GRACE

Agricultural Chemicals Group

W. R. Grace & Co.
P.O. Box 471
Bartow, Florida 33830

(813) 533-2171

February 6, 1979

Mr. P. David Puchaty, P.E.
District Manager
Department of Environmental Regulation
Southwest District Office
7601 Highway 301, North
Tampa, Florida 33601

RE: B.A.C.T. FOR H_2SO_4 PLANTS

Dear Mr. Puchaty:

We enclose herewith four sets of Application for Determination of Best Available Control Technology for proposed sulfuric acid plants Nos. 7 and 8.

Our Plants Nos. 4, 5 and 6 are of the same size as the proposed expansion, and are equipped with the same double (SO_2) absorption system. Their emissions have been well within the range required by your Department's Rules & Regulations.

We further enclose a copy of the summary of E.P.A.'s draft of "Review of Standards" for new sulfuric acid plants, dated December 8, 1978, as well as a copy of Drs. Sholtes & Koogler's report entitled "Ambient Air Sulfur Dioxide Monitoring Network" at W. R. Grace & Co., and covering twelve months between January 1977 and January 1978.

It is apparent from the enclosed study that the SO_2 levels in our area are well below DER standards and that the proposed expansion of our sulfuric acid complex will therefore not affect them adversely.

We hope the above meets with your approval, and would be glad to provide you with any further data you might require.

Sincerely,

W. R. GRACE & CO.
Agricultural Chemicals Group

M. J. Martinasek
Sr. Project Engineer
Air & Water Quality Control

GRACE

Agricultural Chemicals Group

W. R. Grace & Co.
P.O. Box 471
Bartow, Florida 33830

(813) 533-2171

February 7, 1979

Mr. Dan Williams
Department of Environmental Regulation
7601 Highway 301, North
Tampa, Florida 33610

RE: PREVENTION OF SIGNIFICENT DEGRADATION PERMIT

Dear Dan:

As your suggestion, we are submitting the following material as our application for a PSD permit for our proposed chemical plant expansion:

1. Applications for Determination of Best Available Control Technology for the #7 and #8 Sulfuric Acid Plants and for #6 Phosphoric Acid Plant;

2. Applications to Construct/Operate the above named plants with a brief description of the project;

3. Air Data:

   (a) a report for a one-year SO_2 monitoring study done for Grace by Sholtes and Koogler as required by the D.E.R.; these were 24 hour composites taken at 6-day intervals;

   (b) the work-sheets and results of 5 stack tests (E.P.A. method) to determine the level of particulate emissions from the new installed #5 Phosphoric Acid Plant;

   (c) a brief description of the relevent air pollutants and their anticipated effect on the ambient air levels;

4. For your information, a copy of a recent letter from E.P.A., Atlanta, indicating they would be satisfied with a one-station monitor to collect six months of continuous data for SO_2;

5. Two marked aerial photographs:

a) proposed expanded gyp storage and cooling pond areas,

b) site of chemical plant expansion.

If, after you have studies the enclosed data, any further information is required, we will certainly attempt to supply it; if a meeting is indicated, please let us know the time and place.

Sincerely,

W. R. GRACE & CO.
Agricultural Chemicals Group

Mike Altenburger

M. J. Altenburger
Superintendent
Air & Water Quality Control

MJA:db

Enclosures

cc: J. R. Terry
A. F. Vondrasek
Dan Stephens

GRACE

Agricultural Chemicals Group

W. R. Grace & Co.
P.O. Box 471
Bartow, Florida 33830

(813) 533-2171

December 7, 1978

CHEMICAL PLANT EXPANSION - P. S. D.

2 - 1600 TPD Sulfuric Acid Plants

1 - 1200 TPD Wet Process Phosphoric Acid Plant with Wet-Rock Grinding

Air Emissions

SO_2 - from proposed sulfuric acid plants.

Both sulfuric acid plants will utilize the Monsanto process of double absorption to meet New Source Performance Standards; this process maximizes the conversion of SO_2 to SO_3 from elemental sulfur and is an intigral part of the plant design. Viewed in that light, the controlled and uncontrolled emissions are indentical.

In either case, the emissions will exceed 250 TPY limitation.

Attached is another copy of a report of a one-year study done for Grace by Sholtes and Koogler as required by the Florida D.E.R.; these were 24-hour composites taken at 6-day intervals.

The results indicate an annual mean well below the secondary standard for the ambient air.

P.M. - from proposed phosphoric acid plant.

As in our latest phosphoric acid plant, a packed cross-flow scrubber will be used to control fluoride emissions to meet New Source Performance Standards; this would also control possible particulate emissions.

Since there are no particulate emission standards from phosphoric acid plants, no controlled or uncontrolled emission data was available (from the E.P.A. Publication #AP-42); for this reason, Grace ran 5 stack tests on their latest plant using the appropriate E.P.A. method.

The attached summary sheet shows an average emission rate of 56.6#/ day; this low emission rate is reasonable since wet-rock grinding is employed and no dust is generated.

Fluorides - from proposed phosphoric acid plant.

A packed cross-flow scrubber will be used to meet New Source Performance Standards of 0.02#/ton P_2O_5 input or 26.0#/day.

The uncontrolled emissions are estimated to be 23,500#/day based on E.P.A. Publication #A.P.-42.

There are no ambient air standards for fluorides in Florida or Polk County.

GRACE

Agricultural Chemicals Group

W. R. Grace & Co.
P.O. Box 471
Bartow, Florida 33830

(813) 533-2171

December 6, 1978

PROPOSED CHEMICAL PLANT EXPANSION
(Present N.P.D.E.S. Permit #FL-0001589)

Sulfuric Acid Plants:

2 x 16000 TPD plants - Monsanto design utilizing the double-absorption technique to achieve New Source Performance Standards

Phosphoric Acid Plant:

1 x 1200 TPD P_2O_5 plant - wet process, wet-rock grinding utilizing the Davy-Prayon multi-tank attach system

As in our most recent phosphoric acid plant, a packed cross-flow scrubber will be used to achieve New Source Performance Standards.

General:

As shown on the attached aerial photos, the expansion plants will be constructed in the immediate vincinity of the existing plants which have a combined design capacity of 2100 TPD of P_2O_5 and 5800 TPD of H_2SO_4.

The present gypsum disposal area will be increased by including an additional 200 acres adjacent to the existing disposal area located south of Highway 60:

To minimize the necessity for treating and discharging process water, an additional 125 acres north of Highway 60 will be incorporated into the cooling-evaporation system.

Since the non-process water generated by these plants will be utilized in the wet-rock grinding system, there will be no "new, different, or increased discharges of pollutants."

JAN 23 1979

REF: 4AH-AP

Mr. Michael J. Altenburger
Superintendent Air and Water Quality
W. R. Grace and Company
P. O. Box 471
Bartow, Florida 33830

Dear Mr. Altenburger:

We have reviewed the monitoring study performed by Sholtes and Koogler and require the following additional information:

1) Data used (i.e. modelling) to site the SO_2 monitors.

2) Quality assurance procedures followed.

3) Six months of continuous monitoring data for sulfur dioxide at a station which represents background from other major sources in the area.

4) Copies of stack tests for particulate emissions from the phosphoric acid plant.

5) Please complete site information forms and Air Pollution Emissions Report or submit the State of Florida Department of Environmental Regulation's Application to Operate/ Construct Air Pollution Sources.

If you have any questions concerning our request, please contact me or Mr. Eliot Cooper of my staff.

Sincerely yours,

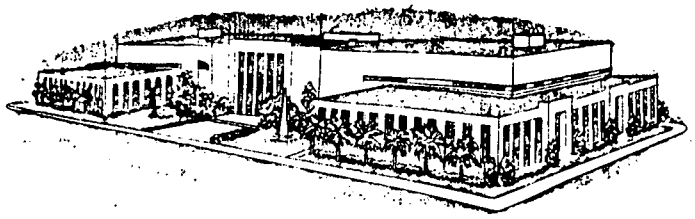
Winston A. Smith

Winston A. Smith, Chief
Air Programs Branch

Enclosures

cc: Dr. J. P. Subramani
Florida Department of Environmental
Regulation

☆ U.S. GOVERNMENT PRINTING OFFICE: 1978 — 746-732/1304



COUNTY OF HILLSBOROUGH

MEMORANDUM

March 13, 1979

To Victoria Martinez

From Joe Griffiths, Env. Prot. Comm JG

Subject: BACT Determination - Sulphuric Acid Plant

It seems that since a new source performance standard for sulphuric acid plants exist that there is little reason to attempt to determine a best available control technology considering double absorption is virtuallly the best method available. However, if we were concerned with a lowest achievable emission rate then this would merit a stricter standard.

I am not aware of control equipment capable of achieving a lower emission rate considering economics, which must be considered when determining BACT, and therefore recommend 4.0 lbs/ton of 100% H_2SO_4 for SO_2 and 0.15 lbs/ton of 100% H_2SO_4 for acid mist as the limit with a double absprption system as the control device.

I do have a question concerning placement of the monitors for the ambient air program and would like the justification used for site selections. I also hope that W. R. Grace will be required to keep at least one ambient SO_2 monitor in operation after construction of the facility, and perhaps station No. 2 would be the one to keep. One monitor placed in a suspected 'hot spot' would be wise considering the amount of SO_2 and acid mist being released in Polk County and the fact that electric power companies will be returning to higher sulfur fuels.

JG/fd

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:

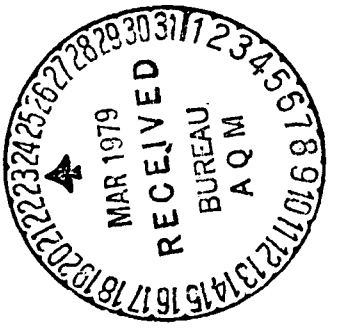
ST. JOHNS RIVER SUBDISTRICT - JACKSONVILLE

TO: Victoria Martinez

FROM: John Ketteringham

DATE: March 21, 1979

SUBJECT: BACT Determination - W. R. Grace & Company
Sulfuric Acid Plants; Nos. 7 and 8



Reference your I.O.M., March 1, 1979:

The documentation is adequate and the proposed project appears to comply with Chapter 17-2.05 6 B (1)(b), although visible emissions are not addressed.

We concur that the application sets forth systems and equipment that are considered Best Available Control Technology in accordance with Chapter 17-2.03 F.A.C. and appear to meet standards of performance for new stationary sources.

We note that the engineer of record is not identified, form PERM 12-2 requires no signature and there is no transmittal letter.

JK:hd

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:

TO: J.P. Subramani

ATTN: Victoria Martinez

THRU: Dan A. Williams DAWilliams

FROM: Robert R. Garrett RRGarrett

DATE: March 28, 1979

SUBJECT: W.R. Grace and Co. BACT

The application is for two sulfuric acid plants with a combined process rate of 5800 tons per day of 100% sulfuric acid.

FAC 17-2.05 (6)B(2) addresses new sufluric acid plants and limits acid mist to 0.15 lbs and SO_2 to 4 lbs per ton of 100% H_2SO_4. Plume opacity is limited to 10%.

The S.W. District has 3 types of controls for these plants which are currently in operation. Lime rock scrubbers, ammonia scrubbers, and double contact/double absorption units. The new plants all use the DC/DA process which easily meets the NSPS emission limits. Graces' application is for this type of control strategy.

Stack test results show a range of 1.16 lbs/ton of H_2SO_4 for the newer plants to nearly 4 lbs/ton for the older plants not under NSPS regulations. Acid mists range from 0.03 to 0.08 lbs/ton H_2SO_4. With proper demisting opacities are usually 0%. The NSPS of FAC 17-2 limits, I feel are reasonably restrictive and should be adopted as BACT.

Although EPA's 340/1-77-008 manual of "Sulfuric Acid Plants" mentioned a molecular sieve as a variable control device, our district has had one example proving it to be a total failure.

I recommend the double contact/double adsorption process with a quality demister be used as BACT for H_2SO_4 plants and the new source performance standards as set forth in 17-2.05 (6)B(2) be adopted as reasonable emission limits.

RRG/ln

3/29/79

H6 - Rev 7/76

12.17.14

CABLE:
PHOSPHATE
LAKELAND, FLORIDA

GORDON F. PALM
& ASSOCIATES
CONSULTING CHEMICAL ENGINEERS
LAKELAND, FLORIDA
33803

602 SCHOOLHOUSE ROAD
POST O. BOX 320

APRIL 2, 1979

MS. VICTORIA MARTINEZ
BACT COORDINATOR
STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION
TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301

PN-5300
LETTER NO. 79-1

SUBJECT: STUDY GROUP - BACT APPLICATION
BEST AVAILABLE CONTROL TECHNOLOGY (BACT) FOR W. R. GRACE & CO.,
SULFURIC ACID PLANTS NOS. 7 & 8

DEAR MS. MARTINEZ:

ON MARCH 8, 1979, I RECEIVED THE W. R. GRACE & CO. APPLICATIONS FOR DETERMINATION OF BACT AND FOR CONSTRUCTION OF AN AIR POLLUTION SOURCE DATED JANUARY 29, 1979. THESE HAVE BEEN REVIEWED AND MY COMMENTS ARE PRESENTED BELOW.

W. R. GRACE & CO. PROPOSES TO INSTALL TWO MONSANTO ENVIRO-CHEM SYSTEMS, INC. DOUBLE ABSORPTION SULFURIC ACID PLANTS WITH HIGH EFFICIENCY MIST ELIMINATORS. THESE PLANTS ARE DESIGNED TO EMIT NOT MORE THAN 4 LBS. SO_2/TON 100% H_2SO_4, AND 0.15 LBS. ACID MIST/TON OF 100% H_2SO_4, WHICH COMPLIES WITH THE STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES PROMULGATED DECEMBER 16, 1971, AS PUBLISHED IN THE FEDERAL REGISTER, VOL. 36, NO. 247, THURSDAY, DECEMBER 23, 1971, UNDER PART 60, CHAPTER I, TITLE 40 CODE OF FEDERAL REGULATIONS, SUB-PART H.

IT IS ALSO PROPOSED TO INSTALL A DU PONT CONTINUOUSLY MONITORING AND RECORDING INSTRUMENT TO MEASURE AND RECORD SULFUR DIOXIDE EMISSIONS AS REQUIRED BY THE ABOVE REGULATION.

IN THE FEDERAL REGISTER VOL. 44, NO. 52, THURSDAY, MARCH 15, 1979, ON PGS. 15742, 15743, "NEW STATIONARY SOURCES: SULFURIC ACID PLANTS - REVIEW OF PERFORMANCE STANDARDS", EPA CONCLUDED, AFTER A REVIEW OF ACTUAL EMISSIONS FROM 29 DUAL ABSORPTION SULFURIC ACID PLANTS WITH HIGH EFFICIENCY MIST ELIMINATORS, THAT IT DOES NOT APPEAR NECESSARY OR APPROPRIATE TO REVISE THE PRESENT STANDARD OF PERFORMANCE UNDER SECTION 111 OF THE CLEAN AIR ACT. THIS REVIEW OF STANDARDS ALSO STATES THAT THE DUAL ABSORPTION SULFURIC ACID PROCESS IS THE BEST DEMONSTRATED CONTROL TECHNOLOGY FOR SO_2 EMISSIONS, AND THAT THE HIGH EFFICIENCY MIST ELIMINATOR IS THE BEST DEMONSTRATED CONTROL TECHNOLOGY FOR ACID MIST EMISSIONS.

A FEW YEARS AGO, ONE OF MY CLIENTS CONSTRUCTED TWO SULFURIC ACID PLANTS USING THE DOUBLE ABSORPTION PROCESS AND HIGH EFFICIENCY ACID MIST ELIMINATORS. IN MY CAPACITY AS PROFESSIONAL ENGINEER OF RECORD, THE STACK TEST RESULTS FROM THESE 2 PLANTS WERE REVIEWED, TOGETHER WITH PRODUCTION DATA, AND THESE PLANTS WERE CERTIFIED BY ME AS MEETING ALL FEDERAL AND STATE OF FLORIDA AIR EMISSION STANDARDS AND RULES.

IN MY OPINION, THE SULFURIC ACID PLANT DESIGNS PROPOSED TO BE CONSTRUCTED BY W. R. GRACE & CO. REPRESENT THE USE OF THE BEST AVAILABLE CONTROL TECHNOLOGY. TO MY KNOWLEDGE, OTHER CONTROL TECHNOLOGY WHICH WOULD REDUCE SO_2 AND ACID MIST EMISSIONS BELOW THOSE PROPOSED IS NOT AVAILABLE.

THE OPPORTUNITY TO PARTICIPATE IN THIS BACT STUDY GROUP IS GREATLY APPRECIATED. PLEASE CALL AT YOUR CONVENIENCE SHOULD YOU HAVE ANY QUESTIONS.

SINCERELY YOURS,

GORDON F. PALM, P. E.

cc: MR. ROBERT GARRETT
DISTRICT ENGINEER
DER
SOUTHWEST DISTRICT OFFICE
7601 U. S. HIGHWAY 301 NORTH
TAMPA, FLORIDA 33610

PHOSPHATE
LAKELAND, FLORIDA

GORDON F. PALM
& ASSOCIATES
LAKELAND FLORIDA

602 SCHOOLHOUSE ROAD

April 2, 1979

Ms. Victoria Martinez
BACT Coordinator
State of Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

PN-5300
Letter No. 79-1

Subject: Study Group - BACT Application
Best Available Control Technology (BACT) for W. R. Grace & Co.,
Sulfuric Acid Plants Nos. 7 & 8

Dear Ms. Martinez:

On March 8, 1979, I received the W. R. Grace & Co. applications for Determination of BACT and for Construction of an Air Pollution Source dated January 29, 1979. These have been reviewed and my comments are presented below.

W. R. Grace & Co. proposes to install two Monsanto Enviro-Chem Systems, Inc. double absorption sulfuric acid plants with high efficiency mist eliminators. These plants are designed to emit not more than 4 lbs. SO_2/ton 100% H_2SO_4, and 0.15 lbs. acid mist/ton of 100% H_2SO_4, which complies with the standards of performance for new stationary sources promulgated December 16, 1971, as published in the Federal Register, Vol. 36, No. 247, Thursday, December 23, 1971, under Part 60, Chapter I, Title 40 Code of Federal Regulations, Sub-Part H.

It is also proposed to install a Du Pont continuously monitoring and recording instrument to measure and record sulfur dioxide emissions as required by the above regulation.

In the Federal Register Vol. 44, No. 52, Thursday, March 15, 1979, on pgs. 15742, 15743, "New Stationary Sources: Sulfuric Acid Plants - Review of Performance Standards", EPA concluded, after a review of actual emissions from 29 dual absorption sulfuric acid plants with high efficiency mist eliminators, that it does not appear necessary or appropriate to revise the present standard of performance under Section 111 of the Clean Air Act. This review of standards also states that the dual absorption sulfuric acid process is the Best Demonstrated Control Technology for SO_2 emissions, and that the high efficiency mist eliminator is the Best Demonstrated Control Technology for acid mist emissions.

A few years ago, one of my clients constructed two sulfuric acid plants using the double absorption process and high efficiency acid mist eliminators. In my capacity as Professional Engineer of Record, the stack test results from these 2 plants were reviewed, together with production data, and these plants were certified by me as meeting all Federal and State of Florida air emission standards and rules.

Specializing in Phosphate Chemicals

IN MY OPINION, THE SULFURIC ACID PLANT DESIGNS PROPOSED TO BE CONSTRUCTED BY W. R. GRACE & CO. REPRESENT THE USE OF THE BEST AVAILABLE CONTROL TECHNOLOGY. TO MY KNOWLEDGE, OTHER CONTROL TECHNOLOGY WHICH WOULD REDUCE SO_2 AND ACID MIST EMISSIONS BELOW THOSE PROPOSED IS NOT AVAILABLE.

THE OPPORTUNITY TO PARTICIPATE IN THIS BACT STUDY GROUP IS GREATLY APPRECIATED. PLEASE CALL AT YOUR CONVENIENCE SHOULD YOU HAVE ANY QUESTIONS.

SINCERELY YOURS,

Gordon Palm

GORDON F. PALM, P.E.

CC: MR. ROBERT GARRETT
DISTRICT ENGINEER
DER
SOUTHWEST DISTRICT OFFICE
7601 U. S. HIGHWAY 301 NORTH
TAMPA, FLORIDA 33610

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:

Dept. Of Environmental Regulation
RECEIVED
APR 10 1979
OFFICE OF SECRETARY

TO: Jacob D. Varn,
Secretary

FROM: J. P. Subramani, Chief
Bureau of Air Quality Management

DATE: April 10, 1979

SUBJECT: Best Available Control Technology (BACT) Application for W. R. Grace & Company Sulfuric Acid Plants No. 7 and No. 8, to be located in Polk County

Facility: Two identical double absorption sulfuric acid plants with a combined process input rate of 5760 tons/day of sulfur. The sulfuric acid will be used in the production of phosphoric acid.

BACT Determination Requested by the Applicant:

Pollutant	Concentration
SO_2	3 - 4 #/ton attainable with a double absorption system
Sulfuric Acid Mist	0.09 - 0.15 #/tons

Date of Receipt of a Complete BACT Application:

February 9, 1979

Date of Publication in the Florida Administrative Weekly:

March 2, 1979

Date of Publication in a Newspaper of General Circulation:

March 15, 1979, The Lakeland Ledger

BACT Determination by the Florida Department of Environmental Regulation:

SO_2	Emissions not to exceed 4.0 #/ton of 100% H_2SO_4/attainable with double contact/double absorption system
Sulfuric Acid Mist	Emissions not to exceed 0.15 #/ton of 100% H_2SO_4/attainable with a high efficiency demister
Opacity	Not greater than 10 percent

Justification of DER Recommendations:

There has been no significant technological improvements since December, 1978 when EPA reviewed its NSPS for this type of source. Although lower emissions than NSPS are attainable, the selection of NSPS as BACT allows for the normal decrease in efficiency with the passage of time.

Details of the Analysis May be Obtained by Contacting:

Victoria Martinez, BACT Coordinator
Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Twin Towers Office Building
Tallahassee, Florida 32301

Recommendation from: Bureau of Air Quality Management

By: J P Subramani
J. P. Subramani

Date: APRIL 10, 1979

Approved by: Jacob D. Varn
Jacob D. Varn
Secretary

Date: 16 APRIL 1979

JDV/es

Attachment

EPA's New Source Performance Standards (NSPS) for Sulfuric Acid Mist:

Pollutant	Rate of Concentration
SO_2	4.0 #/ton of 100% H_2SO_4
Sulfuric Acid Mist	0.15 #/ton of 100% H_2SO_4

Study Group Members:

Daniel A. Williams/
Robert R. Garrett, DER Southwest District, Tampa;
Joseph Griffiths, Environmental Protection Commission, Hillsborough County, Tampa;
John Symes, DER Bureau of Air Quality Management, Tallahassee;
John Ketteringham, DER St. Johns River Subdistrict, Jacksonville;
Gordon F. Palm, Palm and Associates, Inc., Lakeland

Study Group Recommendations:

Members	Emission Limitations			
	SO_2	Opacity	Sulfuric Acid Mist	
Joseph Griffiths	NSPS		NSPS	At least one ambient monitor should be required after construction of the facility.
John Ketteringham	NSPS		NSPS	
John Symes	NSPS	Not greater than 10%	NSPS	
Gordon Palm	NSPS		NSPS	Double contact/ double absorption with a quality demister
Daniel Williams	NSPS	Not greater than 10%	NSPS	Double contact/ double absorption with a quality demister

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:

TO: District Managers,
ATTN: Air Engineers and Local Programs

FROM: Victoria Martinez

DATE: April 23, 1979

SUBJECT: Best Available Control Technology (BACT) Pursuant to 17-2.03 F.A.C.

Attached for your information, is a copy of the BACT Determination by the Department on Sulfuric Acid Plants No. 7 and No. 8 to be located in Polk County: W. R. Grace & Company: the control technology established by the BACT determination is as follows:

SO_2	Emissions not to exceed 4.0 #/ton of 100% H_2SO_4/attainable with double contact/double absorption system
Sulfuric Acid Mist	Emissions not to exceed 0.15 #/ton of 100% H_2SO_4/attainable with a high efficiency demister
Opacity	Not greater than 10 percent

Information regarding the determination may be obtained by writing Victoria Martinez, Department of Environmental Regulation, 2600 Blair Stone Road, Tallahassee, Florida 32301

VM/es

Attachment
cc: Jim Estler

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:

Dept. Of Environmental Regulation
RECEIVED
APR 10 1979
OFFICE OF SECRETARY

TO: Jacob D. Varn,
Secretary

FROM: J. P. Subramani, Chief
Bureau of Air Quality Management

DATE: April 10, 1979

SUBJECT: Best Available Control Technology (BACT) Application for W. R. Grace & Company Sulfuric Acid Plants No. 7 and No. 8, to be located in Polk County

Facility: Two identical double absorption sulfuric acid plants with a combined process input rate of 5760 tons/day of sulfur. The sulfuric acid will be used in the production of phosphoric acid.

BACT Determination Requested by the Applicant:

Pollutant	Concentration
SO_2	3 - 4 #/ton attainable with a double absorption system
Sulfuric Acid Mist	0.09 - 0.15 #/tons

Date of Receipt of a Complete BACT Application:

February 9, 1979

Date of Publication in the Florida Administrative Weekly:

March 2, 1979

Date of Publication in a Newspaper of General Circulation:

March 15, 1979, The Lakeland Ledger

EPA's New Source Performance Standards (NSPS) for Sulfuric Acid Mist:

Pollutant	Rate of Concentration
SO_2	4.0 #/ton of 100% H_2SO_4
Sulfuric Acid Mist	0.15 #/ton of 100% H_2SO_4

Study Group Members:

Daniel A. Williams/
Robert R. Garrett, DER Southwest District, Tampa;
Joseph Griffiths, Environmental Protection Commission, Hillsborough County, Tampa;
John Symes, DER Bureau of Air Quality Management, Tallahassee;
John Ketteringham, DER St. Johns River Subdistrict, Jacksonville;
Gordon F. Palm, Palm and Associates, Inc., Lakeland

Study Group Recommendations:

Members	Emission Limitations			
	SO_2	Opacity	Sulfuric Acid Mist	
Joseph Griffiths	NSPS		NSPS	At least one ambient monitor should be required after construction of the facility.
John Ketteringham	NSPS		NSPS	
John Symes	NSPS	Not greater than 10%	NSPS	
Gordon Palm	NSPS		NSPS	Double contact/ double absorption with a quality demister
Daniel Williams	NSPS	Not greater than 10%	NSPS	Double contact/ double absorption with a quality demister

BACT Determination by the Florida Department of Environmental Regulation:

SO_2	Emissions not to exceed 4.0 #/ton of 100% H_2SO_4/attainable with double contact/double absorption system
Sulfuric Acid Mist	Emissions not to exceed 0.15 #/ton of 100% H_2SO_4/attainable with a high efficiency demister
Opacity	Not greater than 10 percent

Justification of DER Recommendations:

There has been no significant technological improvements since December, 1978 when EPA reviewed its NSPS for this type of source. Although lower emissions than NSPS are attainable, the selection of NSPS as BACT allows for the normal decrease in efficiency with the passage of time.

Details of the Analysis May be Obtained by Contacting:

Victoria Martinez, BACT Coordinator
Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Twin Towers Office Building
Tallahassee, Florida 32301

Recommendation from: Bureau of Air Quality Management

By: J P Subramani
J. P. Subramani

Date: APRIL 10, 1979

Approved by: Jacob D. Varn
Jacob D. Varn
Secretary

Date: 16 APRIL 1979

JDV/es

Attachment

7601 HIGHWAY 301 NORTH
TAMPA, FLORIDA 33610

BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

DAVID PUCHATY
DISTRICT MANAGER

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

SOUTHWEST DISTRICT

April 24, 1979
Polk County AP
New Wales Incorporated

Mr. Thomas L. Craig
Vice President & General Manager
New Wales Chemicals, Inc.
P.O. Box 1035
Mulberry, Fla. 33860

Dear Mr. Craig:

We have received your applications for the following:

(1) 1500 TPD phosphoric acid plant
(2) 2000 TPD sulfuric acid plants
(3) 70 TPH DAP plants

The sulfuric acid and the DAP plants will require PSD (Prevent Significant Deterioration) under our rule FAC 17-2.04 for SO_2 and particulates as defined by 17-2.01 (20) as a "Major Emitting Facility". In addition, BACT (Best Available Control Technology) is required for the H_2SO_4 and the DAP plants. NSPS (New Source Performance Standards) is the only applicable rule for the phosphoric acid plant since it does not produce particulates or SO_2.

I have enclosed our new form 17-1.122(16) for your use since, as you can see, we need considerably more information. You may wish to use it for the supplemental information to the permits I already have or fill it out to replace these applications, as you wish.

The phosphoric acid application is adequate as is except we must know the projected efficiency of the scrubber system and we would like a cross sectional diagram of the scrubber itself.

When we receive this additional information we will be in a better position to answer any questions you may have.

Sincerely yours,

Robert R. Garrett

Robert R. Garrett, P.E.
Air Engineer

RRG/rkt

cc: A. L. Girardin, III
Enclosure

Ed mailed 6-19-79

LAW OFFICES
HENRY, BUCHANAN, MICK & ENGLISH, P. A.
POST OFFICE DRAWER 1049
TALLAHASSEE, FLORIDA 32302

BRYAN W. HENRY
JOHN D. BUCHANAN, JR.
ROBERT A. MICK
JAMES R. ENGLISH
J. D. BOONE KUERSTEINER

118 SOUTH MONROE STREET
TELEPHONE (904) 222-2920

June 13, 1979

Ms. Victoria Martinez
Department of Environmental
Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

RE: Best Available Control Technology (BACT) for
W. R. Grace & Company Sulfuric Acid Plants

Dear Ms. Martinez:

It would be appreciated if you would transmit a copy of the details concerning the Department's determination of Best Available Control Technology (BACT) to minimize air pollutant emissions from W. R. Grace & Company Sulfuric Acid Plants No. 7 and No. 8, to be located in Polk County.

Your assistance in this matter is appreciated.

Sincerely,

J. D. BOONE KUERSTEINER

JDBK/lhh