

**ARKANSAS DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
DIVISION OF AIR POLLUTION CONTROL**

Summary Report Relative to Permit Application

Submitted By: Riviana Foods, Inc.
216 Gee Street
Jonesboro, AR 72401
Craighead County
Contact Position: Environmental Engineer, Neil Washburn
Phone Number: (870) 673-5337

CSN: 16-0284

Permit No.: 1704-AR-1

Date Issued:

Submittals: March 23, 1998 and March 26, 1998

Summary

Riviana Foods, Inc. (Riviana) constructed a gasification facility in Jonesboro, Arkansas, at the Riceland Foods, Inc. (Riceland) Jonesboro Rice Mill. The Riviana gasification facility converts rice hulls from Riceland into a bio-gas and ash. The bio-gas is sent to the J-TECS, L.L.C. thermal energy conversion system (TECS). The gas produced from the rice hulls is then used as a fuel.

This minor modification increases the permitted loadout rate from the ash loadout tank (SN-03). The permitted loadout will increase from 10 tons per hour to 60 tons per hour. This change will increase the hourly permitted emissions from the gasifier ash loadout (SN-03). There will be no change in the annual permitted emissions.

Process Description

Rice hulls are delivered to the facility by drag conveying systems from various locations at Riceland's Jonesboro Rice Mill. These conveying systems deliver the hulls to a storage tank. The storage tank is equipped with a variable rate bin discharger. The system is designed to receive and store 12.5 tons per hour of hulls. This system delivers the hulls to a bucket elevator that conveys the hulls to the gasifier metering bin. The system can deliver up to 9 tons per hour to the gasification process. The metering bin provides the surge capacity necessary to compensate for variations between the delivery and gasification rates and is equipped with a variable speed screw conveyor that delivers hulls to the gasification unit in response to the output of the plant master controller.

Reviewed By: Melissa J. Blumenthal

Approved By: Keith A. Michaels

Applicable Regulation: Air Code

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The gasification unit converts rice hulls to pyrolysis gas and ash. This is accomplished by the controlled application of air through the gasification unit grate as the hulls are agitated in the fuel bed maintained on the grate. Air is provided by the gasification air fan through a system of ducts and control dampers to the undergrate air plenum on each unit. The gasification unit is a refractory lined, vertical steel chamber, sized to provide the residence time required to complete the gasification process and minimize the quantity of particulate matter carried over with the pyrolysis gas.

Ash is discharged from the bottom of each gasification unit into water cooled screw conveyors that cool the ash and transport it to a drag type conveying system that is part of the ash conveying and storage system. Pyrolysis gas is discharged from the top of the gasification unit to the combustion system.

The gasification system is designed to consume 17,725 pounds per hour of rice hulls and deliver 70.2 million Btu per hour to the combustion system in the form of high temperature pyrolysis gas. The gas temperature will vary between 1100EF and 1500EF, depending upon the desired ash quality. The quantity of ash produced will be approximately 5600 pounds per hour at rated capacity.

The ash conveying and storage system includes a drag type conveying system that will receive ash from the cooling conveyor discharge on the gasification unit and transport it to a storage tank. The storage tank is equipped with a pneumatic type bin vent filter. The storage tank is designed for unloading into trucks that will transport the ash to off-site facilities. The system will load trucks at the rate of approximately 60 tons per hour.

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Specific Conditions

1. Emissions shall not exceed the limits specified in Table I of this permit and as specified in the Specific Conditions.
2. Visible emissions shall not exceed the limits specified in Table I of this permit as measured by EPA Reference Method 9.
3. The Riviana gasifier hull receiving tanks (SN-01) shall not receive in excess of 109,500 tons of rice hulls per twelve consecutive months from Riceland. Riviana shall maintain records of the amount of rice hulls received. Records shall be updated by the last day of the following month, kept on site and provided to Department personnel upon request.
4. Riviana shall not unload into trucks in excess of 60 tons of rice hull ash per hour from the gasifier ash loadout area (SN-03) or 87,600 tons of rice hull ash per twelve consecutive months. Riviana shall maintain records of rice hull ash unloaded into trucks. Records shall be updated by the last day of the following month, kept on site and provided to Department personnel.
5. The permittee shall clearly indicate, on the equipment itself, which equipment at Riceland is part of the Riviana gasification facility.

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TABLE I

ALLOWABLE EMISSION RATES								
SN	Description	Control Equipment	Pollutant	Emission Rate		Regulation	% Opacity	Comments
				lb/hr	ton/yr			
01	Gasifier Hull Receiving Tanks	None	PM/PM ₁₀	0.3	1.1	Air Code	20	
			PM ₁₀	0.1	0.3			
02	Gasifier Ash Receiving Tanks	Fabric Filter	PM/PM ₁₀	0.1	0.3	Air Code	20	
			PM ₁₀	0.1	0.1			
03	Gasifier Ash Loadout	None	PM/PM ₁₀	0.7	0.5	Air Code	20	Fugitive Emissions
			PM ₁₀	0.2	0.2			
TOTAL ALLOWABLE EMISSIONS			PM/PM ₁₀	1.1	1.9			
			PM ₁₀	0.4	0.6			

Public Notice

Pursuant to Section 19.4(i) of the Arkansas State Implementation Plan for Air Pollution Control (SIP or Regulation 19), the Arkansas Department of Pollution Control and Ecology gives the following notice:

Riviana Foods, Inc. is constructing a rice hull gasification facility in Jonesboro, Arkansas, at the Riceland Foods, Inc. Jonesboro Rice Mill. Rice hulls will be converted into a bio-gas and ash. The bio-gas will be sent to the J-TECS, L.L.C. thermal energy conversion system. The gas produced from the rice hulls will then be used as a fuel. Permitted emissions from the gasification facility will consist of particulate matter.

The application has been reviewed by the staff of the Department and has received the Department's tentative approval subject to the terms of this notice.

Citizens wishing to examine the permit application and staff findings and recommendations may do so by contacting Michelle Gillham, Information Officer. Citizens desiring technical information concerning the application or permit should contact Melissa J. Blumenthal. Both Michelle Gillham and Melissa J. Blumenthal can be reached at the Department's central office, 8001 National Drive, Little Rock, (501) 682-0744.

Copies of the draft permit and permit application have been placed in the Crowley Ridge Regional Library, 315 West Oak, Jonesboro, Arkansas 72401. This information may be reviewed during the Library's normal business hours.

Interested or affected persons may also submit written comments on the proposal to the Department at the above address - Attention: Michelle Gillham. In order to be considered, the comments must be submitted within thirty (30) days of publication of this notice. Although the Department is not proposing to conduct a public hearing, one will be scheduled if significant comments on the permit provisions are received. If a hearing is scheduled, adequate public notice will be given in the newspaper of largest circulation in the county in which the facility in question is, or will be, located.

The Director shall make a final decision to issue or deny this application or to impose special conditions in accordance with Part III of this Department's Administrative Procedures (Regulation #8).

Dated this

Randall Mathis
Director

Arkansas Department of Pollution Control and Ecology
Division of Air Pollution Control

DETERMINATION OF APPLICABILITY

Name & Location: Riviana Foods, Inc., 216 Gee Street
 Contact Name: Neil Washburn
 Mailing Address: P.O. Box 927 Stuttgart, AR 72160

City: Jonesboro State: AR ZIP: 72401

Process Description: gasification facility

CSN: 16-0284 Permit No.: 1704-A Engineer: Melissa J. Blumenthal

Date(s) of DOA Attempts: _____, _____

Applicable Programs: SIP X, PSD , NSPS , NESHAPS , Non-Attainment , Air Code Only , Not Determinable

EMISSION SUMMARY TOTALS (TPY)

Pollutant	Existing	Contemp. Decrease	Contemp. Increase	Net Change	Significant Increase Permit	After
PM/PM ₁₀	_____	_____	_____	_____	15	<u>1.9</u>
SO ₂	_____	_____	_____	_____	40	_____
VOC	_____	_____	_____	_____	40	_____
CO	_____	_____	_____	_____	100	_____
NO _x	_____	_____	_____	_____	40	_____
<u>PM₁₀</u>	_____	_____	_____	_____	_____	<u>0.6</u>

Is facility on 28 list (100 TPY)? Yes No X Additional Information Required
 Facility is "Major Source" before permit? Yes No Facility is "Major Source" after Permit? Yes No X
 Major modification? Yes No Not applicable X Will facility emit toxic emissions? Yes No X
 Is the source within 10 km of a Class I area? Yes No X If yes, is maximum impact > 1Fg/m³ (24 hr)? Yes No
 Is facility located in a non-attainment area? Yes No X

For PSD/Non-Attainment Review:

	Monitoring (Fg/m ³ -time)	Ambient Impact (Fg/m ³)	Monitoring Required	BACT/LEAR
			YES/NO	
PM/PM ₁₀	_____	_____	_____	_____
SO ₂	_____	_____	_____	_____
VOC	_____	_____	_____	_____
CO	_____	_____	_____	_____
NO _x	_____	_____	_____	_____
Other	_____	_____	_____	_____

Limits required on hours of operation, feed rates, etc.? Yes X No

AIR DIVISION
INVOICE REQUEST FORM

(1-94)

Route To: FELICIA INMAN

Facility Name & Address:

Riviana Foods, Inc.
P.O. Box 927
Stuttgart, AR 72160

CSN: 16-0284

Permit No: 1704-AR-1

Permit Description: A

(e.g. A = AIR CODE, S=SIP, H=NESHAP, P=PSD, N=NSPS)

Initial Fee Calculations:

FEE = 17.78*(TPY PREDOMINANT POLLUTANT, EXCEPT CO)
not greater than \$65,760 or less than \$500

$F_I =$

Mod Fee Calculations:

FEE = 17.78*(TPY INCREASE PREDOMINANT POLLUTANT, EXCEPT CO)
no less than \$400

$F_M =$ no increase in annual emissions

Fee Amount: \$ 400

Engineer: Melissa J. Blumenthal

Date: June 26, 2002.

SIP CHECKLIST

Facility Name: Riviana Foods, Inc.
Permit No.: 1704-A CSN: 16-0284 DISTRICT #: _____

ADMINISTRATIVE SECTION

PRIOR TO ROUTING:

COMPLETED

- 1. Request invoice from Felicia (3 copies) _____
- 2. Type permit, stamp draft _____
- 3. Type mailing list _____
- 4. Type public notice letters to the following:
 - a. Applicant - draft and final letters _____
 - b. Newspapers - local and statewide papers _____
 - c. Depository/library - send certified _____
 - d. Mayor _____
 - e. County Judge _____
- 5. Route file to: Program Coordinator _____
 Testing/CEMS staff
 Enforcement
 Air Division Chief
- 6. When file comes back to you, check to see _____
 if the proof of publication for the receipt
 of application has been received.
- 7. After corrections have been made and the Chief _____
 has signed the draft permit, make 10 copies of
 the public notice, 6 copies of the mailing list,
 1 copy of the letters, type envelopes, and mail.
- 8. Send a copy of the public notice and the _____
 mailing list to Michelle Gillham.
- 9. When the public comment period is up, the fee _____
 is paid, and the proofs of publication have been
 received, route to Air Division Chief for

signature. Make 6 copies of the permit and mail.
Copies go to Enforcement, Testing/CEMS, Division Chief,
and 3 to Permit Engineer (engineer, file, & summary book).

ENGINEERING SIP CHECKLIST

Facility Name: Riviana Foods, Inc.

Permit No.: 1704-A CSN: 16-0284

Permit Package must contain the following prior to the DRAFT routing.

- _____ **Draft Permit**
- _____ **Proof of publication of receipt of notice of application.** Please note that ten (10) days must have elapsed from the date of this notice before a public notice on intent can be published.
- _____ **DOA Form**
- _____ **Fee Worksheet**
- _____ **Technical Justification Worksheet**
- _____ **Copy of Plot Plan for Local Inspector**

The following must be received and placed in the permit package prior to **FINAL** routing.

- _____ **Proof of publication and payment of notice of intent to issue.**
- _____ **Fee Payment** (Check PFAQ)
- _____ **30 days have elapsed from the time of last publication of the public notice of intent to issue.**
- _____ **All required attachments are enclosed (i.e. plot plan, area map, etc.)**

JUSTIFICATION WORKSHEET

Specific Conditions (list applicable specific conditions) were included in Air Permit 1704-A to comply with:

1. New Source Performance Standard (NSPS) Subpart _____

2. Prevention of Significant Deterioration (PSD) Regulations.

3. National Emission Standards for Hazardous Air Pollutants (NESHAPS).

4. Compliance with State Implementation Plan (SIP).

5. Specific Condition #s 1 through 5

_____ were included in this permit to assure compliance with submitted operational descriptions and/or emission limits.

6. National Ambient Air Quality Standards (NAAQS) & Pulaski County Maintenance Regulations.