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KA 124-01-03

April 26, 2002

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

Subject: IMC Phosphates MP, Inc. (New Wales)
Additional Information - Sulfuric Acid Production Increase
DEP File No. 1050059-036-AC, PSD-FL-325

Dear Mr. Arif:

The following additional information is a follow up to the information previously submitted to FDEP on January 25 and March 19, 2002. The items are addressed in the order of the issues raised previously by FDEP.

1. The results of the revised modeling, based on discussions with Mr. Cleve Holladay, are presented in Attachment 1.

2. An evaluation of the growth-related ambient air impacts is presented in Attachment 2.

3. The US Fish and Wildlife Service issues are addressed in Attachment 3.

If you have any questions, please call me.

Very truly yours,

KOOGLER & ASSOCIATES

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

JBK:par.
Encl.

c: C. D. Turley, IMC
M. Daigle, IMC

ATTACHMENT 1

SUMMARY OF SULFUR DIOXIDE AND NITROGEN OXIDES
REVISED SIGNIFICANT IMPACT ANALYSES

MET.	CLASS II AREA IMPACTS (1)			
DATA	SO2			NOX
	ANNUAL	3-HR	24-HR	ANNUAL
ISC3 Model				
1987	0.23	3.51	0.46	0.10
1988	0.25	3.46	0.59	0.08
1989	0.37	3.77	0.62	0.11
1990	0.34	6.44	0.92	0.11
1991	0.30	5.10	1.19	0.10
Sig. Impact Level	1	25	5	1
CALPUFF Model				
1990 Class I Impact	0.01	0.45	0.04	0.002
Sig. Impact Level	0.1	1.0	0.2	0.1

NOTE:

(1) The impacts represent the highest-high impact.

(2) The impacts are based on the difference between the existing and proposed SO2 emissions from the Nos.1, 2 and 3 Sulfuric acid plants, as previously submitted. The annual SO2 emission rates for the Nos. 1, 2 and 3 plants were revised as requested by FDEP, to 56.45, 57.08 and 51.91 g/s (448, 453 and 412 lbs/hr), respectively.

ATTACHMENT 2

EVALUATION OF GROWTH RELATED AMBIENT AIR IMPACTS

The growth-related (general commercial, residential, industrial and other growth) ambient air impacts are difficult to address accurately, as the air emission inventory of such growth since 1977 is not readily available from the FDEP database.

A conservative approach can be used to assess these ambient air impacts, by evaluating FDEP's ambient air monitoring data. For the area impacted by the proposed project, the information from the ambient air monitors closest to the facility can be reviewed.

By evaluating the annual concentration levels, the wind-direction bias for industrial sources can be minimized. It can be assumed that the differences in the ambient concentration levels result from changes in pollutant emission levels in the area. It can be further assumed that the growth-related impacts are a component of the measured levels.

The following information on the annual arithmetic average concentration is noted for the pollutants subject to PSD review for the proposed project:

(1) 1984 Annual SO2 at Anderson Road, Polk County = 14 ug/m3, or 0.005 ppm
(2) 2000 Annual SO2 at Anderson Road, Polk County = 0.005 ppm

The difference in measured SO2 concentrations is virtually zero.

(3) 1984 Annual NOX at Brandon, Hillsborough County = 27 ug/m3, or 0.014 ppm
(4) 1984 Annual NOX at Causeway Blvd, Hillsborough County = 35 ug/m3, or 0.018 ppm
(5) 2000 Annual NOX at Gandy Blvd, Hillsborough County = 0.011 ppm

The difference in measured NOX concentrations is negative.

Notes:
(1) Represents earliest year of data on FDEP website.
(2) Represents most recent year of data on FDEP website.
(3) Represents earliest year of data on FDEP website nearest to source.
(4) Represents earliest year of data on FDEP website nearest to current monitor.
(5) Represents most recent year of data on FDEP website for commercial area monitor.

It can be assumed, given the above data that any growth-related pollutant emission increases for SO2 and NOX have been negated by emission decreases through pollution reduction.

ATTACHMENT 3

ISSUES RAISED BY FISH AND WILDLIFE SERVICE

The deposition analysis for nitrogen oxides emissions from the proposed project resulted in a deposition of zero.

As requested by the US Fish and Wildlife Service, the visibility analysis has been revised herein using the updated protocol.

The first approach, using the maximum predicted 24-hr SO2 impact based on CALPUFF modeling results and an average annual relative humidity, results in a change in extinction of 5.9% as compared to the screening analysis threshold of 5%.

However, based on an analysis of day-specific impacts and relative humidity data, the maximum change in extinction is 4.99%, or 5.0% (see attached tables). As this impact does not exceed the screening analysis threshold of 5%, a cumulative analysis was not conducted.

The modeling output is provided on disk.

Summary of Top 3 SO2 24-hour Imapcts
Change of Visibility

Rank	ug/m ^ 3	On Day	Table 1 Daily Avg f_RH	Db %	
1	0.0417	08/12/90	4.3	5.0	Table 2
2	0.0338	02/01/90	5.5	4.9	Table 3
3	0.0297	03/17/90	5.1	4.1	Table 4

Table 1
Daily Average RH Factors

08/12/90		02/01/90		03/17/90	
Rh	f_RH	Rh	f_RH	Rh	f_RH
79	2.6	87	3.8	79	2.6
82	3	84	3.2	79	2.6
90	4.7	90	4.7	84	3.2
94	8.4	93	7	87	3.8
94	8.4	93	7	90	4.7
94	8.4	93	7	87	3.8
94	8.4	100	18.1	90	4.7
90	4.7	97	15.1	90	4.7
77	2.4	100	18.1	90	4.7
70	1.9	93	7	79	2.6
70	1.9	90	4.7	72	2
65	1.7	82	3	67	1.7
58	1.4	74	2.1	63	1.5
56	1.3	63	1.5	65	1.7
54	1.3	59	1.4	72	2
49	1.2	53	1.3	90	4.7
49	1.2	55	1.3	90	4.7
52	1.3	63	1.5	97	15.1
63	1.5	72	2	93	7
94	8.4	90	4.7	97	15.1
94	8.4	85	3.4	97	15.1
90	4.7	90	4.7	93	7
94	8.4	90	4.7	90	4.7
94	8.4	90	4.7	87	3.8
Daily Avg f_RH	4.3		5.5		5.1

Table 2	Table 3	Table 4
First High 08/12/90	Second High 02/01/90	Third High 03/17/90
Viz Ref Level ----------	Viz Ref Level ----------	Viz Ref Level ----------
Eq-6 P38	Eq-6 P38	Eq-6 P38
b_ext = b_hydro*f(RH)+b_nonhydro+b_ray	b_ext = b_hydro*f(RH)+b_nonhydro+b_r	b_ext = b_hydro*f(RH)+b_nonhydro
b_ref = 22.4 Mm-1	b_ref = 23.5 Mm-1	b_ref = 23.1 Mm-1
For chassahowitzka	For Chassahowitzka	For Chassahowitzka
b_hydro = 0.9	b_hydro 0.9	b_hydro 0.9
b_nonhydro 8.5	b_nonhyd 8.5	b_nonhyd 8.5
b_ray = 10	b_ray = 10	b_ray = 10
f(RH) = 4.3	f(RH) = 5.5	f(RH) = 5.1
Source Contribution ----------	Source Contribution ----------	Source Contribution ----------
SO2 = 0.042	SO2 = 0.034	SO2 = *****
SO4 = 0.063 ug/m^3	SO4 = 1.5*SO2	SO4 = 1.5*SO2
	SO4 = 0.051 ug/m^3	SO4 = **** ug/m^3
(NH4)2SO4 0.1 ug/m^3	Soot = 0 ug/m^3	Soot = 0 ug/m^3
Dry Scattering Efficiency	(NH4)2SO 0.1	(NH4)2SO 0.1
Eq-3 P35	Dry Scattering Efficiency	Dry Scattering Efficiency
b SO4 DRY 3	Eq-3 P35	Eq-3 P35
b_ext = 3 * (NH4)2SO4	b_ext = 3 * (NH4)2SO4	b_ext = 3 * (NH4)2SO4
0.3 Mm-1	0.2 Mm-1	0.2 Mm-1
b_Source = b_(NH4)2SO4 * fRH + b_EC	b_Source b_(NH4)2SO4 * fRH + b_EC	b_Source b_(NH4)2SO4 * fRH + b_E
1.1 Mm-1	1.1 Mm-1	0.9 Mm-1
Change in Extinction ----------	Change in Extinction ----------	Change in Extinction ----------
Db = (b_Source/b_ref)*100	Db = (b_Source/b_ref)*100	Db = (b_Source/b_ref)*100
Db = 5.0 %	Db = 4.9 %	Db = 4.1 %

4. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

If the purpose of this application is to obtain a Title V source air operation permit (check here [ ], if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application.

If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here [X], if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here [ ], if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

Signature

4/26/02
Date

(seal)

* Attach any exception to certification statement.