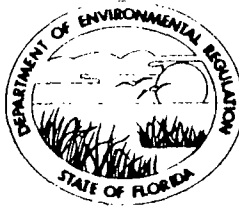


TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301



BOB GRAHAM
GOVERNOR
JACOB D. VARN
SECRETARY

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

February 8, 1980

Mr. J. R. Terry, Vice President
W. R. Grace and Company
P. O. Box 471
Bartow, Florida 33830

Dear Mr. Terry:

Your application no. AC - 24460 for construction of a diammonium phosphate plant is considered complete as of February 5, 1980 with receipt of modeling data from Dr. John Koogler.

Willard Hanks will be the review engineer for this project. He will contact your staff on any questions that arise during the detail review of the application. Final agency action in your application will be taken on or before May 2, 1980 in accordance with Chapter 120 FS.

Should you have any questions concerning the processing of your application, contact Willard Hanks at (904) 488-1344.

Sincerely,

William Thomas
Engineer
Bureau of Air Quality Management

cc: Dave Puchaty

WT:caa

State of Texas
DEPARTMENT

REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices
And/Or To Other Than The Addressee

To: _____ Locn: _____
To: _____ Locn: _____
To: _____ Locn: _____
From: _____

TO: Victoria Martinez/Willard Hanks

THRU: Dan Williams *DW*FROM: Bob Garrett *RRG*

DATE: March 5, 1980

SUBJECT: DAP Plant Histories and BACT Recommendations



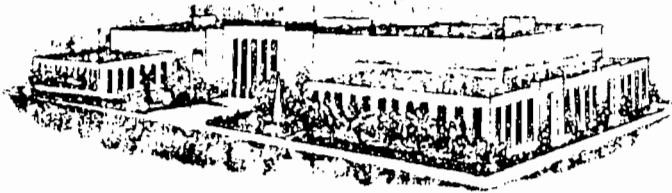
Enclosed is a tabulation of 2 years of tests from 6 DAP plants in the Bartow area representing old and relatively new plants or modifications thereto. Also, I have included information from the sources indicating the different complexities of these controls.

<u>lbs/T DAP</u>	<u>Plant</u>	<u>Permit</u>	<u>Last Test Date</u>	<u>Results lbs/hr</u>	<u>Product Rate (DAP)</u>	<u>Previous High</u>	<u>Prev. Low</u>
.135 #/Ton	Grace	AO53-6840	3/79	7.0	52 TPH	15	5.9
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Recommend a limit of 0.15 lbs. particulates/Ton of DAP product for BACT for DAP plants. We have eliminated Conserv from the averages because of their recent changes, low production and separate stack controls. Combining the others produces an average of 0.15 lb/T DAP for recent tests on a mixture of relatively new and rejuvenated old plants.

Recommend a limit of 0.06 lbs. F⁻/T P₂O₅ as the NSPS standard.

RRG/ftb



HILLSBOROUGH COUNTY



MEMORANDUM

Date March 11, 1980

To Victoria Martinez - FDER

From Joe Griffiths - Env. Prot. Comm. *JG*

Subject: BACT for DAP plants

The proposed BACT plans submitted for the three various facilities: W. R. Grace, Gardiner, New Wales; all suggest the same technology for control of air emissions. Basically, they all propose venturi scrubbers using packed towers as tail gas scrubbers with the exception of New Wales which proposes to use a baghouse for the cooler's emissions. From data gained in recent stack tests for C. F. Industries DAP plant it is apparent that particulate control is much better or should be much better than the present process weight table allows. Therefore, I propose 0.03 gr/scf as the emission limit on the wet collection devices and 0.015 gr/scf on the baghouse.

The 0.03 gr/scf limit has been achieved by the latest wet collection devices installed throughout Hillsborough County on other phosphate processes and therefore represents BACT in my opinion.

The 0.015 gr/scf limit on the baghouse has been shown to be achievable and is guaranteed by most manufacturers. Use of a baghouse on the product storage doesn't present any problem and would be very efficient; however, it appears some fluoride emissions are possible at this point and in order to ascertain the quantity an initial test for fluorides is recommended.

The emission limit for Fluorides listed in FAC 17-2 of 0.06 lbs F/ton P₂O₅ appears to be on the high side for most new plants. Data from past stack tests for other DAP plants indicates emissions lower than 0.03 lbsF/ton P₂O₅ in one case and lower than 0.02 lbsF/ton P₂O₅ in another. I therefore recommend an emission limit of 0.04 lbsF/ton P₂O₅. Since there are no emission limits for SO₂ or Ammonia there is no reason to recommend an emission level. However, I would recommend an ammonia level be established in the near future for existing and new sources of ammonia.

If you have any questions, please call.

JG/fd

State of Florida

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TO: Victoria Martinez

THRU: Steve Smallwood
Philip R. Edwards *PRE*

FROM: Tom Davis *TDS*

DATE: March 11, 1980

SUBJECT: BACT Determination - DAP Fertilizer Plants



My review of the three BACT applications indicates that all would qualify for BACT review for particulates, sulfur dioxide, and fluoride emissions (these pollutants in all applications exceed the 100 ton/yr potential criteria as listed in Chapter 17-2).

My BACT recommendation for each pollutant is as follows:

- (1) Fluorides - inasmuch as Chapter 17-2.03(1)(a) implies that NSPS should be considered as BACT, the NSPS of 0.060 lbs F/ton of P₂O₅ feed is recommended.
- (2) Sulfur Dioxide - the applications indicate there is a SO₂ removal rate in the DAP process of between 60% to 70%. Fuel consumption rates vary between 4.0 and 6.0 gal/ton of P₂O₅ feed. It is recommended that the BACT SO₂ limit be issued as 0.70 lbs. SO₂/ton of P₂O₅ feed. This is equivalent to using 1% S fuel based upon an average consumption rate of 4.5 gal/ton of P₂O₅. The data supplied by Gardinier showed an unusually high fuel consumption rate - roughly 1.4 times the other two facilities. Since there should not be any reason for a large difference between facilities, the Gardinier data was adjusted downwind using a factor of 2 gallons/ton of DAP for fuel usage. The figure of 4.5 gal/ton of P₂O₅ feed fuel usage was the highest value supplied of the three applications (after adjusting the Gardinier data). Accordingly, it is felt that BACT proposed should be readily achievable by all three facilities (Gardinier estimates a SO₂ emission rate of 10 lbs/hr - the proposed BACT would allow 15.8 lbs/hr). It is noted there was virtually no information provided on the economics of low vs high sulfur fuel oil. However, the recommendation offered is felt to be reasonable in that it would allow use of 2.5% S fuel.

Victoria Martinez
Page Two
March 11, 1980

- (3) Particulate - there is little data in the applications pertaining to existing particulate emission rates from DAP plants equipped with the technology proposed - venturi scrubbers followed by a packed tower. Based upon the data provided, a recommendation of 0.50 lbs. particulate/ton P₂O₅ feed is offered. This is equivalent to an exit grain loading of 0.150 grains/scf. The test history and statements contained in the New Whales Chemicals, Inc. application support this level.

In summary, the following is recommended as BACT for the DAP plants:

Pollutant	Emission Limit (lbs/ton P ₂ O ₅ feed)
Fluorides	0.060
Sulfur Dioxide	0.70
Particulates	0.50

In general, it is felt compliance determination would be facilitated if all emission limits were expressed on the same basis. It is also noted that the above limits are meant to apply as total emissions from the DAP plants; i.e. all measurable discharge points - scrubbers, baghouses, etc - would be combined in determining compliance. The tons P₂O₅ feed refers to the plant input to the reactor.

If there are any questions concerning this matter, please contact me.

/lp

DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices
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To	Victoria Martinez	Locn.	
To		Locn.	
To		Locn.	
From		Date	

TO: Ms. Victoria Martinez, BACT Coordinator (Air)

FROM: Jose F. deCastro, Ch.E., P.E., Administrator, Industrial Waste Section

DATE: March 11, 1980

SUBJECT: BACT Determination for Three DAP Plants: W. R. Grace, Gardinier, and New Wales

We have reviewed the packages attached to your memorandum of February 22, 1980, held a technical meeting with W. R. Grace representatives and their consultant, Dr. Koogler, and finally discussed the issue with members of the DER staff. Unfortunately, the performance data that we have been able to see does not, in our professional opinion, suit too well for developing BACT (DAP) limitations for the following reasons:

- Particulate emissions from DAP plants are affected by some controllable and one quasi-uncontrollable factor; to wit, the quality of the tail-gas scrubber water.

Emissions from two identically operated twin plants are dependent on the solids concentration in the tail-gas scrubber water.

The performance of a tail-gas scrubber utilizing once-through rain water from an abandoned phosphate mine pit should by far surpass that from the same unit operating with saturated process-recycled water.

- Stack plumes from DAP plants contain steam generated from the scrubber water countercurrently heated by ascending hot residual process gases. Dissolved solids in the evaporated scrubber water increasingly deposit on the scrubber packing and eventually report as dust in the stack test.

Particulate grain loadings as periodically reported by DAP operators most certainly reflect optimum performances of their systems immediately after maintenance and cleaning operations. Rarely these emissions reflect fact-of-life performances and should be used with care.

SUMMARIZING: Self-stack-sampling results as reported by DAP operation (USSAC) that have easy access to and employ once-through rain water from an old mine pit are not representative of fact-of-life performances and should not be used to set BACT limits, even for such operation (USSAC). At least monthly stack samples throughout the usual six-month span between maintenance operations would be required to assess BACT values. Plant shut-down for cleaning purposes are forced by pressure build-up due to fouling of the scrubber packing. What is the particulate grain loading of (USSAC) stack just prior to shut down?

CONCLUSION: Based on previous field experience, it is our professional opinion that .02 GR./SCF of particulate matter is as reasonably low a stack loading as could be expected from a DAP plant at all times. We recommend such value as BACT limitation for calculation purposes.

Victoria Martinez
Page Two
March 11, 1980

- (3) Particulate - there is little data in the applications pertaining to existing particulate emission rates from DAP plants equipped with the technology proposed - venturi scrubbers followed by a packed tower. Based upon the data provided, a recommendation of 0.50 lbs. particulate/ton P_{205} feed is offered. This is equivalent to an exit grain loading of 0.150 grains/scf. The test history and statements contained in the New Whales Chemicals, Inc. application support this level.

In summary, the following is recommended as BACT for the DAP plants:

Pollutant	Emission Limit (lbs/ton P_{205} feed)
Fluorides	0.060
Sulfur Dioxide	0.70
Particulates	0.50

In general, it is felt compliance determination would be facilitated if all emission limits were expressed on the same basis. It is also noted that the above limits are meant to apply as total emissions from the DAP plants; i.e. all measurable discharge points - scrubbers, baghouses, etc - would be combined in determining compliance. The tons P_{205} feed refers to the plant input to the reactor.

If there are any questions concerning this matter, please contact me.

/lp

DEPARTMENT OF ENVIRONMENTAL REGULATION

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From: _____	Date: _____

ST. JOHNS RIVER SUBDISTRICT, JACKSONVILLE

TO: Vicky Martinez
BAQM

FROM: Johnny Cole

DATE: March 12, 1980

SUBJECT: BACT Determination for DAP Plants



My recommendations are as follows:

1. For fluoride, the 17-2 limit which is the same as NSPS (0.06 lb F per ton of P_2O_5 input) should be used unless there is some local ambient problem that requires a smaller limit.
2. For particulates, the proposed controls should be BACT. Emission limits should be the rates used in each model unless the model and/or results are not acceptable. In such case, run a CRSTER to establish a limit. Limits in applications:

Gardinier	maximum 10 lbs/hr
New Wales	model needed
Grace	run model; proposed 34 lbs/hr as avg. On PSD page, stated < 50 TPY while on page 3 stated 140 TPY.

3. For SO_2 , the use of 2.5% sulfur fuel oil should be BACT.
4. For ammonia, the proposed scrubbers to control other emissions should be BACT.
5. For NO_x , the proposed controls and the nature of the process should be considered BACT.
6. Unless these sources can document otherwise, the acid input should be limited to a 30%-50% P_2O_5 split acid feed.

DEPARTMENT OF ENVIRONMENTAL REGULATION

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From: _____	Date: _____

TO: Victoria Martinez, BACT Coordinator

FROM: Willard Hanks *Wmh*

DATE: March 5, 1980

SUBJ: Bact Determination - Diammonium Phosphate Plants (DAP)
W. R. Grace & Co./Gardiner, Inc./New Wales Chemical Co.

The applications for permits to construct DAP plants for the subject companies along with emission data from USS Agri-Chemicals and other DAP plants has been reviewed. The control equipment selected by the applicant appears to be the best type available for the process. However, the Department does not have the information needed to establish a standard for particulate and sulfur dioxide emissions from these plants. To the best of my knowledge, the information is not available and a special study program would be required to obtain the data.

I suggest the BACT determinations of emissions standards for these plants be postponed until the plants are built and in operation. The standards would be established based on tests of the actual emission from the facility. This could be handled by the permits to construct listing operation parameters for the control devices and specifying a test program to determine the emission standards. The provisions could also contain a maximum allowable emission, based on the PSD study, which would be permitted. Suggested wording of the permit provisions would be:

1. The emission standards for particulate and sulfur dioxide will be established by a series of emission tests conducted under the Department's supervision at the expense of the applicants with the control devices operating at the following conditions:

Company	Plant Capacity TPH DAP	MIN. ΔP VENTURI (in. H_2O)	MIN. GPM FROM VENTURI	MIN. GPM FROM TAIL GAS	% SULFUR IN FUEL OIL	P_2O_5 CONTENT OF VENTURI SCRUBBER LIQ
W. R. GRACE	80	12	2,500 total for 3 scrubbers	4,000 total for 2 scrubbers	2.3	20-30
GARDINIER	50	12	1,600 total for 3 scrubbers	2,600 total for 2 scrubbers	2.0	20-30
NEW WALES	70/Train (140 TOTAL)	12	1,600/Train	6,000/Train	2.5	20-30

2. A minimum of 3 test (9 runs) using EPA reference methods 1,2,3,4,5 and 6, as published in 40 CFR 60, Appendix A, dated 7/1/78 will be the basis of the study. One test will be conducted while the scrubbers are clean, one prior to scheduled shutdown for plant for clean up or 6 month-whichever is first, and one about midway between these tests. The plant will be operating near its permitted rate (+10%) with the dryer burning oil containing the maximum per cent sulfur allowed (+15%) during all tests. The standard selected for the source may be up to 10% above the average for all tests but, under no circumstances, will exceed the intern values listed in the construction permit.
3. The Department will be notified 30 days in advance of any test that will be used in establishing the BACT emissions. All valid test data collected during the test period will be considered in establishing the standard.
4. Intern emission standards should be:

Company	Particulate			Sulfur Dioxide	
	Grains/DSCF	lbs/TDAP	lbs/hr.	lbs/TDAP	lbs/hr
W.R. Grace	0.020	0.29	23.0	0.30	25
Gardiner*	0.016	0.23	11.4	0.30	15
New Wales**	0.020	0.23	32.0	0.30	44

5. The fluoride standard is 0.06 lbs. total fluoride per ton P_2O_5 input as measured by reference method 13 A or 13 B as published in 40 CFR 60, Appendix A, dated 7/1/78.

If BACT cannot be established after the plants are built, I recommend the particulate standard be set at 0.20 lbs/TDAP for a total complex which corresponds to the 99.9 percentile of the emission data reported for USS Agri-Chemicals new DAP plant. The sulfur dioxide standard should be 0.30 lbs/TDAP, which is approximately what 2 of the plants requested in their application.

* PSD regulations forces this Company to meet more restrictive emission standards

** For venturi/tailgas scrubber system only. The 0.01 grains/DSCF and 4.42 lbs/hr. for the bag filter serving the cooler is acceptable for BACT.

State of Florida

DEPARTMENT OF ENVIRONMENTAL REGULATION

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TO: Victoria Martinez

THRU: Steve Smallwood
Philip R. Edwards

FROM: Tom Davis

DATE: March 11, 1980

SUBJECT: BACT Determination - DAP Fertilizer Plants

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Victoria Martinez
Page Two
March 11, 1980

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TO: Ms. Victoria Martinez, BACT Coordinator (Air)

FROM: Jose F. deCastro, CH.E., P.E., Administrator, Industrial Waste Section

DATE: March 11, 1980

SUBJECT: BACT Determination for Three DAP Plants: W. R. Grace, Gardinier, and New Wales

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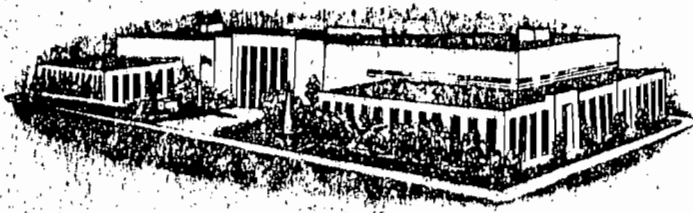
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COUNTY OF HILLSBOROUGH



March 11, 1980

MEMORANDUM

To Victoria Martinez - FDER

From Joe Griffiths - Env. Prot. Comm.

Subject: BACT for DAP plants

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JG/fd

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TO: Victoria Martinez/Willard Hanks

THRU: Dan Williams *DW*FROM: Bob Garrett *RRG*

DATE: March 5, 1980

SUBJECT: DAP Plant Histories and BACT Recommendations



Enclosed is a tabulation of 2 years of tests from 6 DAP plants in the Bartow area representing old and relatively new plants or modifications thereto. Also, I have included information from the sources indicating the different complexities of these controls.

<u>lbs/T DAP</u>	<u>Plant</u>	<u>Permit</u>	<u>Last Test Date</u>	<u>Results lbs/hr</u>	<u>Product Rate(DAP)</u>	<u>Previous High</u>	<u>Prev. Low</u>
.135 #/Ton	Grace	A053-6840	3/79	7.0	52 TPH	15	5.9
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	Recycle Process = 292 TPH						
.26 #/Ton	CF Ind.#4	A053-6005	8/79	19.45	74.3 TPH	43.4	11.7
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	Note their letter of recent modifications (results not reported yet)						
.066	USS Agr-Ch	A053-5119	1/80	4.62	70 TPH	9.24	2.8
	Recycle Process = 549 TPH						

Recommend a limit of 0.15 lbs. particulates/Ton of DAP product for BACT for DAP plants. We have eliminated Conserv from the averages because of their recent changes, low production and separate stack controls. Combining the others produces an average of 0.15 lb/T DAP for recent tests on a mixture of relatively new and rejuvenated old plants.

Recommend a limit of 0.06 lbs. F⁻/T P₂O₅ as the NSPS standard.

RRG/ftb

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TO: Jacob D. Varn
FROM: Steve Smallwood *MC for SS*
DATE: March 28, 1980
SUBJECT: BACT Determination - Diammonium Phosphate Plant,
W. R. Grace & Company, Polk County

Facility: An 80 ton per hour diammonium phosphate (DAP) plant. The plant will produce DAP fertilizer (18-46-0) from anhydrous ammonia, phosphoric acid and sulfuric acid using a gas fired (No. 5 fuel oil standby) dryer, screens, mills, cooler, granulator, reactor and conveying equipment. Estimated potential emissions of pollutants subject to the BACT rule are:

Particulate 3,000 tons/year

BACT Determination Requested by the Applicant:

Pollutant	Maximum Emission
Fluoride	0.06 lb/ton P ₂ O ₅ Feed
DAP Particulate	34 lb/hr or 130 TPY

Date of Receipt of a Complete BACT Application:

February 5, 1980

Date of Publication in the Florida Administrative Weekly:

March 28, 1980

Date of Publication in a Newspaper of General Circulation:

April 2, 1980, Tampa Tribune

Jacob D. Varn
Page Two
March 28, 1980

Study Group Members:

Thomas Davis, DER South Florida District, Ft. Myers;
Pepe de Castro, DER Bureau of Wastewater Management & Grants
Tallahassee;
Johnny Cole, DER St. Johns River District, Jacksonville;
Robert Garrett, DER Southwest District, Tampa;
Joseph Griffiths, Hillsborough County Pollution Control, Tampa;
Willard Hanks, DER Bureau of Air Quality Management, Tallahassee

Study Group Recommendations:

	<u>Particulate lb/Ton P₂O₅</u>
Thomas Davis	0.50 (0.015 gr/scf)
Pepe de Castro	0.62 (0.02 gr/scf)
Johnny Cole	1.0 (34 lb/hr)
Robert Garrett	0.33 (0.15 lb/ton DAP)
Joseph Griffiths	0.93 (0.03 gr/scf)
Willard Hanks	0.43 (0.20 lb/TDSP)

BACT Determination by Florida Department of Environmental
Regulation:

Pollutant	Maximum Emission
Particulate	0.5 lb/TP ₂ O ₅

Justification of DER Determination:

Particulate Matter: The 0.5 lb/ton P₂O₅ emission limit reduces the applicant's permit request by a factor of 2. However, similarly designed plants can meet this limit selected as representative of Best Available Control Technology.

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

Jacob D. Varn
Page Three
March 28, 1980

Recommendation from: Bureau of Air Quality Management

By: Martin Habel for
Steve Smallwood

Date: March 31, 1980

Approved by: Jacob D. Varn
Jacob D. Varn

Date: 31st March 1980

SS:jr
attachment

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



BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY


STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

MEMORANDUM

TO: District and Subdistrict Managers, and Local Program Directors

ATTN: Air Engineers

FROM: Mark Hodges 

DATE: April 9, 1980

SUBJ: BACT Determinations for the following sources -

Gardinier, Inc. Hillsborough Co., DAP Plant;

New Wales Chemicals, Inc., Polk Co., DAP Plant;

W. R. Grace and Co. Polk Co., DAP Plant;

Lonestar Florida, Pennsuco, Inc., Dade Co., Portland Cement Plant;

Attached, for your information and files, are copies of the above mentioned BACT's as determined by the Department of Environmental Regulation.

The emission limitation for each respective source is to be found on the first page of the BACT for that source.

Further information regarding the determinations of these BACT's is available upon request. Address inquiries to Mark Hodges, Department of Environmental Regulation, Bureau of Air Quality Management, 2600 Blair Stone Road, Tallahassee, Florida, 32301.

MH:caa

Attachments (4)

cc: Jim Estler
Archie Lee
Central Files

original typed on 100% recycled paper

CONSTRUCTION NOTICE

The Florida Department of Environmental Regulation (DER) has received an application from and intends to issue a Construction permit to W. R. Grace and Company for the construction of Diammonium Phosphate (DAP) Plant #3 to be located at the Bartow Works in Polk County, Florida. A determination of Best Available Control Technology was required. Copies of the application, BACT determination, Technical Evaluation, and Departmental Intent are available for inspection at the following offices:

Department of Env. Reg.
Southwest District
7601 Highway 301 North
Tampa, Florida 33610

DER Bureau of Air Quality Mgt.
2600 Blair Stone Road
Tallahassee, Florida 32301

Comments on this action shall be submitted in writing to Willard Hanks of the Tallahassee office, within 30 days of this notice.

To appear in: Tampa Tribune
on 4/1/1980

SUMMARY OF DATA FROM APPLICATIONS TO CONSTRUCT DAP PLANTS

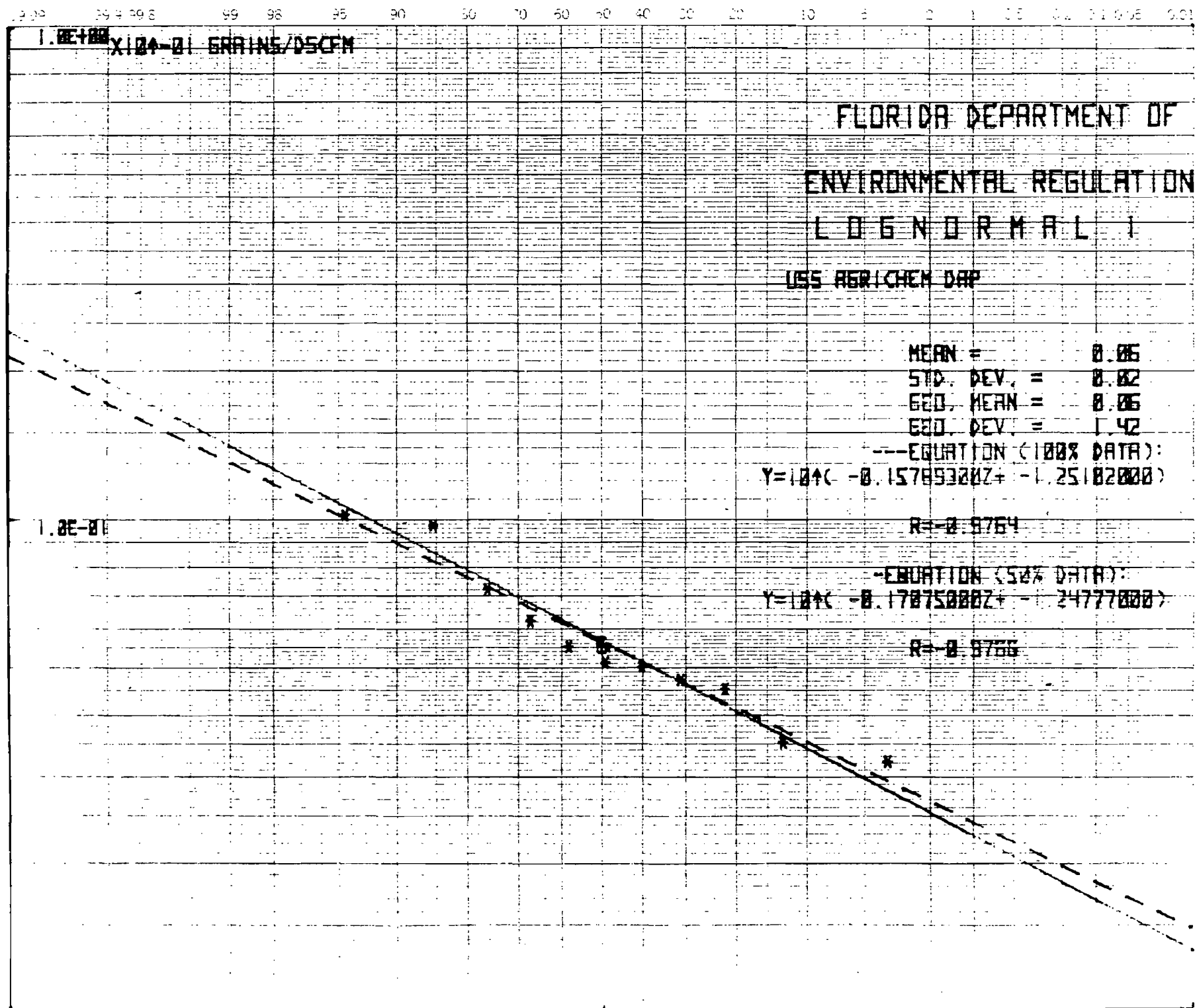
Plant	Prod.-TPH		Control Equip.	Reported Cost \$10 ⁶	DSCFM	Particulate Emission			Sulfur Dioxide Emissions		
	P ₂ O ₅	DAP				Grains DSCF	lbs. hr.	lbs. TDAP	Grains DSCF	lbs. hr.	lbs. TDAP
W. R. Grace	39	80	Cyclones 3-Venturi Scrubbers 2-Tailgas Scrubbers	2.3	133,274	0.0324	37	0.463	0.022	25	0.31
Gardi-nier	22.52	50	Cyclones 3-Venturi Scrubbers 2-Tailgas Scrubbers	1.4	83,587	0.014	10	0.20	0.014	10	0.20
New Wales Process Equip			Cyclones 4-Venturi Scrubbers 2-Tailgas Scrubbers		186,464	0.02	32.0				
Cooler			1-bag Coll. System		51,706	0.01	4.43				
Total	70	140		6			36.43	0.26	0.022	44	0.314
USS Agri-Chemical (Permitted) 1975	33.4	72	Cyclones 3-Venturi Scrubbers 1-Tailgas Scrubber	3.4 (EST)	100,320	0.0393	33.8	0.469	-	-	-

DIAMMONIUMPHOSPHATE DEPT - EMISSION TEST RESULTS - CARD 12

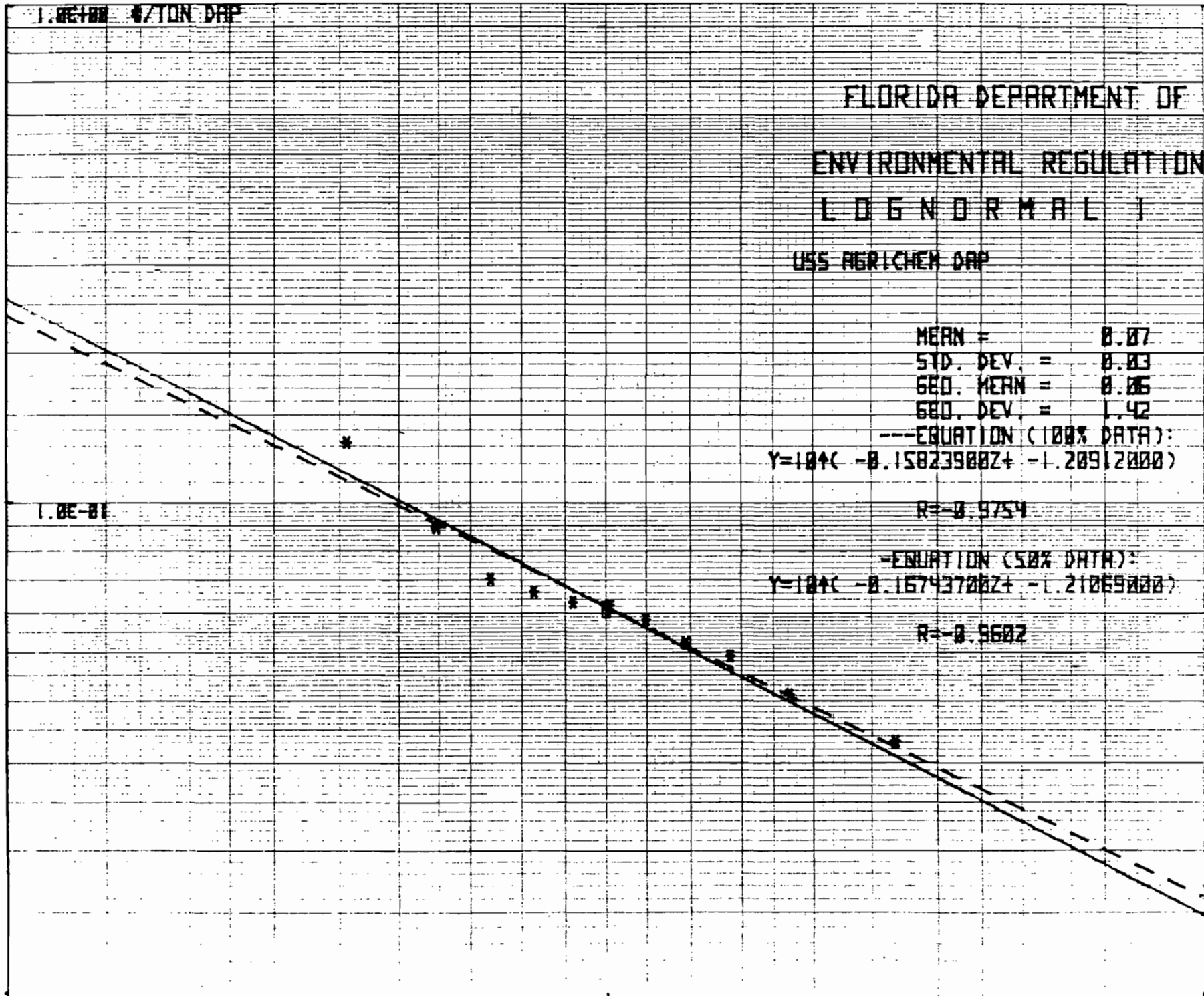
STATION	DATE	DAP TDY HR	P2O5 TPD	ACFM X1000	SCFM X1000	TEMP DEG F	MOIST %	NH3 LB/TN	PARTICULATE EMISSIONS- GRAINS /SCF LB/TON LB/DAY			-FLUORINE EMISSIONS- LB/TON MG/SCF P2O5 LB/DAY		COMMENT
		65.00	718	118.6	105.1	90	8.05							
		65.00	718	118.9	103.6	90	8.04							
BEF08A	01-07-77	65.00	718	118.6	105.1	90	8.05	0.0616						
BEF08B	01-07-77	65.00	718	116.9	103.6	90	8.04		0.0045	0.062		0.0195	0.0083	6.41
		68.00	751	118.1	99.4	90	8.33							
		68.00	751	111.0	100.8	90	5.80							
BEF08A	01-12-77	68.00	751	110.1	99.4	90	6.33	0.0592						
BEF08B	01-12-77	68.00	751	111.0	100.8	90	5.80		0.0055	0.070		0.0028	0.0012	0.89
BEF08A	01-18-77	60.00	662	95.8	91.1	80	3.06	0.0252						
BEF08B	01-18-77	60.00	662	96.8	90.3	80	5.04		0.0032	0.041		0.0039	0.0004	1.10
BEF08	03-02-78	94.	1038	112.7	98.0	98	9.42	0.0043						
BEF08	03-02-78	94.	1038	107.7	93.8	98	8.35	0.0342						
BEF08	03-04-78	85.	938	114.0	102.5	88	6.00	0.0042	0.0047	0.049		0.0005	0.0001	0.18
BEF08	03-04-78	85.	938	111.9	100.6	88	7.11	0.0043	0.0050	0.052		0.0004	0.0001	0.13
BEF08A	09-13-78	85.00	938	119.8	90.7	128	16.00		0.0047	0.089		0.0144	0.0043	4.00
BEF08B	09-13-78	85.00	938	114.2	92.6	128	13.84		0.0035	0.033		0.0295	0.0090	8.41
BEF08A	09-14-78	85.00	938	116.2	82.6	133	20.25	0.0144						
BEF08B	09-14-78	85.00	938	114.8	83.9	133	18.25	0.0116						
BEF08A	10-07-78	82.00	905	117.4	99.4	92	11.83	0.0252						
BEF08B	10-07-78	82.00	905	117.0	95.9	97	13.92	0.0204						
BEF08	05-03-79	90.00	994	117.9	94.7	113	13.16		0.0072	0.063		0.1430	0.0042	4.18
BEF08	05-03-79	90.00	994	119.2	97.9	112	11.36		0.0062	0.058		0.0167	0.0053	5.23
BEF08A	06-14-79	90.00	994	112.4	94.0	110	10.06	0.0160						
BEF08B	06-14-79	90.00	994	112.4	92.7	110	11.29	0.0197						
BEF08A	01-17-80	70.00	772	123.7	106.0	100	9.49		0.0102	0.132				
BEF08B	01-17-80													
BEF08C	01-17-80													
BEF08D	01-17-80													
BEF08E	01-17-80	70.00	772	123.1	105.7	100	9.29		0.0051	0.066				
BEF08F	01-17-80	70.00	772	120.6	103.5	100	9.29					0.0040	0.0017	1.31
BEF08G	01-17-80	70.00	772	121.2	103.8	100	9.49					0.0052	0.0022	1.71
BEF08A	01-18-80	96.00	1060	111.8	98.3	95	7.92	0.1353						
BEF08B	01-18-80	96.00	1060	111.3	97.1	95	8.66	0.1211						
BEF08A	01-19-80													
BEF08B	01-19-80													
BEF08C	01-19-80													
BEF08D	01-19-80	90.00	994	115.8	101.6	94	8.26							
BEF08E	01-19-80	90.00	994	116.1	101.6	94	8.51							

PARTICULATE
FLUORINE
FLUORINE

SULFUR DIOX
EMISSIONS
LB/TON-DAP
0.057 LB/TN
0.057 LB/TN



99.99 99.9 99.5 99 98 95 90 80 70 60 50 40 30 20 10 5 2 1 0.5 0.2 0.1 0.05 0.01



GRACE

Agricultural Chemicals Group

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

(813) 533-2171

April 25, 1980

Department of Environmental Regulation
Attn: Willard Hanks
Air Engineering Department
Twin Towers Office Bldg.
2600 Blair Stone Rd.
Tallahassee, Florida 32301



Dear Mr. Hanks:

Re: Construction Permit AC53-24460 for DAP Plant No. 3

Thank you for the letter from Steve Smallwood dated March 28, including the BACT determination, and the proposed permit to construct a DAP plant for 600,000 tons per year.

Following our recent telephone conversations, I enclose four sets of the revised application incorporating the changes required by DER's latest BACT determination. We have also included an increase in design capacity from 600,000 TPY to 800,000 TPY. The corresponding incremental emissions would be more than offset by closing down even one fertilizer plant, 300-X or 300-Y. However, we propose to shut down 300-X plant when No. 3 DAP plant starts up, and 300-Y within 6 months.

<u>Fertilizer Plant Capacity</u>	<u>Particulates</u>	<u>Fluorides</u>	
A. Originally, 600,000 TPY DAP	73.2 TPY*	8.8 TPY	95
B. Modified, 800,000 TPY DAP	97.6 TPY*	11.8 TPY	
less 300-X Plant, 3 yrs. average	(41.3) TPY	(13.3) TPY	
less 300-Y Plant, 3 yrs. average	(26.3) TPY	(14.8) TPY	
<u>Total increase in emissions</u>	<u>30.0 TPY</u>	<u>(16.3) TPY</u>	
<u>B.vs.A: Proposed decrease in emissions</u>	<u>43.2 TPY</u>	<u>25.1 TPY</u>	

*Note: based at the latest BACT determination of March 28, 1980, namely 0.5 lbs. and 0.06 lbs. per ton of input P_2O_5 respectively.

Part.

F-

Mr. Willard Hanks
April 25, 1980
Page 2

In view of the considerably lower particulate and fluoride emissions resulting from our modified proposal "B." is compared to the approved original proposal "A.", we trust you will consider favorably the enclosed data justifying our request for modification "B.".

I made airline reservations to be in your office on Thursday May 1st, in order to answer any questions your personnel may have, but will call you on April 30 to confirm the necessity of this trip, as you suggested.

Sincerely,


M. J. Martinasek
Sr. Project Engineer
Environmental Control

MJM:db
Enclosures

cc: R. Garrett, D.E.R. -Tampa (2)
A. Vondrasek
F. Applegate
C. Peters
M. Altenburger
R. Murray, (H&K)

DEPARTMENT OF ENVIRONMENTAL REGULATION

INTEROFFICE MEMORANDUM

For Routing To District Offices
And/Or To Other Than The Addressee

To: _____	Locn.: _____
To: _____	Locn.: _____
To: _____	Locn.: _____
From: _____	Date: _____

TO: Jacob D. Varn

FROM: Steve Smallwood

DATE: May 13, 1980

SUBJ: BACT Amendment - Diammonium Phosphate Plant W. R. Grace
and Company, Polk County

Affected Facility: An 115 ton per hour diammonium phosphate (DAP) plant. The plant will manufacture DAP fertilizer (18-46-0) from anhydrous ammonia, phosphoric acid and sulfuric acid using a gas fired (no. 5 fuel oil occasionally) dryer, screens, mills, cooler, granulator, reactor and conveying equipment.

Original BACT Requirements:

Pollutant:	Emission Limitation (lbs./TP ₂ O ₅ feed)
Fluoride	0.06
DAP Particulate	34 lbs./hr. or 130 TPY

Amended BACT: Basic change is the addition of a BACT standard for sulfur dioxide.

Pollutant	Emission Limitation	
	Maximum Emission Rate (lbs/TP ₂ O ₅ feed)	Maximum Emission (lbs/hr.)
Fluoride	0.06	3.36
Particulate	0.5	28
Sulfur Dioxide	0.7	35

Justification of the Amendment:

After the Department had published the proposed permit to construct a DAP plant for W. R. Grace and Company but before the permit was issued, the company requested their application for permit be modified to allow the construction of a 115 TPH DAP instead of the original 80 TPH plant. All plant equipment would be increased in size to accomodate the larger flows. The 115 TPH plant would be a major emitting facility (potential to emit more than 100 TPY) of fluoride, particulate and sulfur dioxide and, thus, requires a BACT determination for each pollutant.

Jacob D. Varn
Page Two

Recent (March, 1980) BACT determination on 3 DAP plants (New Wales Chemicals, Inc., Gardinier Inc, and W. R. Grace and Company) had established BACT emission rates for these three pollutants. BAQM believes these rates still represent BACT for this process.

As the production of the modified W. R. Grace DAP plant will increase, the total emissions measured as pounds per hour, will also increase. This revised BACT determination lists a maximum hourly emission which will be included as a special condition for the company to meet in any permit issued to construct the source. The company has volunteered to shut down two older DAP plants at their fertilizer manufacturing complex if the 115 TPH DAP plant can be built. These two plants emit 67.6 TPY particulate, 28.1 TPY fluoride and 80 TPY sulfur dioxide. Maximum emissions from the 115 TPY plant will be 98 TPY particulate, 11.8 TPY fluoride and 122.5 TPY sulfur dioxide. Thus, the facilities proposed in the modified application will result in a net emission difference of 30.4 more TPY particulate, 16.3 TPY fluoride and 42.5 more TPY sulfur dioxide. The permit that would have been issued had the company not requested it be modified would have resulted in an increased emission of 74.1 TPY particulate, 9.0 TPY fluoride and 95 TPY sulfur dioxide. Modeling showed these emissions did not have a significant impact on the ambient air. Thus, the environment would be better off if the modified application is approved instead of the original one.

Shut down of the two existing DAP plants will be a special condition to any permit to construct the 115 TPH DAP plant.

Details of the Analysis May be Obtained by Contacting:

Willard Hanks, Review Engineer
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32301

Recommendation from: Bureau of Air Quality Management:

By: _____
Steve Smallwood

Date: _____

Approved by: _____
Jacob D. Varn

Date: _____

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



BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

MEMORANDUM

CERTIFIED MAIL

TO: Mr. J. R. Terry, Vice President, W. R. Grace & Co.
Mr. M. J. Martinasek, Project Engineer, W. R. Grace & Co.
Mr. William Hennessey, DER, S. W. District

FROM: Steve Smallwood, BAQM

DATE: May 9, 1980

SUBJ: W. R. Grace & Co. - AC 53-24460
Application for Permit to Construct DAP Plant

Attached is one copy of the revised application, Technical Evaluation and Preliminary Determination, BACT Determination and proposed permit to construct a diammonium phosphate plant with venturi and tail-gas scrubbers at the phosphate fertilizer manufacturing complex located north of Highway 60 west, Bartow, Florida.

Please send any comments which you wish to be considered concerning this action, in writing, to Willard Hanks of the Bureau of Air Quality Management.

SS:caa

Attachment

cc: Jim Ester (w/o attachments)

GRACE

Agricultural Chemicals Group

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

(813) 533-2171

CERTIFIED

May 1, 1980

Mr. Willard Hanks
Air Engineering Department
Department of Environmental Regulation
Twin Towers Office Bldg.
2600 Blair Stone Rd.
Tallahassee, Florida 32301

Dear Mr. Hanks:

Re: AC53-24460 for DAP Plant

Enclosed herewith is the waiver of 90 day limit for the above construction permit modified as per our letter of April 25, 1980.

We are very thankful for the interest your department has shown to expedite this matter. I would be glad to give you any further information you may require either over the phone, or personally in Tallahassee, at your convenience.

Sincerely,



M. J. Martinasek
Sr. Project Engineer
Environmental Control

MJM:db

Enclosure

cc: M. J. Altenburger
F. L. Applegate
C. F. Peters

WAIVER OF 90 DAY TIME LIMIT
UNDER SECTION 120.60(2), FLORIDA STATUTES

License (Permit, Certification) Application No. AC53-24460
Applicant's Name: W. R. Grace & Co., Chemical Complex Expansion: DAP

The undersigned has read Section 120.60(2), Florida Statutes, and fully understands the Applicant's rights under that section.

With regard to the above referenced license (permit, certification) application, the Applicant hereby with full knowledge and understanding of (his) (her) (its) rights under Section 120.60(2), Florida Statutes, waives the right under Section 120.60(2), Florida Statutes, to have the application approved or denied by the State of Florida Department of Environmental Regulation within the 90 day time period prescribed in Section 120.60(2), Florida Statutes. Said waiver is made freely and voluntarily by the Applicant, is in (his) (her) (its) self-interest, and without any pressure or coercion by anyone employed by the State of Florida Department of Environmental Regulation.

This waiver shall expire on the 22 day of June 1980.

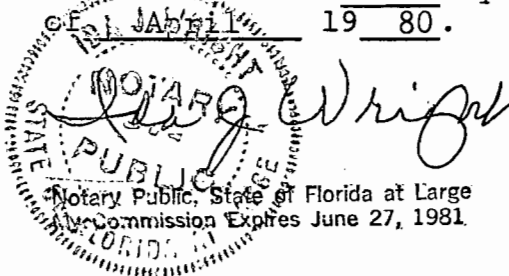
The undersigned is authorized to make this waiver on behalf of the applicant.

M. J. Altenburger
Signature

M. J. Altenburger
Name of Signee

April 30, 1980
Date

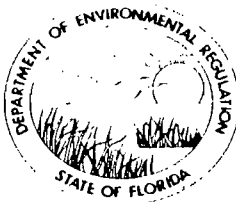
Sworn to and subscribed
before me this 30th day
of April 1980.



Section 120.60, Florida Statutes

(2) When an application for a license is made as required by law, the agency shall conduct the proceedings required with reasonable dispatch and with due regard to the rights and privileges of all affected parties or aggrieved persons. Within 30 days after receipt of an application for a license, the agency shall examine the application, notify the applicant of any apparent errors or omissions, and request any additional information the agency is permitted by law to require. Failure to correct an error or omission or to supply additional information shall not be grounds for denial of the license unless the agency timely notified the applicant within this 30 day period. The agency shall notify the applicant if the activity for which he seeks a license is exempt from the licensing requirement and return any tendered application fee within 30 days after receipt of the original application or within 10 days after receipt of the timely requested additional information or correction of errors or omissions. Every application for license shall be approved or denied within 90 days after receipt of the original application or receipt of the timely requested additional information or correction of errors or omissions. Any application for a license not approved or denied within the 90-day period or within 15 days after conclusion of a public hearing held on the application, whichever is latest, shall be deemed approved and, subject to the satisfactory completion of an examination, if required as a prerequisite to licensure, ²(the license) shall be issued. The Public Service Commission, when issuing a license, and any other agency, if specifically exempted by law, shall be exempt from the time limitations within this subsection. Each agency, upon issuing or denying a license, shall state with particularity the grounds or basis for the issuance or denial of same, except where issuance is a ministerial act. On denial of a license application on which there has been no hearing, the denying agency shall inform the applicant of any right to a hearing pursuant to s. 120.57.

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



BOB GRAHAM
GOVERNOR

JACOB D. VARN
SECRETARY

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

June 2, 1980

Mr. Archie Lee
Air Programs Branch
U.S. Environmental Protection
Agency, Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30308

Dear Mr. Lee:

Attached please find one copy of the revised application submitted by W.R. Grace and Company, the Technical Evaluation and Proposed Action, which are currently being renoticed for public comment.

Sincerely,

M. G. Hodges
Environmental Scientist
Bureau of Air Quality Management

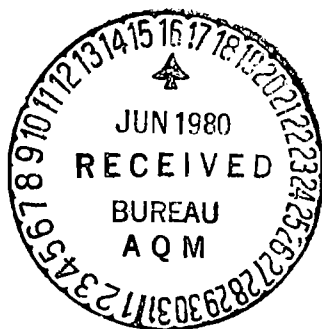
MGH:caa

GRACE

Agricultural Chemicals Group

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

(813) 533-2171



June 10, 1980

Mr. Willard Hanks
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Mr. Hanks:

Re: AC53-24460 DAP Plant Construction Permit

In reply to your telephone call, we enclose herewith a waiver for the DAP plant construction permit, until July 15, 1980.

Sincerely,

M. J. Martinasek
Sr. Project Engineer
Environmental Control

MJM/kk

Enclosure

WAIVER OF 90 DAY TIME LIMIT

UNDER SECTION 120.60(2), FLORIDA STATUTES

License (Permit, Certification) Application No. AC53-24460

Applicant's Name: W.R. Grace & Co., Chemical Complex Expansion: DAP

The undersigned has read Section 120.60(2), Florida Statutes, and fully understands the Applicant's rights under that section.

With regard to the above referenced license (permit, certification) application, the Applicant hereby with full knowledge and understanding of (his) (her) (its) rights under Section 120.60(2), Florida Statutes, waives the right under Section 120.60(2), Florida Statutes, to have the application approved or denied by the State of Florida Department of Environmental Regulation within the 90 day time period prescribed in Section 120.60(2), Florida Statutes. Said waiver is made freely and voluntarily by the Applicant, is in (his) (her) (its) self-interest, and without any pressure or coercion by anyone employed by the State of Florida Department of Environmental Regulation.

This waiver shall expire on the 15 day of July 19 80.

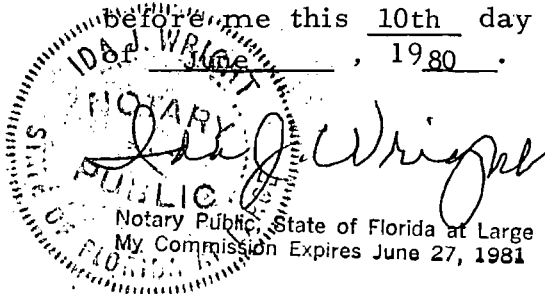
The undersigned is authorized to make this waiver on behalf of the applicant.

M. J. Altenburger
Signature

M. J. Altenburger, Mgr. Environ. Control
Name of Signee

June 10, 1980
Date

Sworn to and subscribed
before me this 10th day
June, 1980.



GRACE

Agricultural Chemicals Group

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

(813) 533-2171

June 13, 1980

Mr. Willard Hanks
Air Quality Management
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32301

Dear Mr. Hanks:

Re: AC53-24460, Application for DAP Construction Permit

With reference to your letter of May 27, and to our conversation of last Monday, I would like to confirm hereby that the 800,000 tons of DAP and 7,000 operating hours are annual data. Likewise, the rate of 115 TPH obtained by dividing the above annual values is also an annual average number, and should not be held as a maximum hourly rate limited by the permit. In order to average 115 TPH over a year, we may have to operate the plant at 130 TPH occasionally, if necessary.

By the same token, we do not feel we should be held in violation if we operate the plant longer than 7,000 hours per year. As you know, plants may be operated for weeks at a considerably reduced rate when the marketing situation requires it. Consequently, we might find it necessary to exceed the 7,000 operating hours in order to meet the budgeted 800,000 TPY production.

Thus, in order to simplify this problem, we would suggest incorporating maximum daily emissions based on 130 TPH of DAP produced, in addition to the annual average based on 115 TPH. We would further suggest not using the above mentioned 7,000 operating hours per year for the purpose of calculating annual emissions. It seems rather unimportant how close we actually approach the estimated 7,000 hours/year, since our annual emissions are limited to 0.5 pounds/ton by BACT at the level of 800,000 TPY anyway.

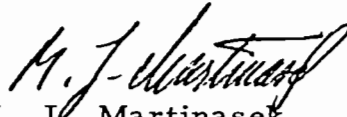
Mr. Willard Hanks

June 13, 1980

Page 2

If you have any further questions and cannot reach me,
please call John Koogler or Mike Altenburger.

Sincerely,



M. J. Martinasek
Sr. Project Engineer
Environmental Control

MJM/kk

cc: Dr. John Koogler, Gainesville
A. F. Vondrasek
F. L. Applegate
C. F. Peters
M. J. Altenburger

AFFIDAVIT OF PUBLICATION

The Polk County Democrat

Published Semi-Weekly

Bartow, Polk County, Florida

Case No. _____

STATE OF FLORIDA }
COUNTY OF POLK } ss.

Before the undersigned authority personally appeared _____

Loyal Frisbie _____, who on oath says that he is

Editor of The Polk County Democrat, a newspaper published at Bartow, in Polk County, Florida; that the attached copy of advertisement, being a Construction Permit for shipping in the matter of W. R. Grace & Co.

in the _____ Court, was published in said newspaper in the issues of Jan. 19, 1981

Affiant further says that The Polk County Democrat is a newspaper published at Bartow, in said Polk County, Florida, and that said newspaper has heretofore been continuously published in said Polk County, Florida, each Monday and Thursday, and has been entered as second class matter at the post office in Bartow, in said Polk County, Florida, for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he has neither paid nor promised any person, firm, or corporation any discount, rebate, commission, or refund for the purpose of securing this advertisement for publication in said newspaper.

Signed _____

Sworn to and subscribed before me this 20th day of January, 19 81.

Notary Public

My Commission Expires:

Notary Public, State of Florida, at Large
My Commission Expires Oct. 30, 1984

TO WHOM IT MAY CONCERN:

W. R. Grace & Co. has applied for a construction permit for shipping facilities to handle approximately 800,000 tons per year of ammonium phosphates. This air pollution source will be located at the Bartow Works, between Bartow and Mulberry. It will be operated intermittently and will comply with all local and Federal Regulations, including Chapter 17-2 of Florida Administrative Code, of D.E.R. Rules regarding the control emissions which may affect the maintenance of National Air Quality Standards.

Copies of the above mentioned application, the technical analysis performed by the Florida Department of Environmental Regulation (DER) staff, and their proposed decision are available for public inspection at the following location:

The Florida Department of Environmental Regulation
Southwest District Office
7601 Highway 301 North
Tampa, FL 33610

Persons wishing to comment on any aspect of this action are required to submit their comments in writing to D.E.R.'s address above, Attn. Mr. Robert Garrett, P. E., within thirty (30) days of the publication of this notice.

W. R. Grace & Co.
January 15, 1981
Jan. 19, 1981-95

⊗ PLEASE NOTE THAT DER HAS NOT RECEIVED ANY COMMENTS;
AND THAT SHUTTING DOWN THE 300X 340Y TRAINS WAS NOT MENTIONED
IN THE PUBLIC NOTICE, BECAUSE GRACE DID NOT NEED TO CLAIM ANY TRADE-OFF.