstrate compliance with NAAQs.

July 21, 2005 – Permit 06467T11 issued a permit modification application to allow the combustion of “On Specification recycled No. 4 equivalent fuel oil” in boilers B1, B2, and B4. Permit contains condition for Permittee to submit a final SO2 modeling results to Director by September 30, 2005.

September 30, 2005 – Modeling results submitted.

October 6, 2005 – Draft sent to Title V coordinator.

October 6, 2005 –Title V coordinator comments received and incorporated into draft.

October 7, 2005 – Draft sent to FRO for review.

October 10-12, 2005 – FRO comments received and discussed.

October 23, October 27, 2005 – Drafts sent to Permittee. Comments received.

November 03, 2005 – SO2 modeling report received from DAQ AQAB.

November 28, 2005 – Draft sent to FRO and Permittee.

December 5, 2005 – Permittee and FRO ok with draft.

December 12, 2005 – Permit to Title V coordinator.

December 21, 2005 – Permit to DAQ for public notice/EPA review.

IV. Permit Modification/Changes

Attachment: Changes made to 06467T11 and incorporated into 06467T12

Old Page	New Page	Section	Change
3-4	3-4	2.1	Removed 502(b)(10) references for fuels from the emission source table. Changed description in emission source table for venturi scrubber (ID No. C1) to reflect minimum pressure of 9 psig.
4	4	2.1	Changed description in emission source table for crossflow scrubber (ID No. C8) to reflect minimum pressure of 13 psig.
5-6	5-6	2.1 A	Removed 502(b)(10) references for fuels from the emission source table.
6-7	6-7	2.1 A.2.c	Changed incorrect citation; was 2D .0503, 2D .0516 is correct.
7	6-7	2.1 A.2.f	Updated monitoring language.
7	7	2.1 A.2.g	Updated reporting language.
7	7	2.1 A.3.a	Updated VE language.

7	7	2.1 A.3.b	Updated VE language.
7	7	2.1 A.3.e	Updated monitoring/recordkeeping language. Also deleted requirement to determine “normal” within 30 days of permit issuance.
7	8	2.1 A.3.f	Updated reporting language.
8	8	2.1 A.4.d	Updated monitoring language.
8	8	2.1 A.4.f	Updated reporting language.
8-9	9	2.1 A.5	Changed regulatory citation to include 15A NCAC 2Q .0317.
8-9	9	2.1 A.5.c, g	Deleted requirement to test to determine emission factors: testing completed.
8-9	9	2.1 A.5.d-f	Relabeled d-f to c-e since old 2.1 A.5.c deleted. Updated emission factors for carbon monoxide and sulfur dioxide based on the July 1, 2004 DAQ summary table. These emission factors were based on the emissions testing conducted at the Wadesboro facility.
8-9	9	2.1 A.5.f	Changed reporting from quarterly to semi-annual.
	9	2.1 A.6.b	New requirement to increase stack heights on boilers ES-B1, ES-B2, ES-B3, and ES-B4, and to install a fence around the property boundary. This was added in order for the Permittee to demonstrate compliance with the SO2 NAAQs at the maximum permitted heat input rate and fuel sulfur content.
9	10	2.1 A.1.6.e	Deleted requirement for Permittee to submit modeling report that identifies steps to be taken to so that attainment of the SO2 NAAQS can be demonstrated.
10-11	11	2.1 B.1.d	Added compliance statement.
10-11	11	2.1 B.1.f and g	Re-alphabetized to e and f.
10-11	11	2.1 B.1.e	Changed reference from bagfilter to control devices actually installed.
11	12	2.1 B.2.a	Updated VE language.
11	12	2.1 B.2.c	Updated monitoring/recordkeeping language. Also deleted requirement to determine “normal” within 30 days of permit issuance.
11	12	2.1 B.2.d	Added compliance statement.
11	12	2.1 B.2.e	Updated reporting language.
12	12-13	2.2 A	Added language listing plant room air system , feather and blood rendering process, and rendering process as some, but not all of the facilities subject to 2D .0539.
13	14	2.2 A.7.b	Changed monitoring requirement for venturi scrubber (ID No. C1) to a minimum inlet pressure of 9 psig as per manufacturers recommendation. Added monitoring for crossflow scrubber (ID no. C8) to have minimum inlet pressure of 13 psig and minimum oxidation reduction potential (ORP) of 300 mV. Requires continuous monitoring and recording of ORP.
15-22	16-23	3	Updated General Conditions
23-25	~	Part II	Deleted Part 2.

V. Regulatory Review

The facility is subject to the following regulations:

15A NCAC 2D .0501(e), Emission Control Standards (ambient air quality)
15A NCAC 2D .0503, Particulates from Fuel Burning Indirect Heat Exchangers
15A NCAC 2D .0515, Particulates from Miscellaneous Industrial Sources
15A NCAC 2D .0516, Sulfur Dioxide Emissions from Combustion Sources
15A NCAC 2D .0521, Control of Visible Emissions
15A NCAC 2D .0524, New Source Performance Standards
15A NCAC 2D .0539, Odor Control of Feed Ingredient Manufacturing Plants
15A NCAC 2Q .0317, Avoidance conditions for 2D .0530 (PSD for SO2 and CO), and 2D .1111 (NC Air Toxics)

Based on the results of the SO₂ emission modeling, the facility is required to raise the stacks on boilers B1 through B4 in order to demonstrate compliance with the SO₂ Ambient Air Quality Standards. In addition, the facility is now required to enclose the property boundary as per the boundary line used in the SO₂ dispersion modeling.

The operating parameters that are monitored for the venturi scrubber (ID No. C1) and crossflow scrubber (ID No. C8) were changed. Minimum pressure readings were added based on the manufacturer's recommendations. In addition, the Oxidation Reduction Potential (ORP) for the cross flow scrubber must now be continuously monitored and recorded.

Boiler B-4 was previously permitted to burn #6 fuel oil, but the description on the emission source table did not reflect the firing of No. 6 F.O. (It was specified in the source description in specific condition 2.1 A). The emission source table was corrected to reflect No. 6 F.O firing in boiler B-4.

VI. NSPS, NESHAPS, PSD, Attainment Status, 112(r), CAM

NSPS

The facility is subject to NSPS requirements. The renewal of this permit does not require NSPS analysis.

NESHAP/MACT

The facility is not currently subject to any NESHAP or MACT standards. The facility will not be subject to the Industrial, Commercial and Institutional Boilers and Process Heaters MACT 40 CFR 63 Subpart DDDDD since the facility is not a major source of HAPs.

PSD

The prior permit (06467T11) contained PSD avoidance conditions for carbon monoxide and sulfur dioxide. The renewal of this permit does not require PSD analysis.

112(r)

This facility is not subject to Section 112(r) of the Clean Air Act requirements, because it does not store any of the regulated substances in quantities above the thresholds in the Rule.

CAM

CAM –Boilers ES-B1, B2, B3, and B4 do not have control devices and are, therefore, not subject to CAM. These boilers are also used for odor control under 2D .0539.

The emissions from the Feather and Blood Rendering process are routed through an air cooled condenser, venturi scrubber, mist eliminator and then through boilers ES-B1, B2, and/or B3. The facility indicated in their renewal application that the potential emissions from the Feather and Blood Rendering process and the Rendering process were all less than 100 tons per year and that CAM does not apply. The facility provided test data from the feather drying process at another facility, and the uncontrolled PM₁₀ emissions are < 5 tons per year.

VII. Facility Wide Air Toxics

The facility has an avoidance condition for NC toxics regulations (On-Specification recycled No. 4 equivalent Fuel Oil). There is no change required for this renewal.

VIII. Statement of Compliance

The facility was last inspected on 04/20/2005 and was found to be in compliance with all permit requirements.

IX. Facility Emissions Review

There is no change in emissions for this renewal.

X. Stipulation Review

FRO comments have been considered.

XI. Public Notice / EPA and Affected State Review

Pursuant to 2Q. 0521, a notice of the draft Title V Permit shall be placed in a newspaper of general circulation in the area where the facility is located. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 2Q .0522, a copy of each permit application, each proposed permit and each final permit pursuant shall be provided to EPA. Also pursuant to 2Q .0522, a notice of the draft Title V Permit shall be provided to each affected State at or before the time notice provided to the public under 2Q .0521 above. South Carolina is an affected state.

Comments Received on DRAFT Permit – Comments during public notice period were received from ???? as follows:

XII. Conclusions, Comments, and Recommendations

A professional engineer's seal was not required for this renewal.

A consistency determination was not required for this renewal.

FRO recommends issuance of the permit.