KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
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GAINESVILLE, FLORIDA 32609
352/377-5822 • FAX/377-7158

PROJECT 173-01-01

RECEIVED
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BUREAU OF AIR REGULATION

FAX TRANSMITTAL FORM

TO: Syed Arif
BAR, FDEP

FAX NO.

FROM: Pradeep Raval

DATE: 9/26/01 SENT BY: PR

The text being transmitted consist s of 2 page(s) PLUS this one. If you do not receive all of the pages or if there are difficulties with this transmission, please call (352) 377-5822.

REMARKS: Per our conversation, attached is waiver of 30-day period. Original is being sent out regular mail.
TK.
PR

KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 • FAX/377-7158

KA 173-01-01

September 26, 2001

Mr. Syed Arif, P.E.
Florida Department of
Environmental Protection
Twin Towers Office Building
2600 Blair Stone Rd
Tallahassee, FL 32399-2400

Subject: Waiver of 30-day Review Period
File No. 1050051-015-AC, PSD-FL-321
US Agri-Chemicals

Dear Mr. Arif:

Enclosed is a waiver of the 30-day permit application review period for the above referenced project. This waiver will expire on October 31, 2001.

If you have any questions, please call Pradeep Raval or me.

Very truly yours,

KOOGLER & ASSOCIATES

John B. Koogler, Ph.D., P.E.

JBK:par
Encl.

c: J. Girardin, USAC

WAIVER OF 30 DAY TIME LIMIT
UNDER SECTIONS 120.60(1) AND 403.0876, FLORIDA STATUTES

License (Permit, Certification) Application No. 1050051-015-AC, PSD-FL-321

Applicant's Name: US Agri-Chemicals

With regard to the above referenced application, the applicant hereby with full knowledge and understanding of applicant's rights under Sections 120.60(1) and 403.0876, Florida Statutes, waives the right to have the application reviewed by the State of Florida Department of Environmental Protection within the 30 day time period prescribed by law. Said waiver is made freely and voluntarily by the applicant, with full knowledge, and without any pressure or coercion by anyone employed by the State of Florida Department of Environmental Protection.

This waiver shall expire on the 31st day of October, 2001.

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

JOHN B. KOOGLER CERTIFICATE No. 12925 STATE OF FLORIDA REGISTERED ENGINEER

Signature

John B. Koogler, Ph.D., P.E.
Engineer of Record

KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES
4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 ▪ FAX/377-7158

KA 173-01-01

August 24, 2001

RECEIVED
AUG 28 2001
BUREAU OF AIR REGULATION

Mr. Al Linero, P.E.
Florida Department of
Environmental Protection
Twin Towers Office Building
2600 Blair Stone Rd
Tallahassee, FL 32399-2400

Subject: Response to FDEP request for Additional Information
Granular MAP/DAP Production Increase
US Agri-Chemicals, Ft. Meade Chemical Plant
DEP File No. 1050051-015-AC, PSD-FL-321

Dear Mr. Linero:

This is in response to your letter dated June 5, 2001, requesting additional information on the above referenced project. The responses are in the order of the issues raised by FDEP.

1. The application form addresses the maximum operation rate and the maximum emission rates for the plant, corresponding to 60 tph MAP/DAP production. For MAP production, these rates are 31.8 tph P2O5 input with corresponding fluoride emission limits of 1.18 lb/hr and 5.2 tpy. For DAP production, these rates are 28.2 tph P2O5 input and fluoride emission limits of 1.04 lb/hr and 4.6 tpy. The MAP/DAP plant fluoride emission factor presented in the permit application is 0.037 lb/ton P2O5 input. Please note that the application form addresses only the proposed modification, as suggested by FDEP.

2. Initial compliance testing was not conducted for DAP production as there was no DAP manufactured. It is our understanding that FDEP does not require the production of a particular product just for testing purposes. The results of the GMAP stack tests conducted on February 27, 2001 and April 10, 2001, are presented in Attachment 1.

3. While emission estimates have previously been submitted in a PSD application to FDEP for the two PM emitting operations, the tower and the loadout, the resulting PSD permit appropriately identified a mass emission limits for just one operation, the tower. The loadout operation has a visible emissions limitation. The mass emission limitation for the tower was subsequently revised in permit 1050051-008-AC. For the purposes of estimating PM emissions resulting from the proposed project, however, emissions from both operations had to be presented.

4. The hours of operation for calculating actual emissions were estimated based on an allowance of the plant being down for around 1594 hours (based on a similar plant at another facility), as a worst-case scenario. Alternatively, 8760 hours of operation could have been used in calculating actual emissions for the purposes of this application (as the plant is still operating under the construction permit), however, that would be a less conservative assumption.

5. An explanation is provided for each of the following emissions rates:

   Currently Permitted PM, GMAP/DAP = 8.38 lb/hr (1.06 g/s), based on current permit.
   Estimated Actual PM, GMAP/DAP = 6.98 lb/hr (0.88 g/s), based on recent test.
   Proposed PM, GMAP/DAP = 10.2 lb/hr (1.29 g/s), based on requested limit.
   Max. Potential Plant PM (Prill MAP) = 24 lbs/hr (3.02 g/s), based on PSD-FL-222.

   The application contemplated a 20 percent increase in the permitted PM emissions to correspond to the 20 percent increase in permitted production rate. The slight difference results from rounding the PM emission factor, from 0.1676 to 0.17 lb/ton product.

   The significant impact modeling for PM did not address the emission changes for GMAP/DAP because the plant's maximum potential emissions (required for the modeling) occur when the plant produces prilled product. The proposed project has been re-modeled based on the input data agreed to in the telephone conversations between Pradeep Raval, Syed Arif, Cleve Holladay and Stan Krivo.

6. The stack height initially proposed and modeled for the Prilled MAP Plant under PSD-FL-222 was 21.95 meters. The stack height, as constructed, is 41.3 meters. This change was relayed to FDEP upon completion of construction. However, no revised modeling was conducted at that time to document the revision to the PM increment changes. In order to document this change for the state's PSD inventory, the recent modeling for PM contained two sets of stack characteristics. Presently, the proposed project has been re-modeled, as discussed above.

Mr. A.A. Linero
Florida Department of
Environmental Protection

August 24, 2001

7. A summary of the revised modeling, based on the additional receptors requested by FDEP, is presented in Attachment 2. The additional receptors selected are located within the USAC property boundary thus providing a conservative analysis. A detailed discussion was previously submitted to FDEP justifying the actual USAC property boundary as precluding access to the general public. As FDEP has reviewed and approved that fence-line protocol, additional details are not presented herein.

   The revised modeling resulted in maximum predicted PM impacts below the significant impact levels. The maximum predicted fluoride impacts were below the de-minimus level (see Attachment 2).

If you have any questions, please call Pradeep Raval or me.

Very truly yours,

KOOGLER & ASSOCIATES

John B. Koogler, Ph.D., P.E.

JBK:par
Encl.

c: J. Girardin, USAC
S. Arif ✓
C. Holladay ✓
B. Thomas, SWD ✓
H. Worley, EPA ✓
G. Bennett, NPS ✓

ATTACHMENT 1

COMPLIANCE TEST DATA

Executive Summary

This compliance test report covers U.S. Agri-Chemicals' (USAC) Granular MAP plant at Ft. Meade on 10-Apr-01 Permit No. 1050051-008-AC. The results for the tested unit are as follows:

Emissions

Permitted	Actual	
0.98	0.52	lbs of fluorides per hour;
0.037	0.021	lbs of fluorides per ton of equivalent P2O5 feed
8.38	6.98	lbs of particulates per hour
0.168	0.148	lbs of particulates per ton of GMAP
15	0.0	% Opacity

Operating conditions

Average	
25.0	Feedrate (tons P2O5/hr)
47.1	Production rate (tons GMAP/hr)

Scrubber	Delta P	Flow	Mole Ratio
Tower	8.5	568	1.00
Cooler	12.1	257	NA
NH3 Abs.	3.77	258	0.78

The results of the compliance test above showed that the plant meets the emissions standards.

Test Methods: 1, 2, 4, 5, 9, and 13B. (With modifications approved by FDEP)

Executive Summary

This compliance test report covers U.S. Agri-Chemicals' (USAC) Granular MAP plant at Ft. Meade on 27-Feb-01 Permit No. 1050051-008-AC. The results for the tested unit are as follows:

Emissions

Permitted	Actual	
0.98	0.27	lbs of fluorides per hour;
0.037	0.011	lbs of fluorides per ton of equivalent P2O5 feed
8.38	5.96	lbs of particulates per hour
0.168	0.120	lbs of particulates per ton of GMAP
15	0.0	% Opacity

Operating conditions

Average	
26.1	Feedrate (tons P2O5/hr)
49.7	Production rate (tons GMAP/hr)

Scrubber	Delta P	Flow	Mole Ratio
Tower	18.6	953	0.99
Cooler	25.6	284	NA
NH3 Abs.	5.15	393	0.78

The results of the compliance test above showed that the plant meets the emissions standards.

Analytical Worksheet

27-Feb-01 Date
GMAP Plant

Fluorine content of stack gas

Run 1	Run 2	Run 3	
1,000	1,000	1,000	Vi = Total volume of impinger wash after final dilution (ml)
1,000	1,000	1,000	Vw = Total probe wash after final dilution (ml)
1,000	1,000	1,000	Vf = Total volume of filter wash after final dilution (ml)
0.41	0.61	0.89	Ci = Concentration of fluorine in impinger wash sample (mg/l)
0.10	0.08	0.07	Cw = Concentration of fluorine in probe wash (mg/l)
0.34	0.51	0.57	Cf = Concentration of fluorine in filter wash sample (mg/l)
0.85	1.20	1.53	Ft = Total fluoride recovered (mg) = (Vi * Ci + Vw * Cw + Vf * Cf) / 1,000 (ml/l)
43.28	42.69	42.15	Vmstd = dry gas volume @stp
0.0196	0.0281	0.0363	Cf = Concentration of fluorine in stack gas (mg/dscf) = Ft / Vmstd
0.20	0.28	0.35	Fh = lbs Fl/hr = Cf (mg/dscf) Qsd (dscf/m) 2.205 eex-6(lb/mg) 60 (m/h)
0.0075	0.0106	0.0135	Ft = lbs Fl/ton P2O5 feed = Fh (lbs Fl/hr) / Feedrate (tons P2O5/hr)
		0.2745	Fh ave lbs Fl/hr
		0.0105	Ft ave lbs Fl/ton P2O5 feed

Particulate content of stack gas

Run 1	Run 2	Run 3	
0.0222	0.0244	0.0311	Mn = Mass of particulate matter collected (gm)
43.28	42.69	42.15	Vmstd = dry gas volume @stp
0.00051	0.00057	0.00074	Cp = Particulate concentration (g/dscf) = (0.001 g/mg) (Mn/Vmstd)
75,195	74,151	73,380	Qsd (dscf/m)
5.10	5.61	7.16	Particulates (lb/h) = Cp (g/dscf) 2.205 eex-3 (lb/g) Qsd (dscf/m) 60 (m/h)
0.1061	0.1110	0.1422	Particulates lbs/ton GMAP
		5.96	Particulates lbs/hr (ave)
		0.1197	Particulates lbs/ton GMAP (ave)

P2O5 feed rate calculation (tons P2O5/hr)

52% Feed to Reactor

	Start Time	Start Totalizer (gallons)	Stop Time	Stop Time in Minutes	Stop Totalizer (gallons)	Feedrate (gpm)	Analyses Specific Gravity	Analyses %P2O5	Feedrate P2O5 (tph)	GMAP % P2O5	GMAP Tons
Run 1	9:04	51500	10:15	71.00	59680	115.2	1.692	51.96	25.3	51.92	48.1
Run 2	10:30	61296	11:42	72.00	70004	120.9	1.692	51.96	26.6	51.92	50.5
Run 3	12:35	76382	13:45	70.00	84826	120.6	1.692	51.96	26.5	51.92	50.4

Feedrate = 8.34 (lb /gal) * spgr (lb feed/lb) * gpm (gal/m) * %P2O5 (lbs P2O5/lb feed)/100 * 60 (m/h) * 1/2000 (t/lb)

Total Feedrate

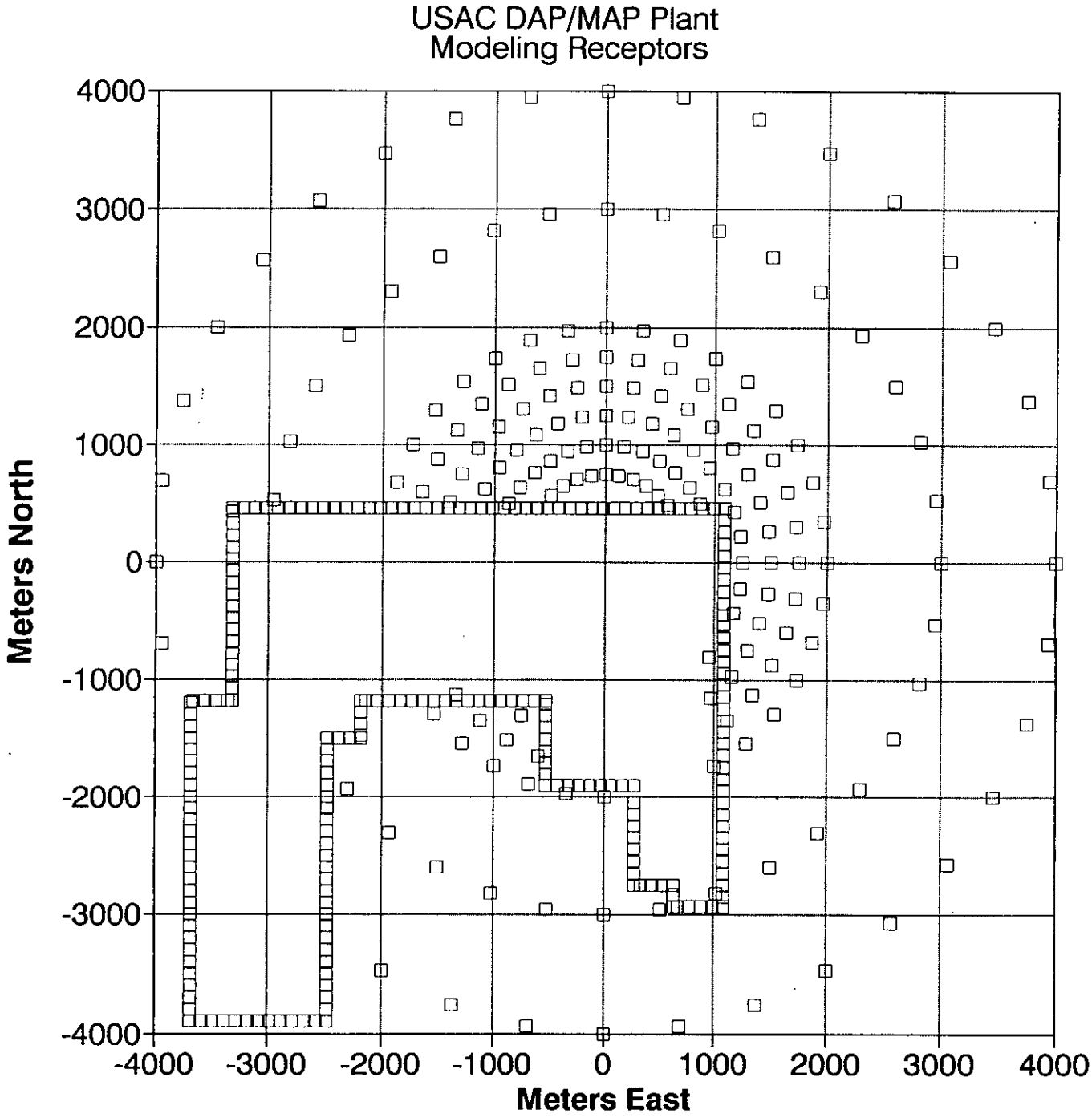
	P2O5 (tph)	GMAP (tph)
Run 1	25.3	48.1
Run 2	26.6	50.5
Run 3	26.5	50.4
Average	26.1	49.7

ATTACHMENT 2

REVISED MODELING INFORMATION

(DISK ENCLOSED)

FIGURE 4-1



Revised 8/01

TABLE 4-1 (REVISED 8/01)

AIR QUALITY MODELING PARAMETERS

MAP/DAP PLANT

Emission Unit	Stack		Stack Gas		Emissions
	Ht (m)	Dia (m)	Vel (mps)	Temp (^{o}K)	(g/s)
Particulate Matter					
Tower (1)	41.30	2.05	15.81	338	1.06
Tower (2)	41.30	2.05	15.81	338	3.02
Loadout (3)	15.24	0.37	26.90	300	0.54
Loadout (4)	15.24	0.37	26.90	300	0.54
Fluorides					
Tower (5)	41.30	2.05	15.81	338	0.095
Tower (6)	41.30	2.05	15.81	338	0.148

NOTES:

(1) The emission rate reflects the present allowable limit for the GMAP/DAP plant, as there is a high probability for it based on past test data.

(2) The worst-case conditions reflect plant in prilled product operation.

(3) The worst-case conditions modeled reflect past loadout operation (modeled before).

(4) The worst-case conditions modeled reflect loadout operation future potential emission rate.

(5) The emission rate is based on a high probability for it based on past test data.

(6) The worst-case conditions modeled reflect granular product operation as proposed.

(7) Building downwash effects, from the EPA approved BPIP program, were included in the modeling.

TABLE 4-2 (REVISED 8/01)

SUMMARY OF SIGNIFICANT IMPACT ANALYSIS

MAP/DAP PLANT

MET. DATA	CLASS I AREA IMPACTS (1) PM 24-HR	PM ANNUAL	CLASS II AREA IMPACTS (1) F 24-HR	PM 24-HR	PM ANNUAL
1987	0.032	0.001	0.06	2.24	0.23
1988	0.032	0.002	0.06	2.26	0.18
1989	0.036	0.002	0.07	2.52	0.25
1990	0.031	0.001	0.06	2.24	0.22
1991	0.030	0.001	0.06	2.23	0.19
MAXIMUM	0.036	0.002	0.07	2.52	0.25
DI-MINIMUS (2)	NA	NA	0.25	10	NA
SIG. IMPACT (2)	0.3	0.2	NA	5	1

NOTE:

(1) The impacts represent the highest-high impact.
(2) As defined in Rule 62-212, FAC.
(3) The impacts are based on the difference between the plant as re-modeled (see Table 4-1).

THIS DISK CONTAIN PARTICULATE MATTER (PM) AND FLUORINE MODELING FILES FOR THE U. S. AGRICHEMICALS FACILITY IN FT. MEADE, FLORIDA. THESE FILES CONTAIN ISCST3 OF SIGNIFICANT IMPACT ANALYSIS (SIA) FOR CLASS 1 AND 2 AREAS AND BUILDING DOWNWASH PROFILE INPUT PROGRAM (BPIP) FILES.

THE FOLLOWING FILES ARE IN SELF EXTRACTING ARCHIVE FORMAT.

C2-ASI	EXE	148,469	08-24-01	PM CLASS 2 AREA SIA ANALYSIS
C1-ASI	EXE	42,577	08-24-01	PM CLASS 1 AREA SIA ANALYSIS
FLUORINE	EXE	116,945	08-24-01	FLUORINE DEMINIMUS ANALYSIS
BPIP-01	EXE	20,062	03-29-01	BUILDING DOWNWASH CALCULATIONS

TO UNARCHIVE THESE FILES COPY THEM TO A HARD DISK DRIVE AND TYPE THE FILE NAME.
FOR EXAMPLE TO UNARCHIVE THE PM ASI CLASS 2 ISCST3 OUTPUT FILES, TYPE:
C2-SIA AND PRESS ENTER.

THE FILES WILL AUTOMATICALLY UNARCHIVE TO THE HARD DISK DRIVE.
THESE ARCHIVED FILES CONTAIN THE MODELING AND ANALYSIS FILES IN ASCII FORMAT
DESCRIBED AS FOLLOWS:

CLASS 2 AREA IMPACT ANALYSIS:

C2ASI-87 OUT	245,584	08-22-01	IMPACT ANLYSIS FOR 1987
C2ASI-88 OUT	245,584	08-22-01	IMPACT ANLYSIS FOR 1988
C2ASI-89 OUT	245,584	08-22-01	IMPACT ANLYSIS FOR 1989
C2ASI-90 OUT	245,584	08-22-01	IMPACT ANLYSIS FOR 1990
C2ASI-91 OUT	245,584	08-22-01	IMPACT ANLYSIS FOR 1991

CLASS 1 MODELING OF SIGNIFICANT IMPACT ANALYSIS (SIA) FOR CHASSAHOWITZKA NWR CLASS 1 AREAS ARE PROVIDED IN THE FOLLOWING FILES:

C1ASI-87 OUT	40,892	08-22-01	IMPACT ANLYSIS FOR 1987
C1ASI-88 OUT	40,758	08-22-01	IMPACT ANLYSIS FOR 1988
C1ASI-89 OUT	40,758	08-22-01	IMPACT ANLYSIS FOR 1989
C1ASI-90 OUT	40,758	08-22-01	IMPACT ANLYSIS FOR 1990
C1ASI-91 OUT	40,758	08-22-01	IMPACT ANLYSIS FOR 1991

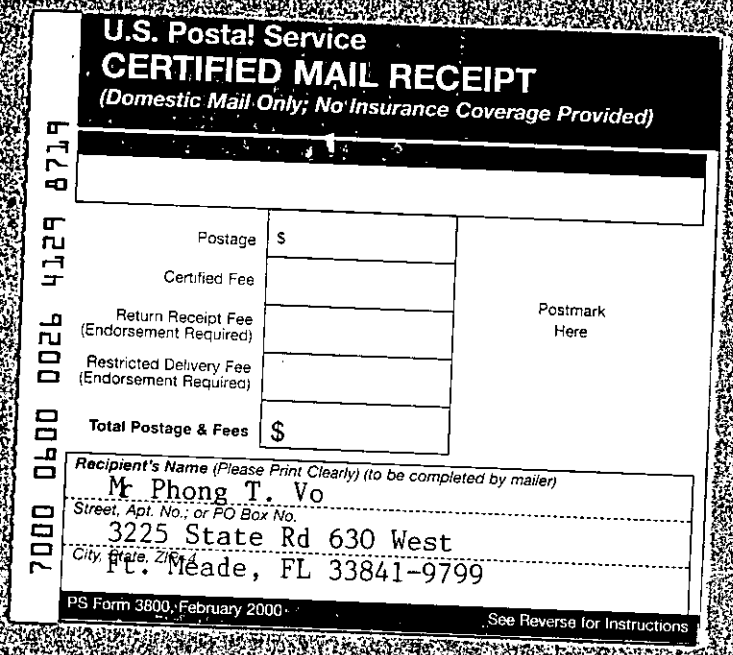
FLUORINE IMPACT ANALYSIS:

FL87	OUT	200,062	08-22-01	IMPACT ANLYSIS FOR 1987
FL88	OUT	199,928	08-22-01	IMPACT ANLYSIS FOR 1988
FL89	OUT	199,928	08-22-01	IMPACT ANLYSIS FOR 1989
FL90	OUT	199,928	08-22-01	IMPACT ANLYSIS FOR 1990
FL91	OUT	199,928	08-22-01	IMPACT ANLYSIS FOR 1991

BUILDING INPUT PROFILE PROGRAM (BPIP) FILES ARE PROVIDED IN BPIP-01.EXE. BUILDING DOWNWASH CALCULATIONS ARE USED IN ALL MODELING. THE FOLLOWING BPIP FILES ARE PROVIDED:

USAC4SIT INP	2,078	03-27-01	INPUT FOR SRC SOURCES
USAC4SIT OUT	3,898	03-27-01	OUTPUT FOR SRC SOURCES
USAC4SIT SUM	49,836	03-27-01	SUMMARY FOR SCR SOURCES

IF THERE ARE ANY QUESTIONS OR IF I MAY PROVIDE ADDITIONAL FILES, OR CLARIFICATION PLEASE CALL ME.
AUGUST 24, 2001
MARK KOLETZKE, P.E.
KOOGLER AND ASSOCIATES
(352) 377-5822



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Mr Phong T. Vo
Street, Apt. No.; or PO Box No.
3225 State Rd 630 West
City, State, ZIP+4
Ft. Meade, FL 33841-9799

PS Form 3800, February 2000 See Reverse for Instructions

Department of Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

June 5, 2001

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Phong T. Vo, General Manager of
Engineering and Technical Services
US Agri-Chemicals
3225 State Road 630 West
Ft. Meade, Florida 33841-9799

Re: DEP File No. 1050051-015-AC; PSD-FL-321
Granular MAP/DAP Production Increase
Ft. Meade Chemical Plant

Dear Mr. Vo:

The Department has received the above referenced application on May 7, 2001, for the Ft. Meade Chemical Plant in Polk County. Based on our initial review of the proposed project, we have determined that additional information is needed in order to continue processing this application package. Please submit the information requested below to the Department's Bureau of Air Regulation:

1. Please explain the basis for using the same fluoride emissions limit of 1.18 lb/hr and 5.2 tpy while producing either MAP or DAP. The conversion factor of the process rate should be different under the two modes, thereby giving a lower fluoride emission limit when producing DAP.
2. Please explain the reasons for not conducting an initial compliance test while producing granular DAP. The February 27, 2001 test submitted to the Department shows compliance with the MAP limit only. The application makes reference to a test done on April 10, 2001. Please submit a detail test report for this stack test.
3. Please explain if the PM/PM_{10} emission limit of 0.168 lb/ton of product in the previous minor source permit (1050051-008-AC) issued by the District for this emission unit also included the load out section of the plant. The PSD application segregates the two areas, and thereby provides a higher PM/PM_{10} emission limit of 0.187 for the plant.
4. Please explain the basis for projecting the operating hours to be only 7,166 for the plant. This was indicated in the Appendix A section of the application.
5. US Agri-Chemicals (USAC) proposes to increase the production rate of the granular MAP/DAP Plant from 50TPH to 60 TPH. In table 1-1 and the table in Appendix A existing actual PM emissions are estimated as 6.98 lb/hr (0.88 g/s). The allowable emission rates for the projected 60 TPH Plant are given as 10.2 lb/hr (1.29 g/s) in Appendix A. In the executive summary included in Appendix A, the permitted emission rate for the 50 TPH MAP Plant is given as 8.38 lb/hr (1.06 g/s). However, in Table 4-1 PM emissions for the MAP tower are given as 24 lb/hr (3.02 g/s) for both the existing plant and the projected plant. How did USAC arrive at these values? Please explain why the 20 percent increase in

short-term production rates do not result in a 20 percent increase in short-term emissions. The significant impact modeling should be based on the increase in actual PM emissions from 8.38 lb/hr to 10.2 lb/hr. Please redo the modeling with the appropriate emission rates.

6. In Table 4-1 and in the modeling output there are discrepancies between the stack parameters (especially the stack heights) used for the existing 50 TPH particulate case and the 60 TPH particulate case. The stack height for the existing Tower is given as 21.95 meters while the stack height for the projected case is 41.30 m. However, in the fluoride case the stack heights do not change between the existing case and the projected case. Which is correct? If the stack heights are being raised, please explain the purpose of raising the stacks.

7. In Figure 4-1 and in the modeling, receptors were placed only on the eastern part of the property. Receptors should be located along and away from the entire fenced plant boundary not just a portion of it. Please include additional receptors along the western and southwestern property boundaries.

Any additional comments from EPA and the U.S. Fish and Wildlife Service will be forwarded to you after we receive them.

The Department will resume processing this application after receipt of the requested information. Rule 62-4.050(3), F.A.C. requires that all applications for a Department permit must be certified by a professional engineer registered in the State of Florida. This requirement also applies to responses to Department requests for additional information of an engineering nature. A new certification statement by the authorized representative or responsible official must accompany any material changes to the application. Rule 62-4.055(1), F.A.C. now requires applicants to respond to requests for information within 90 days.

We will be happy to meet and discuss the details with you and your staff. Mr. Syed Arif, P.E. is responsible for the technical review of the application. He may be contacted at 850/921-9528. You may discuss the modeling requirements with Mr. Cleve Holladay at 850/921-8689.

Sincerely,

Jeffery J. Koerner

For A.A. Linero, P.E. Administrator
New Source Review Section

AAL/sa

cc: G. Worley, EPA
J. Bunyak, NPS
B. Thomas, DEP-SWD
J. Koogler, Ph.D., P.E. Koogler & Associates