

Royster

June 19, 1984

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JUN 21 1984

BAQM

Mr. Clair Fancy, P.E., Deputy Chief
Bureau of Air Quality Management
F.D.E.R.
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301-8241

Dear Mr. Fancy:

The increase in sulfuric acid production which Royster Company is contemplating with the planned revisions will not significantly change the processing of P_2O_5 in the phosphoric acid plant. Attached are data and calculations which illustrate this.

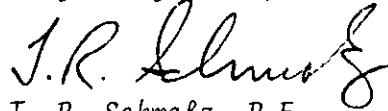
Royster has purchased supplemental sulfuric acid for P_2O_5 processing at varying quantities in past years. Market requirements have most generally controlled the requirement, however, sulfuric acid plant performance has in some cases been the controlling factor. As can be seen from the data and calculations there will not be a requirement for PSD review since emissions from the phosphoric acid plant will not increase by 3TPV.

The modifications planned for the phosphoric acid plant are not to increase production of P_2O_5 but to conserve steam. The modification is to convert the plant from a Prayon dihydrate to a Fisions hemi-hydrate type plant with approximately the same or even less potential P_2O_5 processing capacity. Essentially this is to be accomplished with existing equipment rearranged in flow lines and by changing the plant process control parameters of concentrations and temperature.

The only new equipment planned that would require permitting is an additional attack section scrubber. Design of this scrubber by the engineering/construct firm has at this time not been accomplished. As a matter of fact there has not been a contractual commitment made for the plant conversion. The design is to be based on the new source standards for phosphoric acid plants. As soon as we have the scrubber design, an application for a Permit to Construct will be submitted.

If you have further questions or need clarification of any of the data presented please contact me.

Very truly yours,

A handwritten signature in cursive script, appearing to read "T. R. Schmalz".

T. R. Schmalz, P.E.
Manager of Engineering and
Environmental Services

TRS:sk

cc: R. W. Heinz
R. T. Van Arsdall
Bill Thomas
John Koogler
File

6/12/84
TR3

H₂SO₄ CONSUMPTION - FIVE YEAR HISTORY

FISCAL YEAR	PRODUCTION SHORT T.	PURCHASED S.T.	TOTAL USED S.T.
'80	439 858	27 649	467 507
81	423 439	40 612	464 051
82	452 641	6 202	458 843
83	427 640	5 384	433 024
'84	490,000*	12 264	502 264

* ACTUAL THROUGH JUNE 7: 462,253 ADDITIONAL 30,000 T PROJECTED FOR BALANCE OF YEAR.

HISTORICAL ACID CONSUMPTION: 2.74 T H₂SO₄ / T P₂O₅ REC.

OPERATING FACTOR: 96% } H₂SO₄ PLANT

OPERATING DAYS / YR: 350 ± }

FOR 1984 FISCAL

$$\frac{502,264 \text{ T. H}_2\text{SO}_4}{2.74 \text{ T H}_2\text{SO}_4 / \text{T P}_2\text{O}_5} = 183,308 \text{ T. P}_2\text{O}_5 \text{ REC.}$$

PHOS. ACID PLANT RECOVERY: $\approx 90\%$

$$183,308 / .90 = 203,675 \text{ P}_2\text{O}_5 \text{ IN POT}$$

6/12/84
TRS

$$1600 \text{ TPD} \times 350 \times 0.96 = 537,600 \text{ TPY } \text{H}_2\text{SO}_4$$

$$\frac{537,600}{2.74} = 196,204 / .90 = 218,000 \text{ TPY } \text{P}_2\text{O}_5 \text{ IN}$$

$$218,000 - 203,675 = 14,330 \text{ TPY } \text{P}_2\text{O}_5$$

POTENTIAL INCREASE

PRESENT LEVELS OF F EMISSION: $\approx 0.01 \frac{\# \text{ F}}{\text{T } \text{P}_2\text{O}_5 \text{ INPUT}}$

POTENTIAL EMISSIONS INCREASE: $\frac{14,330 \times 0.01}{2000} = .07 \text{ TONS}$

WELL BELOW THE 3 TPY SIGNIFICANT EMISSION RATE OF F.A.C. 17-2.500.

BASED ON NEW SOURCE STANDARD OF $0.02 \frac{\# \text{ F}}{\text{T } \text{P}_2\text{O}_5 \text{ IN}}$

POTENTIAL EMISSIONS INCREASE:

$$(218,000 \times 0.02) - (203,675 \times 0.01) / 2000 = 1.16 \frac{\text{TPY}}{\text{F/T } \text{P}_2\text{O}_5}$$

POTENTIAL EMISSIONS INCREASE EVEN IF EMISSIONS REGRESS TO NEW SOURCE STANDARDS, STILL LESS THAN SIGNIFICANT EMISSION RATE.

COMPLIANCE	lbF/hr	max rate T/D TESTS	T/D FOR	T/D PAP	lbF/TRG	*Annual Operations Report lbF/TRG
80	0.141	2100	651	27.1	0.005	0.009
	0.104	1898	588	24.5	0.004	
81	0.213	2099	651	27.1	0.008	0.011
	0.155	2100	651	27.1	0.006	
82	0.116	2100	651	27.1	0.006	0.007
	0.10647	1898	588	24.5	0.003	
83	0.215	1917	594	24.8	0.009	0.006
	0.123	1860	577	24.0	0.005	

New Source

0.02 lbF/TRG

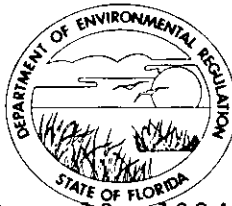
6/12/84
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* VALUE BASED ON AVERAGE OF ALL TESTS (BASICALLY MONTHLY) PERFORMED DURING THE YEAR.

file

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241



BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

June 13, 1984

Mr. T. R. Schmalz
Royster Company
Post Office Drawer 797
Mulberry, Florida 33860


Dear Mr. Schmalz:

Confirming the June 11 conversation you had with Willard Hanks, the Department believes the proposed modifications to Royster's phosphoric acid plant will require a permit to construct. If the actual emissions of fluoride increase by more than 3 TPY, the source will be subject to Prevention of Significant Deterioration (PSD) regulations. The increased sulfuric acid production from the modified sulfuric acid plant cannot be used in Royster's existing phosphoric acid plant until all permitting requirements are complied with.

We request you send a description of Royster's plans that involve construction or operation of any existing or proposed phosphate plant operation. Include the actual, permitted and proposed emissions of any criteria air pollutants and fluorides from the sources. With this information, the department will be able to tell Royster which units will need construction permits and what air pollution control regulations they will be subject to.

If you have any questions on this matter, please call Willard Hanks at 904/488-1344.

Sincerely,


Clair Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

WH/agh


cc: Bill Thomas
John Koogler


State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices And/Or To Other Than The Addressee		
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
To: _____	Loctn.: _____	
From: _____	Date: _____	
Reply Optional []	Reply Required []	Info. Only []
Date Due: _____	Date Due: _____	

TO: Clair Fancy

THROUGH: Bill Thomas, SW District 

FROM: Bob Garrett, SW District 

DATE: June 12, 1984

SUBJECT: Comments on Royster Phosphates, Sulfuric Acid Plant Expansion Program

Over the past 10 years Royster has increased their original 900 TPD to 1100 TPD H_2SO_4 production. Mr. Thomas is concerned about the effects of the use of this extra H_2SO_4 acid. It is to be used to manufacture more phosphoric acid and is this to be used to manufacture more DAP, etc? This could possibly trigger NSR for fluorides on these other activities without their knowledge.

We recommend asking the source about their intentions at this point, and, as Mr. Thomas pointed out, to find out what other expansions of this sort will do such as USS Agrico's sulfuric acid production increase.

RGG/scm

DEPARTMENT OF ENVIRONMENTAL REGULATION

ROUTING AND TRANSMITTAL SLIP

ACTION NO

ACTION DUE DATE

1. TO: (NAME, OFFICE, LOCATION)

Clare Fancey
Willard 6/19

Initial

Date

Initial

Date

Initial

Date

Initial

Date

3.

4.

REMARKS:

What do you think about this?

INFORMATION

Review & Return

Review & File

Initial & Forward

DISPOSITION

Review & Respond

Prepare Response

For My Signature

For Your Signature

Let's Discuss

Set Up Meeting

Investigate & Report

Initial & Forward

Distribute

Concurrence

For Processing

Initial & Return

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JUN 18 1984

6-19-84 BAQM

On 6/14/84 letter (attached) addressed this situation, please return.

FROM:

DATE

PHONE

Royster

June 8, 1984

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Mr. C. H. Fancy, P.E., Deputy Chief
Bureau of Air Quality Management
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blairstone Road
Tallahassee, Florida 32301-8241

Dear Mr. Fancy:

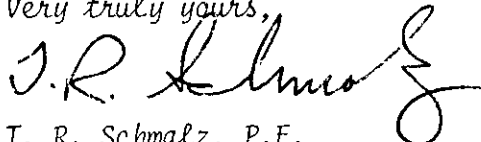
Pursuant to your letter of May 24, 1984 we wish to inform you that Items A. through E. of your letter of May 2, 1984 are to be addressed by the environmental consulting firm of Sholtes and Koogler with whom you are acquainted.

In the meanwhile in order to expedite our field construction schedule which requires commencement this summer we would request that some form of permission to proceed with construction be issued by the D.E.R. This could be as a Permit to Construct with conditions not to operate at the higher rates until completion of the PSD review or it could be as a letter.

In any event construction work directly on the existing plant would not be performed until that time when all of the new equipment is in place. At that time there will be a plant shut-down with tie-ins made between the existing and new equipment. This tie-in period is scheduled for the summer of 1985 and to be of three-four week duration. In one sense it could be said that no construction work on the existing plant is to be done until that tie-in period to occur a year hence.

Please let me know your position regarding this at your earliest convenience.

Very truly yours,



T. R. Schmalz, P.E.
Manager, Engineering &
Environmental Services

cc: R. T. Van Arsdall
R. W. Heinz
John B. Koogler
Bill Thomas - DER, Tampa