

Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

December 28, 1989

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Gary L. Dahns
Vice President and General Manager
Royster Phosphates, Inc.
P. O. Box 1329
Palmetto, Florida 34220

Dear Mr. Dahns:

Re: Completeness Review for Proposed Sulfuric Acid Plant

The Department has reviewed your application for a permit to construct a double absorption sulfuric acid plant at Royster Phosphates, Inc.'s chemical complex in Palmetto, Manatee County, Florida. The Department needs additional information before we can process this application. In addition to the questions raised in the enclosed December 21, 1989, and December 22, 1989 memos from Mr. Gary Maier and Mr. Rob Baum, respectively, please provide the required air quality modeling for this project.

We will resume processing your application upon receipt of the requested information. If you have any questions on this matter, please contact Gary Maier at (813) 623-5561, Rob Baum at (813) 542-1408, Cleve Holladay at (904) 488-1344 or write to me at the Department's Tallahassee address.

Sincerely,



C. H. Fancy, P.E.
Chief
Bureau of Air Regulation

CHF/TH/plm

Attachments:

Gary Maier's memo dated December 21, 1989
Rob Baum's memo dated December 22, 1989

c: Bill Thomas, SW District
Rob Baum, Manatee County
John Koogler, P.E.

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
 Put your address in the RETURN TO. Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for stand check boxes for additional service(s) requested.

1. Show to whom delivered, date, and addressee's address (Extra charge) 2. Restricted Delivery (Extra charge)

3. Article Addressed to:
 Mr. Gary L. Dahns
 Vice President & General Mgr
 Royster Phosphates, Inc.
 P. O. Box 1329
 Palmetto, FL 34220

4. Article Number
 P 938 762 794

Type of Service:
 Registered Insured
 Certified COD
 Express Mail Return Receipt for Merchandise

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature - Address
 Burnell

6. Signature - Agent

7. Date of Delivery
2 Jan 90

8. Addressee's Address (ONLY if requested and fee paid)

PS Form 3811, Mar. 1988 * U.S.G.P.O. 1988-212-865 DOMESTIC RETURN RECEIPT

P 938 762 794

RECEIPT FOR CERTIFIED MAIL
 NO INSURANCE COVERAGE PROVIDED
 NOT FOR INTERNATIONAL MAIL
 (See Reverse)

Sent to		Gary L. Dahns
Street and No.		PO Box 1329
P.O., State and ZIP Code		Palmetto, FL 34220
Postage		\$
Certified Fee		
Special Delivery Fee		
Restricted Delivery Fee		
Return Receipt showing to whom and Date Delivered		
Return Receipt showing to whom, Date, and Address of Delivery		
TOTAL Postage and Fees		\$
Postmark or Date		Mailed 12/28/89 Dated 12/28/89

PS Form 3800, June 1985

Proposed Sulfuric Acid Plant

Completeness Review for

INTER-OFFICE MEMORANDUM

TO: Teresa M. Heron, DER Air BAQM, Tallahassee

THRU: W. C. Thomas, P.E. *WCT*

FROM: Gary A. Maier, DER Tampa *Gary A. Maier*

DATE: December 21, 1989

SUBJECT: Permit Application No.: AC41-173305
County: Manatee
Project: New Sulfuric Acid Plant
Royster Phosphates, Inc.

The Southwest District office has reviewed the above referenced application. We have the following comments.

(1) The application does not contain a process flow diagram for the proposed facility. The process flow diagram in Figure 3-1 is described as "typical"; however, Figure 3-1 and the plant layout shown in Figure 3-2 do not agree with each other. (For example, Figure 3-1 places a Dryer upstream of the Furnace, but Figure 3-2 does not show a Dryer.) A process flow diagram for the proposed facility should be requested.

(2) The lack of a Dryer upstream of the Furnace raises a concern as to whether the acid mist emission limits will be met. The application does not contain design information, calculations, or historical operating experience for the Fiber Mist Eliminators. Design calculations and the design information listed below should be requested.

- (a) What is the controlling mechanism for mist collection, Inertial Impaction or Brownian Diffusion?
- (b) What is the design Superficial Velocity?
- (c) What is the Mist Loading of gases leaving the absorber and entering the mist eliminators (mg./SCF)?
- (d) What is the Mist Loading of gases leaving the mist eliminators (mg./SCF)?
- (e) What are the particle-size distributions of the mists entering and leaving the fiber mist eliminators?
- (f) What is the Volumetric Flow Rate through the mist eliminators?
- (g) What are the design pressure drop and filtering area?
- (h) What is the effect of "turn-down" on collection efficiency?

In addition to the above, historical operating data for identical mist eliminators on sulfuric acid plants without a dryer upstream of the furnace should be requested.

(3) The application does not contain design information, calculations, or historical operating experience for the proposed absorbers. Information such as size, packing type, liquid rate, pressure drop, efficiency as a function of gas rate, inlet/outlet compositions, superficial gas velocity, flood and load points, etc., should be requested.

(4) The application does not contain design information, calculations, or historical operating experience for the proposed converters. Engineering estimates for SO₂ emissions are not possible based upon the information submitted by the applicant. Information such as size, number of passes, efficiency, flow rates, reaction rates, vendor guarantees, maintenance plans, etc., should be requested.

(5) The applicant has misinterpreted Rule 17-2.270 regarding "Good Engineering Practice Stack Height" (see page 38 of the application). The rule defines a minimum stack height. The applicant has interpreted the rule as defining a maximum stack height and has proposed a stack height that does not comply with the minimum requirements of the rule. The applicant should be requested to change the stack height proposal.

(6) All of the Air Quality Modeling submitted by the applicant was based on a stack height that does not comply with Rule 17-2.270. Air Quality Modeling should be re-done based upon an appropriate stack height.

If you have any questions regarding these comments, please call me at Suncom 552-7612 ext 360.

copy to: J. Harry Kerns



STATE OF FLORIDA
DEPARTMENT OF HEALTH AND REHABILITATIVE SERVICES

December 22, 1989

DEC 26 1989

Teresa Heron, Air Permitting Engineer
Department of Environment Regulation
2600 Blair Stone Rd
Tallahassee, Florida 32399-2400

DER-BAQM

RE: Manatee County Public Health Unit (MCPHU) Review of Royster
Phosphates new Sulfuric Acid Plant

Dear Teresa:

Enclosed is Manatee County Pollution Control questions in response to the Air Permit Application submitted by Royster Phosphates for a new Sulfuric Acid Plant. This completes the initial review of subject source . In order to complete our review addition information is required of the applicant.

Questions to Applicant:

1. Will any additional sulfuric acid storage tank be required for the new plant ?
2. If no new storage tanks are required how much new plumbing will be required to hook up to the old tanks. Please provide a sketch showing the new piping and old piping connection locations and placements.
3. Submit information showing that the new plant will comply with the recently adopted DER policy for the start up of sulfuric acid plants?
4. Based on the fact that the old plant maintained an emission rate of 3.37 lbs per ton what is the actual projected emission rate for the new plant?
5. Identify any industrial wastewater that the new plant will discharge and submit a water balance for the plant.
6. Provide detail description of the in-plant spill containment measures that the new plant will have?
7. Provide manufacture name and specification of continuous stack monitoring instruments provided on the new plant?

DISTRICT SIX

HRS MANATEE COUNTY PUBLIC HEALTH UNIT
410 SIXTH AVENUE EAST, BRADENTON, FLORIDA 34208 1986


(813) 748-0666

Page #2

8. Submit an analysis of fuel that will be used to bring the plant up during cold start up ?
9. What will be the gross electric power produced by co-generation process ?
10. What is the planned schedule for catalyst changes?
11. What planned catalyst manufacture and type will be used in the converter?
12. Will there be a imported electric power usage reduction at the Royster facility due to the use of the co-generation sulfuric acid plant?
13. If there is electrical power change due to this co-generation acid plant what will be the power requirement change in Mega watts at the Royster facility and what increase or decrease in pollutants is expected due to this electrical power requirement change?
14. Submit addition information regarding type and rational of computer air analysis performed , the actual computer output sheet and assumption made in the analysis.

If there are any question or comments on this letter please don't hesitate to call me at Suncom 542-1408. Please advise if any meeting on this subject as this office would like to participate.

Very Truly Yours



Rob Baum P.E.

RAB/rab

xc: R. Alonso
B. Priesmeyer
J. Bruens
Bill Thomas , DER Tampa
File

PM

File Copy

12-22-89

Bradenton, FL



STATE OF FLORIDA

DEPARTMENT OF HEALTH AND REHABILITATIVE SERVICES

December 22, 1989

DEC 26 1989

Teresa Heron, Air Permitting Engineer
Department of Environment Regulation
2600 Blair Stone Rd
Tallahassee, Florida 32399-2400

DER-BAQM

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HRS MANATEE COUNTY PUBLIC HEALTH UNIT
410 SIXTH AVENUE EAST, BRADENTON, FLORIDA 34208-1986

(813) 748-0666

BOB MARTINEZ, GOVERNOR

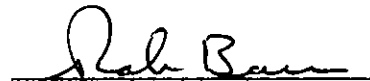
GREGORY L. COLER, SECRETARY

Page #2

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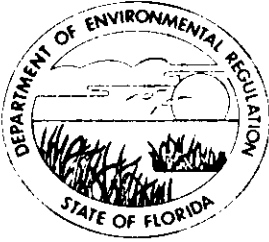
Very Truly Yours



Rob Baum P.E.

RAB/rab

xc: R Alonso
B.Priesmeyer
J.Bruens
Bill Thomas , DER Tampa
File
BT/JP
Teresa Hevon }
Barry Andrews } 12-26-89 AQ
Cleve Holladay }



Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Bob Martinez, Governor

Dale Twachtmann, Secretary

John Shearer, Assistant Secretary

December 6, 1989

Mr. Wayne Aronson, Chief
Program Support Section
U.S. EPA, Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Dear Mr. Aronson:

RE: Royster Phosphates, Inc.
Manatee County
PSD-FL-144

Enclosed for your review and comment is the above referenced PSD permit application. If you have any comments or questions, please contact John Reynolds, Barry Andrews, or Cleve Holladay at the above address or at (904)488-1344.

Sincerely,

Patricia G. Adams

Patricia G. Adams
Planner
Bureau of Air Regulation

/pa

Enclosure