

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Air Permit Review for RACT Requirements
(in conformance with Section 172(c) of the CAA)

Permit Issue Date: **XX XX, 2009**

Region: Mooresville Regional Office
County: Union
NC Facility ID: 9000169
Inspector's Name: Carlotta Adams
Date of Last Inspection: 05/14/2008
Compliance Code: 3/In Compliance - Inspection

Facility Data			Permit Applicability (this application only)
Applicant (Facility's Name): Bakery Feeds Facility Address: Bakery Feeds 5805 Highway 74 East Marshville, NC 28103 SIC: 2048 / Prepared Feeds Nec NAICS: 311119 / Other Animal Food Manufacturing 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: RACT Review (No additional control)
Contact Data			Application Data
Facility Contact	Authorized Contact	Technical Contact	Application Number: 9000169.08A Date Received: 11/26/2007 Application Type: Modification Application Schedule: TV-Significant Existing Permit Data Existing Permit Number: 08194T08 Existing Permit Issue Date: 09/15/2008 Existing Permit Expiration Date: 07/31/2013
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Review Engineer: Charles F. Yirka Review Engineer's Signature: _____ Date: XX/XX/2008		Comments / Recommendations: Issue 08194T09 Permit Issue Date: XX/XX/2009 Permit Expiration Date: 07/31/2013	

I. Introduction and Purpose of Application

The U.S. Environmental Protection Agency (EPA) gave final approval to North Carolina's Title V operating permits program effective on October 1, 2001. This EPA approval triggered the requirements for Title V facilities to submit permit applications to the Division of Air Quality (DAQ). Title V facilities are required to obtain an operating permit which addresses all applicable regulations under the State Implementation Plan, Federal Implementation Plan, and other provisions of the Clean Air Act (CAA). The Title V Operating Permit will define all of the facility's obligations under the CAA.

The primary source of information used to develop this permit is the air permit application. This permit review is for the application of existing source RACT¹ requirements and intends to convey all pertinent emissions data, rules, policies, and engineering assumptions used to create the Title V operating permit.

¹ "Reasonably available control technology" (also denoted as RACT) means the lowest emission limit which a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility. It may require technology which has been applied to similar, but not necessarily identical, source categories.

Bakery Feeds is an animal feed processing operation located in Marshville, NC. Bakery Feeds has the potential to emit more than 100 tons per year of VOC. These emissions result from the drying of recycled bakery products for the purpose of producing animal feeds. As a result, emission units at the facility are subject to the applicable RACT requirements as per 2D .0902. As per 1/14/09 email to M. Schmidt it appears Bakery Feeds is a minor source of NOx. Emissions of NOx result from the fuel combustion. Emissions units with NOx emissions consist of two direct-fired rotary dryers (22.5 mmBtu/hour, each) and a boiler (8.37 mmBtu/hour). As potential emission of NOx are less 100 tons per year, a RACT review for NOx is not required.

II. Background Information

Bakery Feeds was notified via letter dated July 25, 2007. A RACT analysis dated November 16, 2007 was then submitted. The RACT analysis was based on a similar analysis submitted for a sister facility in Kentucky and indicates that RACT is not economically feasible.

The RACT analysis indicates the most likely VOC control is RTOs. This conclusion is based on a review of available information to determine if RTOs are commonly used to control VOCs from other bakery waste operations. This review indicates that RTO's are used in very limited circumstances where VOC reductions are required. (such as BACT in ozone severe areas). As RTOs appeared to be the most appropriate control, the analysis then focused on the projected cost per ton of VOCs reduced or controlled.

Finally, as the facility has two independent processing lines, the RACT analysis considered two operating scenarios. First, one RTO was considered for controlling emissions from the two lines. Second, two RTOs were considered for controlling each line. A summary of the cost analysis follows for the first and the most cost effective scenario:

Summary Cost Effectiveness Calculations for One Common Control - Two Lines:

Capital cost	\$1,940,311
Installation cost	\$579,481
<u>Indirect Capital Costs</u>	<u>\$601,496</u>
Total Installed Capital Cost	\$3,121,228
Direct Annual Operating Cost	\$831,664
<u>Indirect Annual Operating Cost</u>	<u>\$897,228</u>
Total Annualized Cost for the RTO	\$1,728,892
Total Controlled Emissions*	190 tons per year
\$ Per Ton of Cost	\$1,728,892 / 190 tons = \$9,099 per ton of controlled VOCs

*There is a 200 ton per year PSD avoidance condition (100 tpy for each line).

The reader should refer to the application for further details regarding the analysis. The analysis appears to be thorough in documenting how costs were derived. The applicant employed the EPA Control Cost Manual² and vendor (Griffin) supplied costs to develop the cost data. The information used to develop the RACT application for the State of Kentucky was again used for this application and was developed for Bakery Feeds by the consultant Trinity. This engineer reviewed information posted in the EPA's RACT/BACT/LAER Clearinghouse (RBLC) and did not find an applicable determination.

In conclusion the DAQ believes the cost of control exceeds that required by RACT³. We concur that RACT is no additional control for these dryers.

² EPA Air Pollution Control Cost Manual, Office of Air Quality Planning and Standards, Sixth Edition , EPA/42/B-02-001, January 2002

³ Federal Register / Vol. 70. No. 228 / Tuesday, November 29, 2005 / Rules and Regulations / Pages 7164-7165

III. Facility Description

Bakery Feeds collects raw materials consisting of inedible bakery waste products including bread, dough, crackers, sweet goods, and snack chips from commercial bakeries and snack food manufacturers. These raw materials are blended, ground, dried, screened, and cooled to produce ingredients for use in animal feed.

IV. Statement of Compliance

The DAQ has reviewed the compliance status of this facility. Based on its latest inspection, conducted by Ms. Carlotta Adams of the Mooresville Regional Office (MRO), the facility appeared to be operating in compliance with applicable air regulations. As noted in the May 14, 2008 inspection report, there have not been any compliance issues during the last five years.

V. Summary of Existing Emission Sources and Control Devices Subject to RACT Review

The following table contains a summary of all RACT affected emission units and associated air pollution control devices and appurtenances:

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-2	Sawdust/propane/refuse derived fuel-fired rotary dryer (22.5 million Btu per hour maximum rated input, utilizing scrap paper/packaging composed of food grade material and sawdust as fuel sources with propane as an emergency back-up fuel)	CD-1	Simple cyclone (120 inches in diameter)
ES-4	Sawdust/propane/refuse derived fuel-fired rotary dryer (22.5 million Btu per hour maximum rated input, utilizing scrap paper/packaging composed of food grade material and sawdust as fuel sources with propane as an emergency back-up fuel)	CD-2	Simple cyclone (120 inches in diameter)
ES-7	One No. 2 fuel oil/propane/yellow grease-fired boiler (8.37 million Btu per hour maximum rated input)	N/A	N/A
Insignificant Activities	See VI. C. below	N/A	N/A

VI. Emissions Unit (Source-by-Source) Evaluation for RACT

A. Two Rotary Dryers (ID Nos. ES-2 and ES-4)

Waste bakery products are processed to make an ingredient for animal feed. Packaging materials are separated from the raw materials, mixed with sawdust, and used as fuel to provide heat for the drying process. The sawdust is purchased from outside suppliers and may contain negligible amounts of finishing materials. The applicant estimates less than 2% of the sawdust could possibly contain finishing material. Therefore, the sawdust is considered an unadulterated fuel.

The applicant reports a maximum hourly per burner usage rate of 2,812 pounds of sawdust or 1,899 pounds of packaging materials. Products of combustion are pulled from the burner through the dryer by an ID fan and come into direct contact with the raw materials. Air discharged from the stack includes both process air and combustion gases. For the purposes of this existing source RACT review the following regulations apply:

15A NCAC 2D. 0902: APPLICABILITY –

As per (f); The Rules in this Section apply to facilities with the potential to emit 100 tons or more volatile organic compounds per year in the following areas:

- (1) Cabarrus County
- (2) Gaston County
- (3) Lincoln County
- (4) Mecklenburg County
- (5) Rowan County
- (6) Union County
- (7) Davidson Township and Coddle Creek Township in Iredell County

1. 15A NCAC 2D. 0902: APPLICABILITY

- a. Based on the review of Permit Application 9000169.08A the DAQ has determined that Reasonably Available Control Technology (RACT) for the emission sources above are no additional controls.
- b. Other sources, as designated in this permit, are exempt from RACT as emissions are less than 15 pounds per day. [15A NCAC 2D .0902(B)1]

B. No. 2 fuel oil/propane/yellow grease-fired boiler (8.37 million Btu per hour heat input, ID No. ES-7)

Boiler VOC emissions are insignificant for RACT purposes. As the boiler emits less than 15 pounds per day of VOC the boiler is exempt from RACT as per the following rule:

15A NCAC 2D .0902 APPLICABILITY –

As per (b); regardless of any other statement of applicability of this Section, this Section does not apply to: (1) sources whose emissions of volatile organic compounds are not more than 15 pounds per day.

C. Remaining Emissions Units Evaluated Under RACT

The insignificant activities were found to be exempt. See XII below.

VII. MACT Applicability

Not applicable

VIII. NSPS, PSD/NSR, RACT, CAM, 112(r) Applicability

NSPS

Not applicable

PSD/New Source Review (NSR) and Non Attainment New Source Review (NNSR)

Bakery Feeds is located in Union County. Union County is classified as being in non-attainment with the 8-hour ozone standard and is governed by NSR rules under 15A NCAC 2D .0531. NOx and VOC are precursors to ozone. To avoid being a PSD/NSR major source, the facility was given a limit of less than 100 tpy VOC for the first drying line. Upon installation of the second drying line at a later date, the facility became major for NSR and a second 100 tpy VOC limit was placed in the permit to avoid NSR review. The existing condition limits hours of operation to 6,754 hours per year for each line. The facility must record hours of operation and resulting VOC emissions monthly. Semiannual reporting of records is required.

Union County is located in the Metrolina Moderate Non Attainment Area. Bakery Feeds is considered a major source with potential emissions of VOC exceeding 100 tpy. Future modifications must be evaluated considering NNSR and RACT.

RACT

Since bread and baked goods are not produced at this facility it does not meet the definition of “Commercial Bakery,” pursuant to 15A NCAC 2D .0957. However, since potential VOC emissions are greater than 100 tpy, the facility is subject to requirements under case-by-case Reasonably Available Control Technology (RACT). Bakery Feeds is an existing major source and must achieve final compliance by April 1, 2009.

DAQ received the application on November 26, 2007 addressing RACT applicability (900169.08A). Bakery Feeds proposes RACT is no additional control due to economic infeasibility. The DAQ concurs that RTO is the appropriate control technology and is not cost effective for RACT purposes. There does not appear to be a control technology applied to similar, but not necessarily identical, source categories that are economically feasible.

CAM

Not applicable

112(r)

Not applicable

North Carolina Toxic Air Pollutants

Not applicable

IX. Permit Shield (including non-applicable requirements)

Pursuant to 15A NCAC 2Q .0512, the permit will include a provision stating that compliance with the terms, conditions, and limitations of the Title V Permit shall be deemed in compliance with applicable requirements specifically identified in the permit, as of the date of permit issuance. If the permit does not expressly state that a permit shield exists, then it shall be presumed not to provide such a shield.

X. Other Applicable Requirements

None

XI. General Conditions

The “General Conditions” section of the Title V Permit lists additional applicable rule requirements that the Permittee must adhere to, as with any other permit condition. These requirements in general are common to all Title V facilities. The general conditions include provisions such as annual fee payment, permit renewal and expiration, transfer of ownership or operation, property rights, submission of documents, inspections and entry procedures, reopen for cause, severability, etc.

XII. Insignificant Activities

The insignificant activities listed in the application have been reviewed for RACT purposes. The following table lists insignificant activities under 15A NCAC 2Q .0503(8). Even so, as all sources have emissions of less than 15 pounds per day they are exempt from RACT [15A NCAC 2D .0902(b)1.-Applicability]:

ID No.	Source Description
IOIL-1	One washwater skimmer tank for waste cooking oil recycling (3,000 gallons)
IBO-1	One natural gas/No. 2 fuel oil-fired boiler (6.3 million Btu per hour heat input)
IDRY-1	Dry blending and stock receiving (19.2 tons per hour)
IFDE-1	Dispensing equipment used solely to dispense diesel fuel, kerosene, or lubricants
IGRO-1	Waste cooking grease recycling operation
IAST-1	Above ground storage tank with a capacity of less than 1,100 gallons
IAST-2	Above ground storage tank with a capacity of less than 1,100 gallons
IPW-1	Parts washer
IPW-2	Parts washer
IGRO-1	Waste cooking grease recycling operation
IS-3	Finished products shipping area (41 tons per hour maximum process rate)

Notes: This table is included as an attachment to the permit cover letter. Because an emission source or activity is insignificant does not mean that the source or activity is exempted from any applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement.

As per 15A NCAC 2D .0902 (B)1. these sources are exempt from RACT with VOC emissions less than 15 lb/day each.

XIII. Public Notice

Pursuant to 15A NCAC 2Q .0521, a notice of the PROPOSED Title V Operating Permit was placed in *The Enquirer – Journal*, a newspaper of general circulation in the area where the facility is located on XX XX, 2008. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Copies of the public notice will be sent to persons on the Title V mailing list, the affected states, and EPA.

XIV. Recommendations

Bakery Feeds Title V application has been reviewed by the DAQ to determine compliance with all procedures and requirements under 15A NCAC 2Q .0500, 40 CFR Part 70. Additionally compliance is indicated with the RACT under 15A NCAC 2Q .0900. DAQ has made a preliminary determination that the facility is complying or will achieve compliance as specified in the permit with all applicable requirements. A draft permit was provided to Ms. Carlotta Adams (MRO) and Mr. Michael Schmidt, Bakery Feeds on XX XX, 2008. The public notice period expired on XX XX, 2009 with no comments received. EPA comment period expired on XX XX, 2009 with no comments received. Therefore, DAQ recommends issuance of this significant modification of Title V permit which addresses the applicability of existing source RACT.

Table of Changes (to Permit 08194T08):

Page - Condition No.	Change
Cover letter	Updated, dates and other relevant information for this particular significant modification
Attachment Insignificant Activities List	Update table with notes regarding applicability of RACT. Add additional sources found on IBEAM database
Attachment TOC	Insert Table of Permit Changes
All headers	Changed header to T09
Page 4- 2.1 A.	Added RACT requirements to Table
Page 4- 2.1 A.1.b.	Updated all cites regarding testing to 2D .2601 from this point forward
Page 7-2.1 B.	Added RACT requirements to Table
Page 8-2.2 A.	Added RACT requirements to Table
Page 8-2.2 A.1.	Added RACT permit language for the two rotary dryers , boiler and all affected sources