

Jeb Bush
Governor

Department of Environmental Protection

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

David B. Struhs
Secretary

October 23, 2002

Mr. John Bunyak, Chief
Policy, Planning & Permit Review Branch
NPS – Air Quality Division
Post Office Box 25287
Denver, Colorado 80225

RE: IMC Phosphates Company (New Wales)
DAP 1 Plant Production Increase
DEP File No. 1050059-039-AC, PSD-FL-331

Dear Mr. Bunyak:

Enclosed for your review and comment is a PSD application submitted by IMC Phosphates Company to increase production at the DAP 1 Plant at the company's existing facility in Mulberry, Polk County, Florida.

Your comments may be forwarded to my attention at the letterhead address or faxed to the Bureau of Air Regulation at 850/922-6979. If you have any questions, please contact Syed Arif, review engineer, at 850/921-9528.

Sincerely,

for Al Linero, P.E.
Administrator
New Source Review Section

AAL/pa
Enclosure
cc: Syed Arif

"More Protection, Less Process"

Printed on recycled paper.



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Department of Environmental Protection

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

David B. Struhs
Secretary

October 23, 2002

Ms. Jeaneanne M. Gettle
Acting Chief
Air Permits Section
U.S. EPA, Region 4
61 Forsyth Street
Atlanta, Georgia 30303

RE: IMC Phosphates Company (New Wales)
DAP 1 Plant Production Increase
DEP File No. 1050059-039-AC, PSD-FL-331

Dear Ms. Gettle:

Enclosed for your review and comment is a PSD application submitted by IMC Phosphates Company to increase production at the DAP 1 Plant at the company's existing facility in Mulberry, Polk County, Florida.

Your comments may be forwarded to my attention at the letterhead address or faxed to the Bureau of Air Regulation at 850/922-6979. If you have any questions, please contact Syed Arif, review engineer, at 850/921-9528.

Sincerely,

for Al Linero, P.E.
Administrator
New Source Review Section

AAL/pa
Enclosure
cc: Syed Arif

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KOOGLER & ASSOCIATES

ENVIRONMENTAL SERVICES

4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 ▪ FAX/377-7158

KA 124-01-01

October 9, 2002

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

RECEIVED

OCT 18 2002

BUREAU OF AIR REGULATION

Subject: IMC Phosphates Company (New Wales)
PSD Construction Permit Application
DAP 1 Plant Production Increase

Dear Mr. Linero:

Enclosed are seven copies of a PSD construction permit application, as discussed with Mr. Syed Arif, for an increase in the production rate of the DAP 1 Plant at IMC's New Wales facility, located in Polk County, Florida.

A check in the amount of \$7500 (application fee) and a disk containing the dispersion modeling output are also enclosed.

If you have any questions, please call me.

Very truly yours,

KOOGLER & ASSOCIATES

Pradeep Raval

Par.
Encl.

C: C. Dave Turley, IMC



John J. Ferguson
President
Chief Operating Officer

IMC Global Inc.
100 S. Saunders Road, Suite 300
Lake Forest, Illinois 60045-2561
847.739.1570
847.739.1670 Fax

September 30, 2002

Michael A. Daigle
Vice President, Florida Concentrates
IMC Phosphates MP, Inc.
P.O. Box 2000
Mulberry, Florida 33860-1100

RECEIVED

OCT 18 2002

BUREAU OF AIR REGULATION

Re: Delegation of Authority under Environmental Programs

Dear Mike:

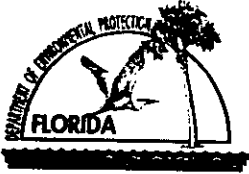
In your capacity as Vice President, Florida Concentrates for IMC Phosphates MP, Inc. (the "Corporation"),¹ you in charge of a principal business function for IMC Phosphates Company's concentrates operations in Florida. Consequently, for purposes of applicable environmental statutes and regulations, and in accordance with the By-laws of the Corporation, the resolutions of the Board of Directors, and the Amended and Restated Partnership Agreement of the Partnership, as amended, I hereby designate you as a Responsible Corporate Official for the Florida Concentrates operations and delegate to you the authority to execute all necessary environmental documentation and reports on behalf of the Florida Concentrates operations of the Corporation and the Partnership; provided, however, that such authority shall be subject to all necessary corporate approvals having been first obtained, as required by the By-laws, resolutions of the Board of Directors or actions of the Policy Committee of the Partnership, and is further limited now or in the future by such resolutions, management guides, and actions as may be inconsistent with this delegation.

As you know, this delegation has been in effect since the 27th day of August 2002, and supersedes any previous delegations of similar authority that may have been given either to you or to any predecessor with responsibilities similar to yours.

A handwritten signature in black ink, appearing to read "John J. Ferguson".

John J. Ferguson
President and Chief Operating Officer, IMC Global Inc.
President, IMC Phosphates MP, Inc.

¹ IMC Phosphates MP, Inc. is the managing general partner of IMC Phosphates Company, a general partnership organized under the laws of Delaware (the "Partnership").



Department of Environmental Protection

Division of Air Resources Management

APPLICATION FOR AIR PERMIT - TITLE V SOURCE

See Instructions for Form No. 62-210.900(1)

RECEIVED

I. APPLICATION INFORMATION

OCT 18 2002

BUREAU OF AIR REGULATION

Identification of Facility

1. Facility Owner/Company Name: IMC Phosphates Company	
2. Site Name: IMC New Wales	
3. Facility Identification Number: 1050059 [] Unknown	
4. Facility Location: Street Address or Other Locator: 3095 Highway 640 City: Mulberry County: Polk Zip Code: 33860	
5. Relocatable Facility? [] Yes [X] No	6. Existing Permitted Facility? [X] Yes [] No

Application Contact

1. Name and Title of Application Contact: Pradeep Raval, Consultant	
2. Application Contact Mailing Address: Organization/Firm: Koogler & Associates Street Address: 4014 NW 13th Street City: Gainesville State: FL Zip Code: 32609	
3. Application Contact Telephone Numbers: Telephone: (352) 377-5822 Fax: (352) 377-7158	

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	10-18-2002
2. Permit Number:	1050059-039-AC
3. PSD Number (if applicable):	PSD-FL-331
4. Siting Number (if applicable):	

Purpose of Application

Air Operation Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

- Initial Title V air operation permit for an existing facility which is classified as a Title V source.
- Initial Title V air operation permit for a facility which, upon start up of one or more newly constructed or modified emissions units addressed in this application, would become classified as a Title V source.

Current construction permit number: _____

- Title V air operation permit revision to address one or more newly constructed or modified emissions units addressed in this application.

Current construction permit number: _____

Operation permit number to be revised: _____

- Title V air operation permit revision or administrative correction to address one or more proposed new or modified emissions units and to be processed concurrently with the air construction permit application. (Also check Air Construction Permit Application below.)

Operation permit number to be revised/corrected: _____

- Title V air operation permit revision for reasons other than construction or modification of an emissions unit. Give reason for the revision; e.g., to comply with a new applicable requirement or to request approval of an "Early Reductions" proposal.

Operation permit number to be revised: _____

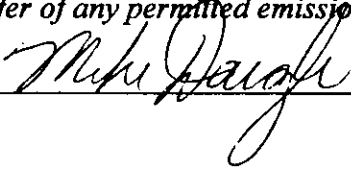
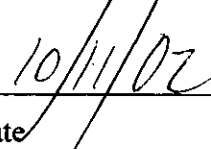
Reason for revision: _____

Air Construction Permit Application

This Application for Air Permit is submitted to obtain: (Check one)

- Air construction permit to construct or modify one or more emissions units.
- Air construction permit to make federally enforceable an assumed restriction on the potential emissions of one or more existing, permitted emissions units.
- Air construction permit for one or more existing, but unpermitted, emissions units.

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official: Mike Daigle, Vice President, Florida Concentrates
2. Owner/Authorized Representative or Responsible Official Mailing Address: Organization/Firm: IMC Phosphates Company Street Address: P.O. Box 2000 City: Mulberry State: FL Zip Code: 33860
3. Owner/Authorized Representative or Responsible Official Telephone Numbers: Telephone: (863) 428-2500 Fax: () -
4. Owner/Authorized Representative or Responsible Official Statement: <i>I, the undersigned, am the owner or authorized representative*(check here [], if so) or the responsible official (check here [X], if so) of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions unit.</i>  _____ Signature  _____ Date

* Attach letter of authorization if not currently on file.

Professional Engineer Certification

1. Professional Engineer Name: John B. Koogler, Ph.D., P.E. Registration Number: 12925
2. Professional Engineer Mailing Address: Organization/Firm: Koogler & Associates Street Address: 4014 NW 13th Street City: Gainesville State: FL Zip Code: 32609
3. Professional Engineer Telephone Numbers: Telephone: (352) 377- 5822 Fax: (352) 377- 7158

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

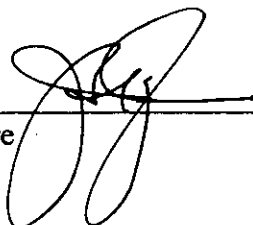
(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions 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 [], 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



(seal)

Date

10/20/02

* Attach any exception to certification statement.

Construction/Modification Information

1. Description of Proposed Project or Alterations:

For permitting of the DAP 1 Plant at a production rate of 155 tons per hour of product, in accordance with discussions with FDEP staff. The permitted annual production rate will remain unchanged.

2. Projected or Actual Date of Commencement of Construction: **NA**

3. Projected Date of Completion of Construction: **NA**

Application Comment

The application is presented in the format previously discussed with FDEP. The information submitted herein is limited to the requested changes, as suggested by FDEP.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates: Zone: 17 East (km): 396.6 North (km): 3078.9			
2. Facility Latitude/Longitude: NA Latitude (DD/MM/SS): Longitude (DD/MM/SS):			
3. Governmental Facility Code: 0	4. Facility Status Code: A	5. Facility Major Group SIC Code: 28	6. Facility SIC(s): 2874
7. Facility Comment (limit to 500 characters):			

Facility Contact

1. Name and Title of Facility Contact: P.A. Steadham, Manager Environmental Services			
2. Facility Contact Mailing Address: Organization/Firm: IMC Phosphates Company Street Address: P.O. Box 2000 City: Mulberry State: FL Zip Code: 33860			
3. Facility Contact Telephone Numbers: Telephone: Telephone: (863) 428- 2500 Fax: () -			

Facility Regulatory Classifications

Check all that apply:

1. <input type="checkbox"/> Small Business Stationary Source?	<input type="checkbox"/> Unknown
2. <input checked="" type="checkbox"/> Major Source of Pollutants Other than Hazardous Air Pollutants (HAPs)?	
3. <input type="checkbox"/> Synthetic Minor Source of Pollutants Other than HAPs?	
4. <input type="checkbox"/> Major Source of Hazardous Air Pollutants (HAPs)?	
5. <input type="checkbox"/> Synthetic Minor Source of HAPs?	
6. <input checked="" type="checkbox"/> One or More Emissions Units Subject to NSPS?	
7. <input type="checkbox"/> One or More Emission Units Subject to NESHAP?	
8. <input type="checkbox"/> Title V Source by EPA Designation?	
9. Facility Regulatory Classifications Comment (limit to 200 characters):	

List of Applicable Regulations

See Attachment 1.	

B. FACILITY POLLUTANTS

List of Pollutants Emitted

1. Pollutant Emitted	2. Pollutant Classif.	3. Requested Emissions Cap		4. Basis for Emissions Cap	5. Pollutant Comment
		lb/hour	tons/year		
PM/PM10	A				
SO2	A				
NOX	A				
SAM	A				
FL	A				

C. FACILITY SUPPLEMENTAL INFORMATION

Supplemental Requirements

1. Area Map Showing Facility Location: <input checked="" type="checkbox"/> Attached, Document ID: Report <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
2. Facility Plot Plan: <input checked="" type="checkbox"/> Attached, Document ID: Report <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
3. Process Flow Diagram(s): <input checked="" type="checkbox"/> Attached, Document ID: Report <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
4. Precautions to Prevent Emissions of Unconfined Particulate Matter: <input checked="" type="checkbox"/> Attached, Document ID: Report <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
5. Fugitive Emissions Identification: <input checked="" type="checkbox"/> Attached, Document ID: Report <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
6. Supplemental Information for Construction Permit Application: <input checked="" type="checkbox"/> Attached, Document ID: Report <input type="checkbox"/> Not Applicable
7. Supplemental Requirements Comment: See attached report in support of the PSD construction permit application.

Additional Supplemental Requirements for Title V Air Operation Permit Applications

8. List of Proposed Insignificant Activities: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
9. List of Equipment/Activities Regulated under Title VI: <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Equipment/Activities On site but Not Required to be Individually Listed <input checked="" type="checkbox"/> Not Applicable
10. Alternative Methods of Operation: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
11. Alternative Modes of Operation (Emissions Trading): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Identification of Additional Applicable Requirements: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
13. Risk Management Plan Verification: <input type="checkbox"/> Plan previously submitted to Chemical Emergency Preparedness and Prevention Office (CEPPO). Verification of submittal attached (Document ID: _____) or previously submitted to DEP (Date and DEP Office: _____) <input type="checkbox"/> Plan to be submitted to CEPPO (Date required: _____) <input checked="" type="checkbox"/> Not Applicable
14. Compliance Report and Plan: <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
15. Compliance Certification (Hard-copy Required): <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through J as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application.

**A. GENERAL EMISSIONS UNIT INFORMATION
(All Emissions Units)**

Emissions Unit Description and Status

<p>1. Type of Emissions Unit Addressed in This Section: (Check one)</p> <p><input checked="" type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).</p> <p><input type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.</p> <p><input type="checkbox"/> This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.</p>			
<p>2. Regulated or Unregulated Emissions Unit? (Check one)</p> <p><input checked="" type="checkbox"/> The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.</p> <p><input type="checkbox"/> The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.</p>			
<p>2. Description of Emissions Unit Addressed in This Section (limit to 60 characters): DAP 1 Plant</p>			
<p>4. Emissions Unit Identification Number: ID: 009</p>		<p><input type="checkbox"/> No ID <input type="checkbox"/> ID Unknown</p>	
<p>5. Emissions Unit Status Code: A</p>	<p>6. Initial Startup Date: NA</p>	<p>7. Emissions Unit Major Group SIC Code: 28</p>	<p>8. Acid Rain Unit? <input type="checkbox"/></p>
<p>9. Emissions Unit Comment: (Limit to 500 Characters)</p>			

Emissions Unit Control Equipment

<p>1. Control Equipment/Method Description (Limit to 200 characters per device or method):</p> <p>Three venturi scrubbers followed by impact sprays and cyclonic demister.</p>
<p>2. Control Device or Method Code(s): 013</p>

Emissions Unit Details

1. Package Unit: NA	Model Number:
Manufacturer:	MW
2. Generator Nameplate Rating:	
3. Incinerator Information:	
Dwell Temperature:	°F
Dwell Time:	seconds
Incinerator Afterburner Temperature:	°F

**B. EMISSIONS UNIT CAPACITY INFORMATION
(Regulated Emissions Units Only)**

Emissions Unit Operating Capacity and Schedule

1. Maximum Heat Input Rate:	28	mmBtu/hr
2. Maximum Incineration Rate:	lb/hr	tons/day
3. Maximum Process or Throughput Rate:	155 tph product	
4. Maximum Production Rate:		
5. Requested Maximum Operating Schedule:	24 hours/day	7 days/week
	52 weeks/year	8760 hours/year
6. Operating Capacity/Schedule Comment (limit to 200 characters):		

**C. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)**

List of Applicable Regulations

Report	

**D. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)**

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram? DAP 1 Plant		2. Emission Point Type Code: 1	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):			
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:			
5. Discharge Type Code: V	6. Stack Height: 133 feet	7. Exit Diameter: 7 feet	
8. Exit Temperature: 170 °F	9. Actual Volumetric Flow Rate: 180,000 acfm	10. Water Vapor: %	
11. Maximum Dry Standard Flow Rate: dscfm		12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates: Zone: East (km): North (km):			
14. Emission Point Comment (limit to 200 characters):			

**E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)**

Segment Description and Rate: Segment 1 of 4

1. Segment Description (Process/Fuel Type) (limit to 500 characters): GMAP/DAP production		
2. Source Classification Code (SCC): 3-01-030-02		3. SCC Units: Tons Product
4. Maximum Hourly Rate: 155 tph	5. Maximum Annual Rate: 1,314,000	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment (limit to 200 characters): The currently permitted annual production rate will remain unchanged.		

Segment Description and Rate: Segment 2 of 4

1. Segment Description (Process/Fuel Type) (limit to 500 characters): Natural gas burning		
2. Source Classification Code (SCC): 3-90-006-99		3. SCC Units: MMCF
4. Maximum Hourly Rate: 0.027	5. Maximum Annual Rate: 239	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: 1025
10. Segment Comment (limit to 200 characters):		

E. SEGMENT (PROCESS/FUEL) INFORMATION
(All Emissions Units)

Segment Description and Rate: Segment 3 of 4

1. Segment Description (Process/Fuel Type) (limit to 500 characters): Residual fuel oil burning		
2. Source Classification Code (SCC): 3-90-004-99		3. SCC Units: 1000 gals burned
4. Maximum Hourly Rate: 0.186 tph	5. Maximum Annual Rate: See Report	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 2.5	8. Maximum % Ash:	9. Million Btu per SCC Unit: 150
10. Segment Comment (limit to 200 characters): See Report.		

Segment Description and Rate: Segment 4 of 4

1. Segment Description (Process/Fuel Type) (limit to 500 characters): #2 fuel oil burning		
2. Source Classification Code (SCC): 3-90-004-99		3. SCC Units: 1000 gals burned
4. Maximum Hourly Rate: 0.2	5. Maximum Annual Rate: See Report	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur: 0.5	8. Maximum % Ash:	9. Million Btu per SCC Unit: 140
10. Segment Comment (limit to 200 characters): See Report		

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: FL		2. Total Percent Efficiency of Control: NA	
3. Potential Emissions: 3.3 lb/hour 14 tons/year		4. Synthetically Limited? []	
5. Range of Estimated Fugitive Emissions: [] 1 [] 2 [] 3 _____ to _____ tons/year			
6. Emission Factor: 0.04 lb/ton P2O5 in Reference: BACT		7. Emissions Method Code: 1	
8. Calculation of Emissions (limit to 600 characters): FL = 82 tph P2O5 input x 0.04 lb/ton P2O5 = 3.3 lb/hr Annual = 80 tphP2O5 x 0.04 lb/ton P2O5 x 8760 hrs x ton/2000 lbs = 14 tpy			
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):			

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: Rule		2. Future Effective Date of Allowable Emissions:	
3. Requested Allowable Emissions and Units: 3.3 lb/hr		4. Equivalent Allowable Emissions: 3.3 lb/hour 14 tons/year	
5. Method of Compliance (limit to 60 characters): EPA Method 13A, 13B			
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): Based on BACT.			

Emissions Unit Information Section 1 of 1

Pollutant Detail Information Page 2 of 6

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

(Regulated Emissions Units -

Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: PM/PM10	2. Total Percent Efficiency of Control: NA
3. Potential Emissions: 16.4 lb/hour 70.1	4. Synthetically Limited? [<input type="checkbox"/>]
5. Range of Estimated Fugitive Emissions: [<input type="checkbox"/>] 1 [<input type="checkbox"/>] 2 [<input type="checkbox"/>] 3 _____ to _____ tons/year	
6. Emission Factor: 0.2 lb/ton P2O5 Reference: BACT	7. Emissions Method Code: 1
8. Calculation of Emissions (limit to 600 characters): PM/PM10 = 82 tph P2O5 input x 0.2 lb/ton P2O5 = 16.4 lb/hr Annual = 80 tphP2O5 x 0.2 lb/ton P2O5 x 8760 hrs x ton/2000 lbs = 70.1 tpy	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: Rule	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 16.4 lb/hr	4. Equivalent Allowable Emissions: 16.4 lb/hour 70.1 tons/year
5. Method of Compliance (limit to 60 characters): EPA Method 5	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): Based on BACT.	

Emissions Unit Information Section 1 of 1

Pollutant Detail Information Page 3 of 6

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

(Regulated Emissions Units -

Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: SO2	2. Total Percent Efficiency of Control: %
3. Potential Emissions: lb/hour 80 tons/year	4. Synthetically Limited? <input checked="" type="checkbox"/>
5. Range of Estimated Fugitive Emissions: [] 1 [] 2 [] 3 _____ to _____ tons/year	
6. Emission Factor: See Report Reference:	7. Emissions Method Code:
8. Calculation of Emissions (limit to 600 characters): See Report Annual SO2 = 80 tpy	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): Any combination of fuels annually, not to exceed 80 tpy of sulfur dioxide emissions.	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: Rule	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 80 tpy	4. Equivalent Allowable Emissions: lb/hour 80 tons/year
5. Method of Compliance (limit to 60 characters): Fuel logs	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): Based on liquid/gas fuel use.	

Emissions Unit Information Section 1 of 1

Pollutant Detail Information Page 4 of 6

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION

(Regulated Emissions Units -

Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: NOX	2. Total Percent Efficiency of Control: NA
3. Potential Emissions: lb/hour 45 tons/year	4. Synthetically Limited? <input checked="" type="checkbox"/>
5. Range of Estimated Fugitive Emissions: [] 1 [] 2 [] 3 _____ to _____ tons/year	
6. Emission Factor: See Report Reference:	7. Emissions Method Code:
8. Calculation of Emissions (limit to 600 characters): Annual NOx = 45 tpy	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters):	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: Rule	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units: 45 tpy	4. Equivalent Allowable Emissions: lb/hour 45 tons/year
5. Method of Compliance (limit to 60 characters): Fuel logs	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters): Based on liquid and gas fuel use.	

Emissions Unit Information Section 1 of 1

Pollutant Detail Information Page 5 of 6

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: CO	2. Total Percent Efficiency of Control: NA
3. Potential Emissions: <div style="text-align: right;">lb/hour 10.0 tons/year</div>	4. Synthetically Limited? [<input type="checkbox"/>]
5. Range of Estimated Fugitive Emissions: <div style="text-align: center;">[<input type="checkbox"/>] 1 [<input type="checkbox"/>] 2 [<input type="checkbox"/>] 3 _____ to _____ tons/year</div>	
6. Emission Factor: 84 lb/MMCF Reference: AP-42	7. Emissions Method Code: 3
8. Calculation of Emissions (limit to 600 characters): CO = 84 lb/MMCF x 239 MMCF/yr x ton/2000 lbs = 10.0 tpy	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): Based on liquid and gas fuel use.	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: NA	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: <div style="text-align: right;">lb/hour tons/year</div>
5. Method of Compliance (limit to 60 characters):	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):	

Emissions Unit Information Section 1 of 1

Pollutant Detail Information Page 6 of 6

G. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units -
Emissions-Limited and Preconstruction Review Pollutants Only)

Potential/Fugitive Emissions

1. Pollutant Emitted: VOC	2. Total Percent Efficiency of Control: NA
3. Potential Emissions: lb/hour 0.7 tons/year	4. Synthetically Limited? [<input type="checkbox"/>]
5. Range of Estimated Fugitive Emissions: [<input type="checkbox"/>] 1 [<input type="checkbox"/>] 2 [<input type="checkbox"/>] 3 _____ to _____ tons/year	
6. Emission Factor: 5.5 lb/MMCF Reference: AP-42	7. Emissions Method Code: 3
8. Calculation of Emissions (limit to 600 characters): VOC = 5.5 lb/MMCF x 239 MMCF/yr x ton/2000 lbs = 0.7 tpy	
9. Pollutant Potential/Fugitive Emissions Comment (limit to 200 characters): Based on liquid and gas fuel use.	

Allowable Emissions Allowable Emissions 1 of 1

1. Basis for Allowable Emissions Code: NA	2. Future Effective Date of Allowable Emissions:
3. Requested Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance (limit to 60 characters):	
6. Allowable Emissions Comment (Desc. of Operating Method) (limit to 200 characters):	

**J. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)**

Supplemental Requirements

1. Process Flow Diagram <input checked="" type="checkbox"/> Attached, Document ID: Report <input type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
2. Fuel Analysis or Specification <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> Waiver Requested
3. Detailed Description of Control Equipment <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> Waiver Requested
4. Description of Stack Sampling Facilities <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Not Applicable <input checked="" type="checkbox"/> Waiver Requested
5. Compliance Test Report <input type="checkbox"/> Attached, Document ID: _____ <input type="checkbox"/> Previously submitted, Date: _____ <input checked="" type="checkbox"/> Not Applicable
6. Procedures for Startup and Shutdown <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
7. Operation and Maintenance Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> Waiver Requested
8. Supplemental Information for Construction Permit Application <input checked="" type="checkbox"/> Attached, Document ID: Report <input type="checkbox"/> Not Applicable
9. Other Information Required by Rule or Statute <input checked="" type="checkbox"/> Attached, Document ID: Report <input type="checkbox"/> Not Applicable
10. Supplemental Requirements Comment: See Report.

Additional Supplemental Requirements for Title V Air Operation Permit Applications

11. Alternative Methods of Operation <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
12. Alternative Modes of Operation (Emissions Trading) <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
13. Identification of Additional Applicable Requirements <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
14. Compliance Assurance Monitoring Plan <input type="checkbox"/> Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable
15. Acid Rain Part Application (Hard-copy Required) <input type="checkbox"/> Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ <input type="checkbox"/> Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ <input type="checkbox"/> New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ <input type="checkbox"/> Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ <input type="checkbox"/> Phase II NOx Compliance Plan (Form No. 62-210.900(1)(a)4.) Attached, Document ID: _____ <input type="checkbox"/> Phase NOx Averaging Plan (Form No. 62-210.900(1)(a)5.) Attached, Document ID: _____ <input checked="" type="checkbox"/> Not Applicable

**REPORT IN SUPPORT OF PSD APPLICATION
FOR
INCREASE IN DAP 1 PLANT PRODUCTION**

IMC PHOSPHATES COMPANY

REPORT PREPARED BY

**KOOGLER & ASSOCIATES
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(352) 377-5822**

OCTOBER 2002

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1.0 INTRODUCTION

IMC Phosphates Company (IMC) proposes to increase the hourly production rate of the DAP 1 Plant, located at the New Wales facility, from 150 to 155 tons per hour (tph). No changes to the currently permitted annual production rates are requested. This application is in response to FDEP's Southwest District's request to address applicable construction permitting issues associated with an increase in the production rate of the plant.

IMC's New Wales facility manufactures sulfuric acid, phosphoric acid, ammoniated fertilizers and animal feed ingredients. The existing DAP 1 Plant can make either product, monoammonium or diammonium phosphate fertilizer, depending on market demand. The product can be enhanced by the addition of small quantities of various compounds. It is expected that the higher hourly production rate will be accomplished without any changes to the existing equipment. Plant maps and process flow diagrams are presented in Figures 1-1 to 1-5.

The proposed project is expected to result in a significant increase, as defined in Rule 62-212, Florida Administrative Code (FAC), in the emissions of fluorides and particulate matter (see Tables 1-1 and 1-2). This technical evaluation addresses rule applicability, Best Available Control Technology (BACT) and air impact analyses pursuant to Rule 62-212, FAC.

IMC proposes the continued use of the existing venturi and cyclonic scrubbers as BACT for the DAP 1 Plant with a fluoride emissions limit of 0.04 lb/ton P₂O₅ input; and, a particulate matter emissions limit of 0.2 lb/ton P₂O₅ input. These emission limits represent some of the most stringent limitations imposed on MAP/DAP Plants in the US.

FIGURE 1-1

SITE LOCATION MAP

IMC PHOSPHATES COMPANY
NEW WALES PLANT

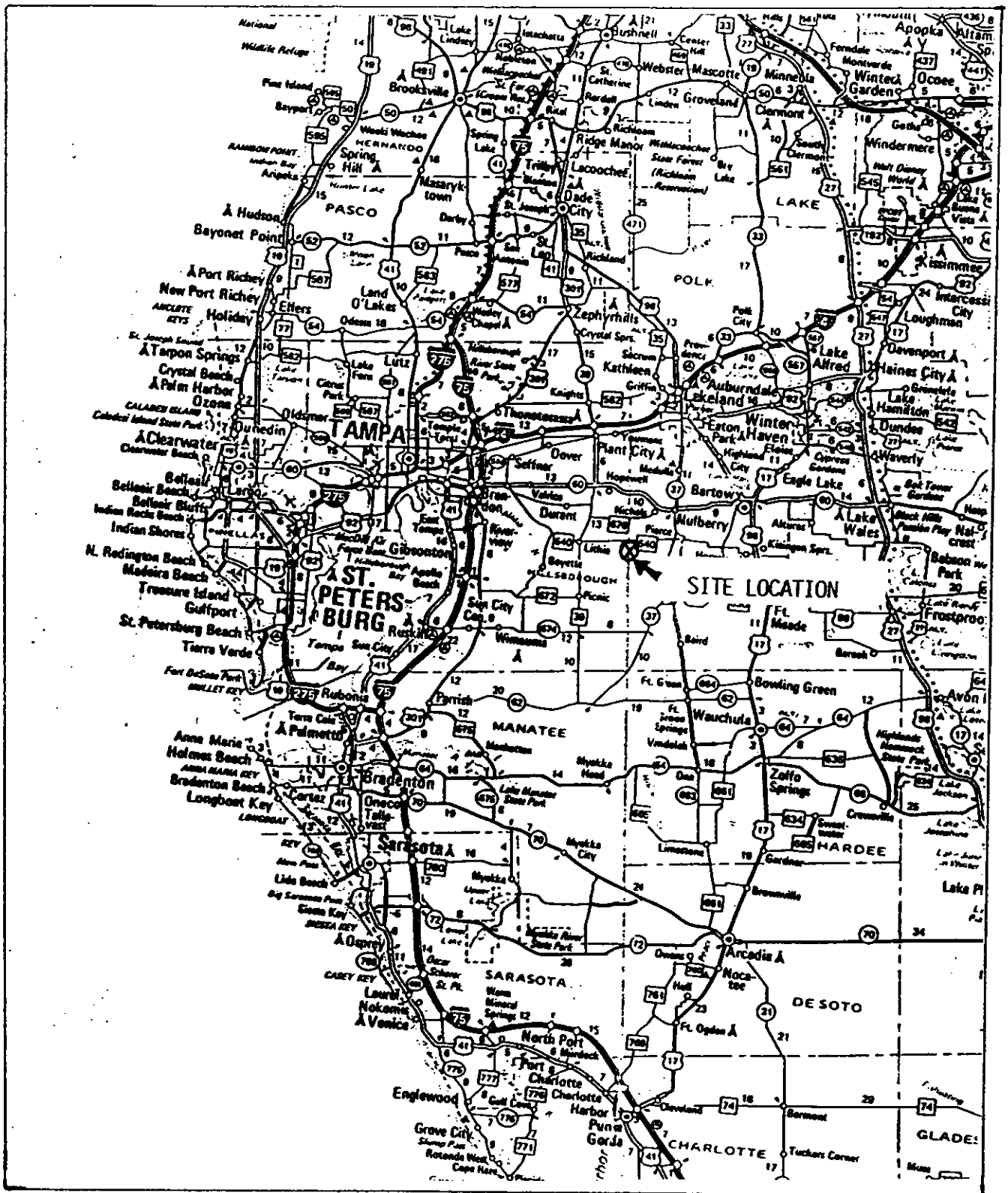
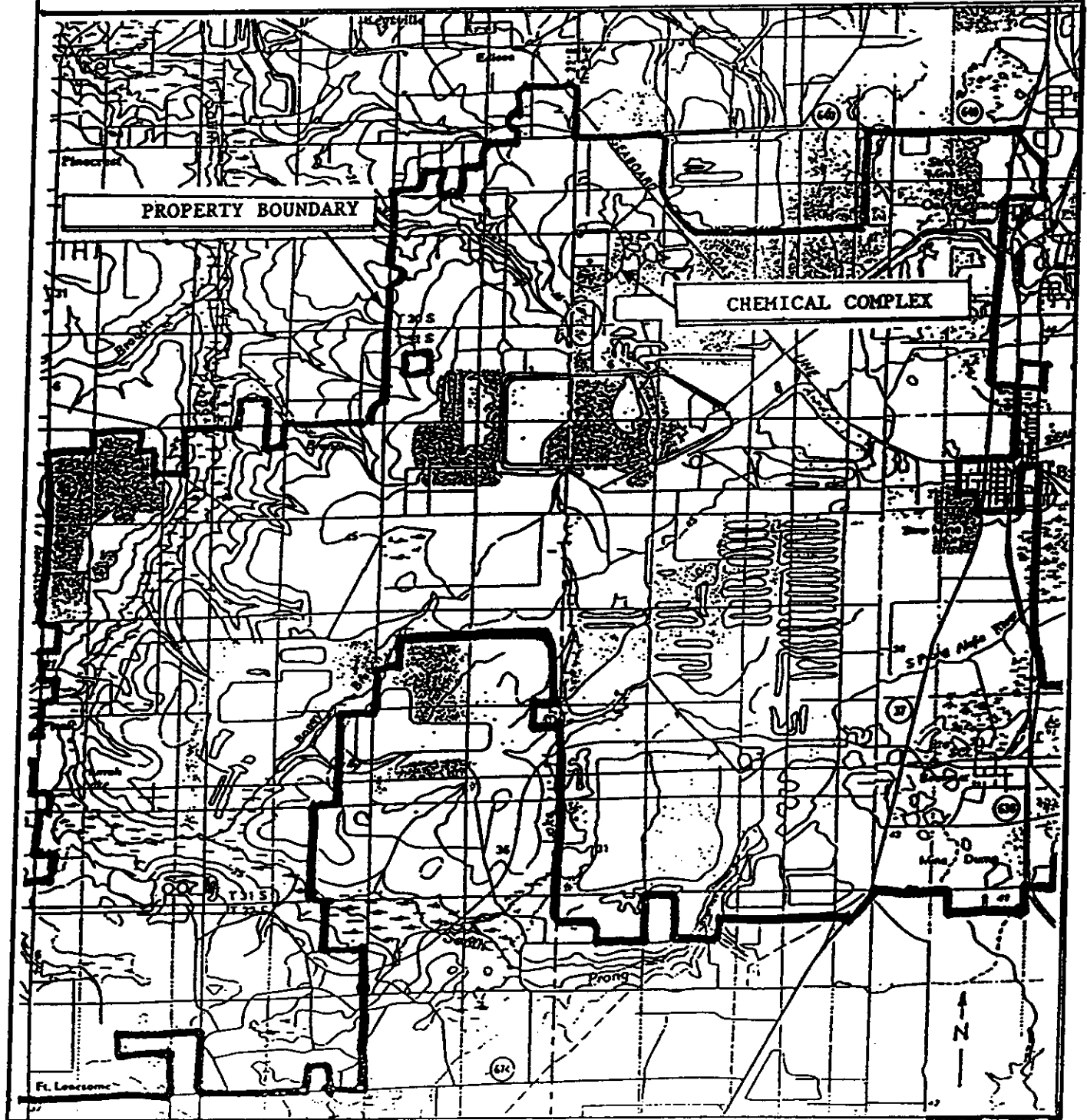


FIGURE 1-2

AREA LOCATION MAP

IMC PHOSPHATES COMPANY
NEW WALES PLANT



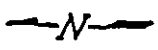
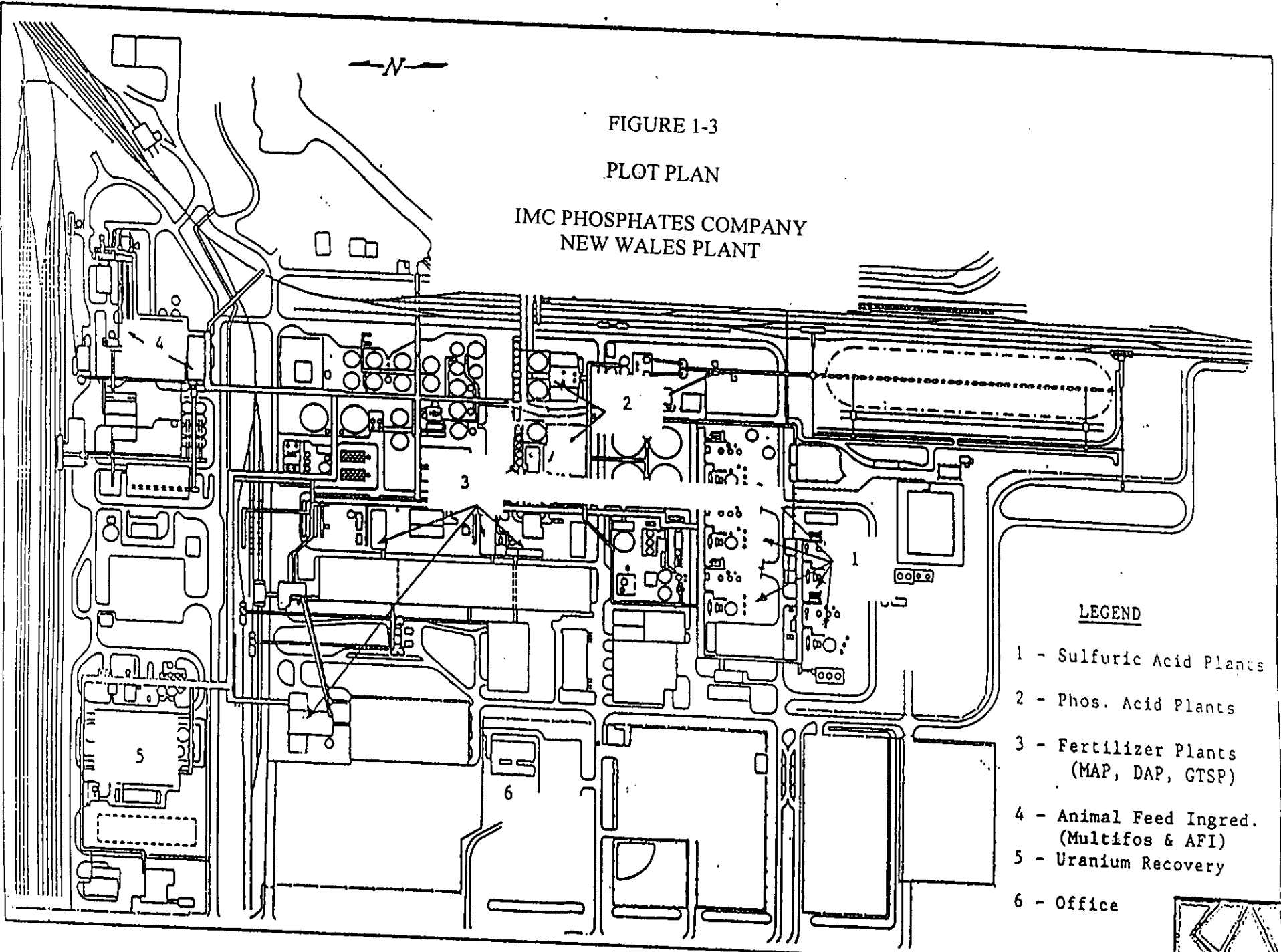


FIGURE 1-3
PLOT PLAN

IMC PHOSPHATES COMPANY
NEW WALES PLANT



LEGEND

- 1 - Sulfuric Acid Plants
- 2 - Phos. Acid Plants
- 3 - Fertilizer Plants
(MAP, DAP, GTSP)
- 4 - Animal Feed Ingrid.
(Multifos & AFI)
- 5 - Uranium Recovery
- 6 - Office



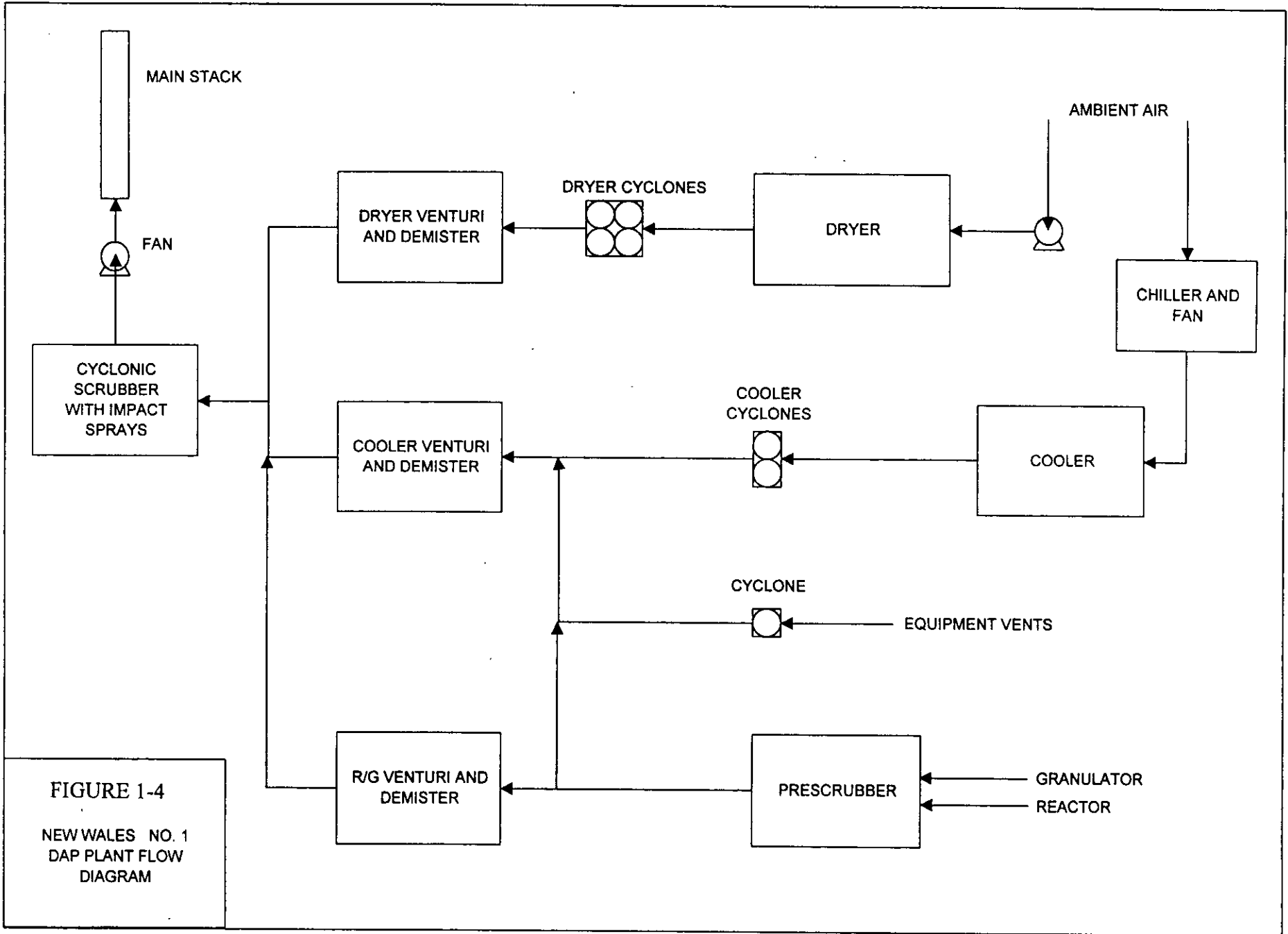


FIGURE 1-4

NEW WALES NO. 1
DAP PLANT FLOW
DIAGRAM

TABLE 1-1
SUMMARY OF EMISSION CHANGES
DAP 1 PLANT

		<u>EMISSIONS (TPY)</u>	
ACTUAL EMISSIONS:			
Fluorides (F)	1.7		
Particulates (PM/PM10)	31.7		
Sulfur Dioxide (SO2)	45.7		
Nitrogen Oxides (NOX)	7.0		
PROPOSED EMISSIONS:			
Fluorides (F)	14.0		
Particulates (PM/PM10)	70.1		
Sulfur Dioxide (SO2)	80.0		
Nitrogen Oxides (NOX)	45.0		
NET EMISSIONS:		<u>PSD LEVEL (TPY)</u>	<u>PSD REVIEW</u>
Fluorides (F)	12.3	3	YES
Particulates (PM/PM10)	38.4	15 (PM10)	YES
Sulfur Dioxide (SO2)	34.3	40	NO
Nitrogen Oxides (NOX)	38.0	40	NO

2.0 RULE REVIEW

The following are the state and federal air regulatory requirements that apply to new or modified sources subject to a PSD review.

In accordance with EPA and state of Florida PSD review requirements, all major new or modified sources of air pollutants regulated under the Clean Air Act (CAA) are subject to preconstruction review. Florida's State Implementation Plan (SIP), approved by the EPA, authorizes the Florida Department of Environmental Protection (FDEP) to manage the air pollution program in Florida.

The PSD review determines whether or not significant air quality deterioration will result from a new or modified facility. Federal PSD regulations are contained in 40CFR52.21, Prevention of Significant Deterioration of Air Quality. The state of Florida has adopted PSD regulations that are essentially identical to the federal regulations and are contained in Chapter 62-212 of the Florida Administration Code (FAC). All new major sources and major modifications to existing sources are subject to control technology review, source impact analysis, air quality analysis and additional impact analyses for each pollutant subject to a PSD review. A facility must also comply with the Good Engineering Practice (GEP) stack height rule.

A major facility is defined in the PSD rules as any one of the 28 specific source categories (see Table 2-1) which has the potential to emit 100 tons per year (tpy) or more, or any other stationary facility which has the potential to emit 250 tpy or more, of any pollutant regulated under the CAA. A major modification is defined in the PSD rules as a change at an existing major facility which increases the actual emissions by greater than significant amounts (see Table 2-2).

2.1 Ambient Air Quality Standards

The EPA and the state of Florida have developed/adopted ambient air quality standards, AAQS (see Table 2-3). Primary AAQS protect the public health while the secondary AAQS protect the public welfare from adverse effects of air pollution. Areas of the country have been designated as attainment or nonattainment for specific pollutants. Areas not meeting the AAQS for a given pollutant are designated as nonattainment areas for that pollutant. Any new source or expansion of existing sources in or near these nonattainment areas is usually subject to more stringent air permitting requirements. Projects proposed in attainment areas are subject to air permit requirements that ensure continued attainment status.

2.2 PSD Increments

In promulgating the 1977 CAA Amendments, Congress quantified concentration increases above an air quality baseline concentration levels for sulfur dioxide (SO₂) and particulate matter (PM/TSP) which would constitute significant deterioration. The size of the allowable

increment depends on the classification of the area in which the source would be located or have an impact. Class I areas include specific national parks, wilderness areas and memorial parks. Class II areas are all areas not designated as Class I areas and Class III areas are industrial areas in which greater deterioration than Class II areas would be allowed. There are no designated Class III areas in Florida.

In 1988, EPA promulgated PSD regulations for nitrogen oxides (NO_x) and PSD increments for nitrogen dioxide (NO₂) concentrations. FDEP adopted the NO₂ increments in July 1990 (see Table 2-4 for PSD increments).

In the PSD regulations, as amended August 7, 1980, baseline concentration is defined as the ambient concentration level for a given pollutant which exists in the baseline area at the time of the applicable baseline date and includes the actual emissions representative of facilities in existence on the applicable baseline date, and the allowable emissions of major stationary facilities which commenced construction before January 6, 1975, but were not in operation by the applicable baseline date.

The emissions not included in the baseline concentration and, therefore, affecting PSD increment consumption are the actual emissions from any major stationary facility on which construction commenced after January 6, 1975, for SO₂ and PM (TSP) and February 8, 1988, for NO₂, and the actual emission increases and decreases at any stationary facility occurring after the baseline date.

2.3 Control Technology Evaluation

The PSD control technology review requires that all applicable federal and state emission limiting standards be met and that Best Available Control Technology (BACT) be applied to the source. The BACT requirements are applicable to all regulated pollutants subject to a PSD review.

BACT is defined in Chapter 62-212, FAC as an emission limitation, including a visible emission standard, based on the maximum degree of reduction of each pollutant emitted which the Department, on a case-by-case basis, taking into account energy, environmental, and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques (including fuel cleaning or treatment or innovative fuel combustion techniques) for control of such pollutant.

If the Department determines that technological or economic limitations on the application of measurement methodology to a particular part of a source or facility would make the imposition of an emission standard infeasible, a design, equipment, work practice, operational standard or combination thereof, may be prescribed instead, to satisfy the requirement for the application of BACT. Such standard shall, to the degree possible, set forth the emissions reductions achievable by implementation of such design, equipment, work practice or operation. Each BACT determination shall include applicable test methods

or shall provide for determining compliance with the standard(s) by means that achieve equivalent results.

The reason for evaluating the BACT is to minimize as much as possible the consumption of PSD increments and to allow future growth without significantly degrading air quality. The BACT review also analyzes if the most current control systems are incorporated in the design of a proposed facility. The BACT, as a minimum, has to comply with the applicable New Source Performance Standard for the source. The BACT analysis requires the evaluation of the available air pollution control methods including a cost-benefit analysis of the alternatives. The cost-benefit analysis includes consideration of materials, energy, and economic penalties associated with the control systems, as well as environmental benefits derived from the alternatives.

EPA determined that the bottom-up approach (starting at NSPS and working up to BACT) was not providing the level of BACT originally intended. As a result, in December 1987, EPA strongly suggested changes in the implementation of the PSD program including the "top-down" approach to BACT. The top-down approach requires an applicant to start with the most stringent control alternative, often Lowest Achievable Emission Rate (LAER), and justify its rejection or acceptance as BACT. Rejection of control alternatives may be based on technical or economical infeasibility, physical differences, locational differences, and environmental or energy impact differences when comparing a proposed project with a project previously subject to that BACT.

2.4 Air Quality Monitoring

An application for a PSD permit requires an analysis of ambient air quality in the area affected by the proposed facility or major modification. For a new major facility, the affected pollutants are those that the facility would potentially emit in significant amounts. For a major modification, the pollutants are those for which the net emissions increase exceeds the significant emission rate.

Ambient air monitoring for a period of up to one year, but no less than four months, is required. Existing ambient air data for a location in the vicinity of the proposed project is acceptable if the data meet FDEP quality assurance requirements. If not, additional data would need to be gathered. There are guidelines available for designing a PSD air monitoring network in EPA's "Ambient Monitoring Guidelines for Prevention of Significant Deterioration."

FDEP may exempt a proposed major stationary facility or major modification from the monitoring requirements with respect to a particular pollutant if the emissions increase of the pollutant from the facility or modification would cause air quality impacts less than the de minimus levels (see Table 2-2).

2.5 Ambient Impact Analysis

A source impact analysis is required for a proposed major source subject to PSD for each pollutant for which the increase in emissions exceeds the significant emission rate. Specific atmospheric dispersion models are required in performing the impact analysis. The analysis should demonstrate the project's compliance with AAQS and allowable PSD increments. The impact analysis for criteria pollutants may be limited to only the new or modified source if the net increase in impacts due to the new or modified source is below significant impact levels.

Typically, a five-year period is used for the evaluation of the highest, second-highest short-term concentrations for comparison to AAQS or PSD increments. The term "highest, second-highest" refers to the highest of the second-highest concentrations at all receptors. The second-highest concentration is considered because short-term AAQS specify that the standard should not be exceeded at any location more than once a year. If less than five years of meteorological data are used in the modeling analysis, the highest concentration at each receptor is normally used.

2.6 Additional Impact Analysis

The PSD rules also require analyses of the impairment to visibility and the impact on soils and vegetation resulting from a project. A visibility impairment analysis must be conducted for PSD Class I areas. Impacts due to commercial, residential, industrial, and other growth associated with the source must be addressed. The National Park Service also requires an Air Quality Related Values (AQRV) Analysis for a Class I area.

2.7 Good Engineering Practice Stack Height

In accordance with Chapter 62, FAC, the degree of emission limitation required for control of any pollutant should not be affected by a stack height that exceeds GEP, or any other dispersion technique. GEP stack height is defined as the greater of:

1. 65 meters (m), or
2. A height established by applying the formula:

$$H_g = H + 1.5 L$$

where:

H_g - GEP stack height,

H - Height of the structure or nearby structure, and

L - Lesser dimension, height or projected width of nearby structure(s)

3. A height demonstrated by a model or field study.

The GEP stack height regulations require that the stack height used in modeling for determining compliance with AAQS and PSD increments not exceed the GEP stack height. The actual stack height may be higher or lower.

2.8 Rule Applicability

The proposed project at IMC, as previously described herein, is classified as a major modification to a major source subject to both state and federal regulations as set forth in Rule 62-212, FAC.

The facility is located in an area classified as attainment for each of the regulated air pollutants in accordance with Rule 62-275, FAC.

The proposed project will result in significant increases in the emissions of fluorides and particulate matter, as defined in Rule 62-212, FAC; and, will therefore be subject to PSD preconstruction review requirements.

The PSD review will include a determination of Best Available Control Technology, an air quality review, Good Engineering Practice stack height analysis and an evaluation of impacts on soils, vegetation and visibility.

The provisions associated with NESHAP applicability are currently under discussion with FDEP. However, the proposed plant emission limits are less than the respective MACT rule limits for the source category.

TABLE 2-1

MAJOR FACILITY CATEGORIES

Fossil fuel fired steam electric plants of more than 250 MMBTU/hr heat input
Coal cleaning plants (with thermal dryers)
Kraft pulp mills
Portland cement plants
Primary zinc smelters
Iron and steel mill plants
Primary aluminum ore reduction plants
Primary copper smelters
Municipal incinerators capable of charging more than 250 tons of refuse per day
Hydrofluoric acid plants
Sulfuric acid plants
Nitric acid plants
Petroleum refineries
Lime plants
Phosphate rock processing plants
Coke oven batteries
Sulfur recovery plants
Carbon black plants (furnace process)
Primary lead smelters
Fuel conversion plants
Sintering plants
Secondary metal production plants
Chemical process plants
Fossil fuel boilers (or combinations thereof) totaling more than 250 million
BTU/hr heat input
Petroleum storage and transfer units with total storage capacity exceeding 300,000 barrels
Taconite ore processing plants
Glass fiber processing plants
Charcoal production plants

TABLE 2-2

REGULATED AIR POLLUTANTS - SIGNIFICANT EMISSION RATES

Significant Pollutant	De-Minimus Ambient Emission Rate tons/yr	Impacts ug/m ³
CO	100	575 (8-hour)
NO _x	40	14 (NO ₂ , Annual)
SO ₂	40	13 (24-hour)
Ozone	40 (VOC)	-
PM	25	10 (24-hour)
PM10	15	10 (24-hour)
TRS (including H ₂ S)	10	0.2 (1-hour)
H ₂ SO ₄ mist	7	-
Fluorides	3	0.25 (24-hour)
MSW Combustor:		
Organics (Dioxins/Furans)	3.5E-6	
Metals (PM)	15	
Acid Gases (SO ₂ /HCl)	40	
MSW Landfill Gases (NMOC) 50		
	<u>pounds/yr</u>	
Lead	1200	0.1 (Quarterly avg)
Mercury	200	0.25 (24-hour)

TABLE 2-3
 AMBIENT AIR QUALITY STANDARDS

<u>Pollutant</u>	<u>FDEP (State)</u>		<u>USEPA (National)</u>			
			<u>Primary</u>		<u>Secondary</u>	
			<u>ug/m³</u>	<u>PPM</u>	<u>ug/m³</u>	<u>PPM</u>
SO ₂ , 3-hour	1,300	0.5	-	-	1300	0.5
	260	0.1	365	0.14	-	-
	60	0.02	80	0.03	-	-
PM10, 24-hour	150	-	150	-	150	-
	50	-	50	-	50	-
CO, 1-hour	40,000	35	40,000	35	-	-
	10,000	9	10,000	9	-	-
Ozone, 1-hour	235	0.12	235	0.12	235	0.12
NO ₂ , Annual	100	0.053	100	-	100	-
Lead, Quarterly	1.5	-	1.5	-	1.5	-

TABLE 2-4
PSD INCREMENTS

Pollutant	<u>Allowable PSD Increments (State/National)</u>		
	Class I ug/m ³	Class II ug/m ³	Class III ug/m ³
PM10, Annual	4	17	34
24-hour	8	30	60
SO ₂ , Annual	2	20	40
24-hour	5	91	182
3-hour	25	512	700
NO ₂ , Annual	2.5	25	50

3.0 BEST AVAILABLE CONTROL TECHNOLOGY

As indicated in the rule applicability in the permit application, the proposed project is subject to PSD review requirements pursuant to Rule 62-212, FAC. A Best Available Control Technology (BACT) evaluation is presented below for fluoride emissions from the proposed project.

IMC proposes an increase in the hourly production rate of the existing DAP 1 Plant from 150 tph to 155 tph. The proposed maximum production rate of 155 tph MAP corresponds to 82 tph P₂O₅ input. No changes are proposed to the existing air pollution control equipment consisting of venturi and cyclonic scrubbers, as shown on the process flow diagrams. The available compliance test information indicates that the plant is in compliance with some of the most stringent emission limits imposed on GMAP/DAP Plants.

3.1 Emission Standards for MAP/DAP Plants

Federal New Source Performance Standards (NSPS) for DAP plants, codified in 40 CFR 60, Subpart V, limit fluoride emissions to no more than 0.06 pounds per ton P₂O₅ input. For the purposes of the standard, the affected facility includes any combination of reactors, granulators, dryers, coolers, screens and mills.

More recently, additional federal standards were promulgated under 40 CFR 63 Subpart BB, National Emission Standards for Hazardous Air Pollutants From Phosphate Fertilizer Production Plants. The fluoride emission standard under these NESHAPs for existing GMAP/DAP plants is identical to that under NSPS, at 0.06 lb/ton P₂O₅ feed. The fluoride emission standard for new plants is limited to 0.058 lb/ton P₂O₅ feed. However, these standards apply only to major sources of HAPs. At the time of this application, an applicability determination for this facility has not been completed. If it is determined that IMC is not a major source of HAPs, these emission standards will not apply to the proposed project.

3.2 Control Technologies

The most common pollution control equipment used to control fluorides from a GMAP/DAP plant is a wet scrubber. There is some variation in the wet scrubbing system configurations from plant to plant, often depending on the preference of the plant designers and suppliers. Particulate matter emissions are most often controlled using venturi scrubbers.

The use of fresh water as scrubbing medium, in place of pond water, would result in increased capture of gaseous fluorides. However, this option is not possible given the current severe water restrictions implemented in the area by the Water Management District.

The existing IMC scrubbing system consists of venturi and cyclonic scrubbers. They are popular with the industry as they operate with low maintenance/repair costs, and increased on-line operation.

Packed scrubbers offer superior gaseous fluoride removal, however the industry experience indicates that the packing tends to plug frequently causing maintenance problems. The resulting plant down time cuts into the overall plant efficiency and productivity. Consequently, the use of packed scrubbers, in place of the existing venturi scrubbers, is not considered for this application. However, the use of packed scrubbers, in series with the existing venturi scrubbers can be evaluated.

A preliminary cost, associated with the use of a packed scrubber, based on a recent cost proposal for a similar application scaled to higher gas flow rate, is estimated below.

Total Capital Cost:	With Equipment Cost of \$270,000		
	Purchased Equip. Cost (1.18, EPA factor)	= \$	318,600
	Installation Cost (0.85 PEC, EPA factor)	= \$	270,810
	Indirect Cost (0.35 PEC, EPA factor)	= \$	111,510
	Total Capital Cost	= \$	700,920
Direct Annual Cost	Labor (0.5 hr/shift, EPA factor)	= \$	10,000
	Maintenance (1.0 hr/shift, EPA factor)	= \$	20,000
	Electricity (pump)	= \$	42,000
	Total DC	= \$	72,000
Indirect Annual Cost	(0.1715 TCI, EPA combined factor)	= \$	120,200
	(includes capital recovery at 15 year life, 10% int.)		
Total Annual Cost	(DC + IC)	= \$	192,200

Although the above costs are not all-inclusive, they provide a preliminary estimate of the annual cost. Based on this projected annual cost, the cost of fluoride control can be estimated with a conservative assumption that all fluorides from the venturi scrubber, of 14.4 tpy, are captured.

Annual Cost of fluoride control (\$192,200 / 14.4 tpy) = \$ 13,350/ton

This alternative is rejected as BACT based on the above control cost.

Another alternative would be the replacement of the existing tail-gas scrubber with a packed scrubber. A preliminary estimate of the scaled annual cost is presented below.

Previous Total Capital Cost = \$ 690,500
(without extra ducting)

Added Ducting and Production Loss Cost	= \$	700,000
Revised Total Capital Cost	= \$	1,390,500
Revised Indirect Cost (use EPA factor of 0.1715 x TCC)	= \$	238,500
Direct costs (assumed to be the same as above)	= \$	72,000
Annual Cost (DC+IC)	= \$	310,500

To determine the cost of fluoride control, the total annual quantity of fluorides removed by the new scrubber needs to be calculated. As the fluoride loading to the scrubber has not been measured, it has to be estimated. In reality, it is expected that the first set of venturis control most of the fluorides. The tail-gas scrubber inlet loading can be estimated as follows:

Projected annual fluoride emissions	=	14.4 tpy
Potential efficiency of the scrubber being replaced (reasonably conservative assumption)	=	40 %
Estimated fluorides to scrubber	= 14.4 tpy / (1 - 0.4)	= 24 tpy

The total amount of fluorides controlled by a new packed cross-flow scrubber can be estimated based on a projected control efficiency of 99%.

Fluorides controlled	= 24 tpy x 0.99	= 23.8 tpy
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The resulting cost of control can be estimated as follows:

Control Cost (\$/ton fluorides removed)	= \$310,500 / 23.8 tpy	= \$ 13,000
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This preliminary projected cost also exceeds the presumed BACT guideline cost of around \$8,000 per ton of fluorides removed and, therefore, is also rejected as BACT.

The proposed fluorides emission limit using the existing equipment, is in line with another recently permitted facility (Cargill project PSD-FL-315).

Treated water recirculation is rejected as BACT based on costs evaluated for a similar project for a lined pond and lime treatment that exceed even the costs associated with a packed scrubber. Further, the treated water containment integrity and storm contingencies can add considerable unnecessary environmental liability.

It should be noted that the historical fluoride emissions measurements indicate that the current scrubber configuration results in emissions of fluorides well below the NSPS. A summary of recent emissions measurements at IMC is included along with the emissions calculations in Appendix A. Furthermore, it is our understanding that the proposed fluoride emission rate, of 0.04 lb/ton P₂O₅ input, will be one of the most stringent limits imposed by FDEP on a GMAP/DAP Plant.

For particulate matter, the use of venturi scrubbers has consistently been considered BACT by FDEP for fertilizer plants. As IMC proposes to continue the use of the existing venturi scrubbers, no further discussion is presented herein. Furthermore, it is our understanding that the proposed particulate matter emission limit, of 0.2 lb/ton P₂O₅ input, will be one of the most stringent limits imposed by FDEP on a GMAP/DAP Plant.

3.3 BACT Conclusion

Based on the above discussion, IMC proposes the continued use of the existing venturi and cyclonic scrubbers as BACT and will limit fluoride emissions from the DAP 1 Plant to 0.04 lb/ton P₂O₅ input; limit particulate matter emissions to 0.2 lb/ton P₂O₅ input and, limit visible emissions to 20 percent opacity.

4.0 AIR IMPACTS ANALYSIS

An ambient air standards analysis is required for fluorides and particulate matter as there are applicable particulate matter ambient air standards and applicable monitoring thresholds for fluorides.

4.1 Significant Impact Analysis

The fluoride and particulate matter emission rates used for air quality modeling purposes for Significant Impact Analysis (SIA) represent the proposed net increase in the emission rate associated with the proposed project. Table 4-1 contains modeling input parameters used in the ambient air quality impacts analysis.

The SIA was conducted using the Industrial Source Complex-Short Term air quality model, Version 02035 (ISC3), in accordance with guidelines established by EPA and published in the document, Guideline for Air Quality Modeling. The meteorological data used with the model were for Tampa, Florida and represented the period 1987-1991.

The maximum F and PM emissions from the DAP 1 Plant were modeled in the SIA. The current emission rates were represented as a negative input while the proposed emission rates were represented as positive inputs to the model.

The SIA modeling included discrete receptors at the facility property boundary and additional receptors established by the polar grid system extending to 20 kilometers from the plant. The discrete receptors were placed along the property boundary at 100-meter intervals. Twenty-eight sets of receptor rings were placed at distances ranging from about 1500 to 20,000 meters from the plant with receptors placed at 10 degree intervals from 10° to 360° on each receptor ring, with the exclusion of receptors within property boundary. The downwind receptor distances were selected in order to provide a higher concentration of receptors closer to the source where the maximum impacts were expected. Receptor locations are shown in Figure 4-1. Additional receptors were located on a 1000-meter square grid surrounding the location of each maximum predicted impact to confirm the maximum impact levels.

The results of the SIA modeling, summarized in Table 4-2, demonstrate that the maximum predicted air impact of the fluorides and particulate matter emissions from the proposed project are below the 24-hour de-minimus levels; below the significant levels for the 24-hour and annual periods for the Class II area; and, below the significant level for the Class I area. Based on the results of the SIA, additional modeling was not required for the proposed project.

FIGURE 4-1

IMC New Wales, DAP #1
Discrete Receptors - New Wales, Florida

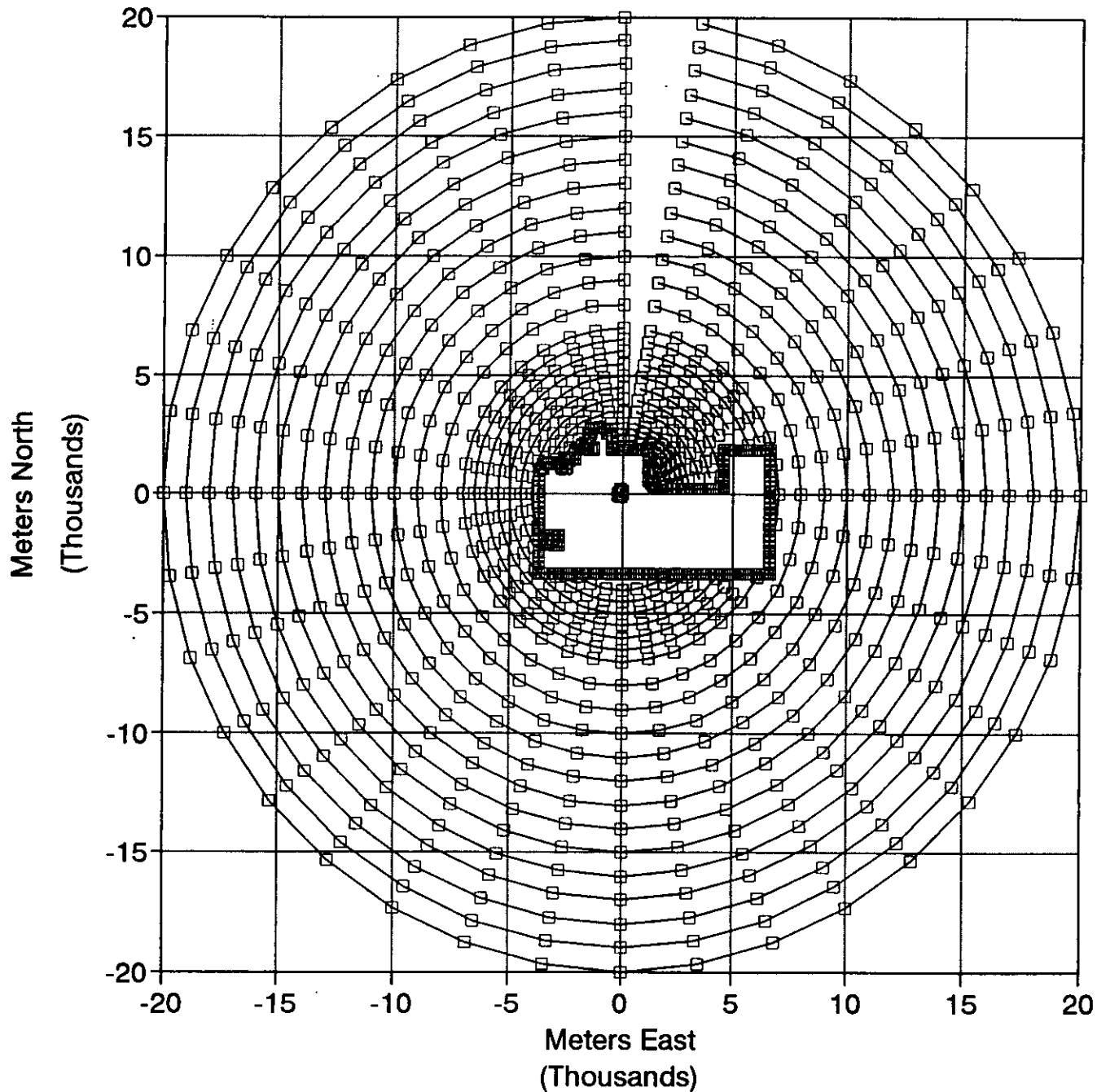


TABLE 4-1
 AIR QUALITY MODELING PARAMETERS
 DAP 1 PLANT

<u>Emission Unit</u>	<u>Stack</u>		<u>Stack Gas</u>		<u>Emissions</u>	
	Ht (m)	Dia (m)	Vel (mps)	Temp (°K)	PM (g/s)	F (g/s)
Plant Existing (1)	40.50	2.13	22.40	314	1.39	0.30
Plant Proposed (2)	40.50	2.13	23.80	314	2.07	0.41

NOTES:

- (1) This reflects current plant parameters.
- (2) This reflects proposed plant parameters.
- (3) Building downwash effects, from the EPA approved BPIP program, were included in the modeling.

TABLE 4-2
 SUMMARY OF SIGNIFICANT IMPACT ANALYSIS
 DAP 1 PLANT

MET. DATA	CLASS I AREA IMPACTS (1)		CLASS II AREA IMPACTS (1)		
	PM		F	PM	
	24-HR	ANNUAL	24-HR	24-HR	ANNUAL
1987	0	0	0.22	2.29	0.09
1988	0	0	0.21	1.59	0.08
1989	0	0	0.21	1.66	0.11
1990	0.006	0 (2)	0.20	2.19	0.11
1991	0	0	0.21	2.10	0.12
MAXIMUM	0.006	0	0.22	2.29	0.12
DI-MINIMUS (3)	NA	NA	0.25	10	NA
SIG. IMPACT (3)	0.3	0.2	NA	5	1

NOTE:

- (1) The impacts represent the highest-high impact.
- (2) CALPUFF modeling conducted using 1990 meteorological data.
- (3) As defined in Rule 62-212, FAC.
- (4) The impacts are based on the difference between the existing and proposed plant (see Table 4-1).

5.0 IMPACTS ON SOILS, VEGETATION AND VISIBILITY

5.1 Impacts on Soils and Vegetation

The U. S. Environmental Protection Agency was directed by Congress to develop primary and secondary ambient air quality standards. The primary standards were to protect human health and the secondary standards were to "... protect the public welfare from any known or anticipated adverse effects of a pollutant."

The public welfare was to include soils, vegetation and visibility.

As a basis for promulgating the air quality standards, EPA undertook studies related to the effects of all major air pollutants and published criteria documents summarizing the results of the studies. The studies included in the criteria documents were related to both acute and chronic effects of air pollutants. Based on the results of these studies, the criteria documents recommended air pollutant concentration limits for various periods of time that would protect against both chronic and acute effects of air pollutants with a reasonable margin of safety.

The air quality modeling that has been conducted as a requirement for the PSD application demonstrates that the levels of fluorides and particulate matter expected in the vicinity of the proposed project are below the ambient air quality standards. In fact, the maximum predicted long term impacts based on the project as modeled are zero. As a result, it is reasonable to conclude that there will be no adverse effect to the soils, vegetation or visibility of the area.

IMC's New Wales property and the surrounding areas are comprised of mining lands (phosphate), flatwoods, marshes, and sloughs. The soils of the area are primarily sandy and are typically low in both clay and silt content. These characteristics and the semi-tropic climatic factors of high temperature and rainfall are the natural factors that determine the terrestrial communities of the region.

The land in the vicinity of the plant supports various plant communities. Much of the natural vegetation on the site and the surrounding areas has been altered due to mining and industrial use; primarily the phosphate fertilizer industry. As a result of mining and industrial activity, there is very little undisturbed land in existence in the vicinity of the plant. As a result, no adverse impacts from the proposed project are expected on the soils and vegetation in the vicinity of the facility.

5.2 Growth Related Impacts

The proposed project will require no increase in personnel to operate the facility. Also, an increase in traffic due is not expected, and any changes will likely have a negligible impact on traffic in the area as compared with traffic levels that presently exist. Therefore, no additional growth impacts are expected as a result of the proposed project. The issue, of

growth related impacts from new development in the area, is under discussion with FDEP staff.

5.3 Visibility Impacts

The proposed project will result in an increase in air emissions and therefore has the potential for adverse impacts on visibility.

A screening approach suggested by EPA (Workbook for Plume Visual Impact Screening and Analysis, 1988) and computerized in a model referred to as VISCREEN was used for the analysis. The emissions of particulate matter were input to the model. The VISCREEN - Level 1 modeling results, presented in Table 5-1, indicate that there will be no adverse visibility impacts from the proposed project.

5.4 Impacts on Air Quality Related Values for the Class I Area

The analysis addressed in this section addresses the review of the impact of increased emissions on air quality related values associated with the Chassahowitzka Wildlife Refuge, a Class I area located in excess of 100 kilometers northwest of the IMC facility.

Given that the maximum predicted Class I area impacts based on the ISC3 modeling are near zero, no adverse impact to the Class I area vegetation, soils, wildlife or visibility are expected.

A regional haze analysis was performed using the maximum predicted particulate matter impacts based on the NPS protocol. The results of the regional haze analysis, presented in Table 5-2, indicate that no adverse visibility impacts are expected as a result of the proposed project.

TABLE 5-1

Visual Effects Screening Analysis for
Source: DAP 1 PLANT
Class I Area: CHASSAHOWITZKA

Level-1 Screening Input Emissions

Particulates	2.07	G	/S
NOx (as NO2)	.00	G	/S
Primary NO2	.00	G	/S
Soot	.00	G	/S
Primary SO4	.00	G	/S

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone:	.04	ppm
Background Visual Range:	65.00	km
Source-Observer Distance:	103.00	km
Min. Source-Class I Distance:	103.00	km
Max. Source-Class I Distance:	110.00	km
Plume-Source-Observer Angle:	11.25	degrees
Stability:	6	
Wind Speed:	1.00	m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E		Contrast	
					Crit	Plume	Crit	Plume
SKY	10.	84.	103.0	84.	2.00	.082	.05	.001
SKY	140.	84.	103.0	84.	2.00	.015	.05	-.001
TERRAIN	10.	84.	103.0	84.	2.00	.044	.05	.000
TERRAIN	140.	84.	103.0	84.	2.00	.009	.05	.000

Maximum Visual Impacts OUTSIDE Class I Area
Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E		Contrast	
					Crit	Plume	Crit	Plume
SKY	10.	25.	73.6	144.	2.00	.106	.05	.001
SKY	140.	25.	73.6	144.	2.00	.018	.05	-.001
TERRAIN	10.	50.	90.0	119.	2.00	.056	.05	.001
TERRAIN	140.	50.	90.0	119.	2.00	.012	.05	.000

TABLE 5-2

REGIONAL HAZE ANALYSIS

12/24/1990	
RH	f_RH
90	4.7
93	7
97	15.1
97	15.1
100	18.1
100	18.1
97	15.1
100	18.1
100	18.1
93	7
93	7
93	7
97	15.1
81	2.8
63	1.5
55	1.3
55	1.3
68	1.8
75	2.2
84	3.2
87	3.8
83	3.1
62	1.5
62	1.5
100	18.1
Daily Avg.	8.304

First High for	12/24/1990
Viz Ref Level	-----
Eq-6 P38	
$b_{ext} = b_{hydro} * f(RH) + b_{nonhydro} + b_{ray}$	
$b_{ref} =$	25.9736 Mm-1
For chassahowitzka	
b_{hydro}	0.9
b_{nonhyd}	8.5
$b_{ray} =$	10
$f(RH) =$	8.3
Source Extinction	-----
$b_{Source} = b_{(NH_4)_2SO_4} * fRH + b_{EC}$	
	0.0 Mm-1
Change in Extinction -----	
$Db = (b_{Source}/b_{ref}) * 100$	
Db =	0.0 %

6.0 GOOD ENGINEERING PRACTICE STACK HEIGHT

The criteria for good engineering practice stack height states that the height of a stack should not exceed the greater of 65 meters (213) feet or the height of nearby structures plus the lesser of 1.5 times the height or cross-wind width of the nearby structure. This stack height policy is designed to prevent achieving ambient air quality goals solely through the use of excessive stack heights and air dispersion. The stacks associated with the proposed project are less than 213 feet in height above-grade. This satisfies the good engineering practice (GEP) stack height criteria.

7.0 CONCLUSION

It can be concluded from the information in this report that the proposed increase in the production rate of the DAP 1 Plant, as described in this report, will not cause or contribute to a violation of any air quality standard, PSD increment, or any other provision of Chapter 62, FAC.

APPENDIX A - EMISSIONS CALCULATIONS

ACTUAL EMISSION RATES

The actual emissions are based on 1999 and 2000 data, as these years are considered representative of normal plant operation, as previously discussed with FDEP. Fuel oil emission estimates based on AP-42 factors:

Fluorides:

$$1999 F = 7865 \text{ hrs/yr} \times 0.45 \text{ lb/hr} \times \text{ton}/2000 \text{ lbs} = 1.8 \text{ tpy}$$

$$2000 F = 7868 \text{ hrs/yr} \times 0.41 \text{ lb/hr} \times \text{ton}/2000 \text{ lbs} = 1.6 \text{ tpy}$$

$$\text{Avg. F} = (1.8 + 1.6)/2 \text{ tpy} = 1.7 \text{ tpy}$$

Particulates:

$$1999 \text{ PM} = 7865 \text{ hrs/yr} \times 5.2 \text{ lb/hr} \times \text{ton}/2000 \text{ lbs} = 20.4 \text{ tpy}$$

$$2000 \text{ PM} = 7868 \text{ hrs/yr} \times 10.9 \text{ lb/hr} \times \text{ton}/2000 \text{ lbs} = 42.9 \text{ tpy}$$

$$\text{Avg. PM} = (20.4 + 42.9)/2 \text{ tpy} = 31.7 \text{ tpy}$$

Sulfur Dioxide:

$$1999 \text{ SO}_2 = 305.018 \times 10^3 \text{ gals} \times 157 (2.3 \%S) \text{ lb}/10^3 \text{ gals} \times \text{ton}/2000 \text{ lbs} = 55.1 \text{ tpy}$$

$$2000 \text{ SO}_2 = 200.675 \times 10^3 \text{ gals} \times 157 (2.3 \%S) \text{ lb}/10^3 \text{ gals} \times \text{ton}/2000 \text{ lbs} = 36.2 \text{ tpy}$$

$$\text{Avg. SO}_2 = (55.1 + 36.2)/2 \text{ tpy} = 45.7 \text{ tpy}$$

Nitrogen Oxides:

$$1999 \text{ NOX} = 305.018 \times 10^3 \text{ gals} \times 55 \text{ lb}/10^3 \text{ gals} \times \text{ton}/2000 \text{ lbs} = 8.4 \text{ tpy}$$

$$2000 \text{ NOX} = 200.675 \times 10^3 \text{ gals} \times 55 \text{ lb}/10^3 \text{ gals} \times \text{ton}/2000 \text{ lbs} = 5.5 \text{ tpy}$$

$$\text{Avg. NOX} = (8.4 + 5.5)/2 \text{ tpy} = 7.0 \text{ tpy}$$

MAX. ALLOWABLE EMISSION RATES

$$\begin{aligned} \text{GMAP/DAP, F} &= 82 \text{ tph P}_2\text{O}_5 \times 0.04 \text{ lb F/ton P}_2\text{O}_5 \\ &= 3.3 \text{ lb/hr} \end{aligned}$$

$$\begin{aligned} \text{Annual F} &= 80 \text{ tph P}_2\text{O}_5 \times 0.04 \text{ lb F/ton P}_2\text{O}_5 \times 8760 \text{ hrs}/2000 \text{ lb/ton} \\ &= 14.0 \text{ tpy} \end{aligned}$$

$$\begin{aligned} \text{GMAP/DAP, PM} &= 82 \text{ tph P2O5} \times 0.2 \text{ lb F/ton P2O5} \\ &= 16.4 \text{ lb/hr} \end{aligned}$$

$$\begin{aligned} \text{Annual PM} &= 80 \text{ tph P2O5} \times 0.2 \text{ lb F/ton P2O5} \times 8760 \text{ hrs/2000 lb/ton} \\ &= 70.1 \text{ tpy} \end{aligned}$$

$$\begin{aligned} \text{GMAP/DAP, SO2} &= 45.7 \text{ tpy (2-yr avg.)} + 34.3 \text{ tpy (increase)} \\ &= 80 \text{ tpy} \end{aligned}$$

$$\begin{aligned} \text{GMAP/DAP, NOx} &= 7.0 \text{ tpy (2-yr avg.)} + 38 \text{ tpy (increase)} \\ &= 45 \text{ tpy} \end{aligned}$$

NET EMISSIONS INCREASES

$$\begin{aligned} \text{F} &= (14.0 - 1.7) \text{ tpy} \\ &= 12.3 \text{ tpy (exceeds fluorides PSD significant level of 3 tpy)} \\ \\ \text{PM} &= (70.1 - 31.7) \text{ tpy} \\ &= 38.4 \text{ tpy (exceeds PM10 PSD significant level of 15 tpy)} \\ \\ \text{SO2} &= (80 - 45.7) \text{ tpy} \\ &= 34.3 \text{ tpy (below SO2 PSD significant level of 40 tpy)} \\ \\ \text{NOX} &= (45 - 7) \text{ tpy} \\ &= 38 \text{ tpy (below NOX PSD significant level of 40 tpy)} \end{aligned}$$

APPENDIX B - CURRENT AIR PERMIT CONDITIONS

Page F1 of F3

Subsection F. This section addresses the following emissions unit(s).

E.U.

<u>ID No.</u>	<u>Brief Description</u>
-009	DAP Plant #1
-054	DAP Plant #1 Cooler

The Diammonium Phosphate (DAP) Plant No. 1 produces ammoniated phosphates (DAP and Granular MAP) at a process input rate of 150 tons per hour. Emissions are controlled by a prescrubber, two (2) venturi scrubbers, one (1) tailgas scrubber, and two cyclonic wet scrubbers in series.

Emissions from the No. 1 DAP Plant Product Cooler are controlled by a baghouse. The design air flow rate through the baghouse is 45,000 ACFM. The production rate is 150 tons per hour of DAP.

{Permitting note(s): These emissions units are regulated under Rule 62-296.700, F.A.C., RACT Particulate Matter; and Rule 62-296.403, F.A.C., Phosphate Processing.}

The following conditions apply to the emissions unit(s) listed above:

Essential Potential to Emit (PTE) Parameters

F.1. Capacity.

- a. The process rate shall not exceed 150 tons per hour of monoammonium or diammonium phosphate product.
- b. The heat input rate for the dryer shall not exceed 27.7 MMBtu per hour.
[Rule 62-4.160(2), F.A.C. and Rule 62-210.200, F.A.C., Definitions - (PTE)]

F.2. Fuels. The DAP Plant No. 1 dryer shall be fired by natural gas, or No. 6 fuel oil, or better grade fuel oil (See Condition No. 19).

Emission Limitations and Standards

F.3. The maximum allowable fluoride emissions from DAP Plant No. 1 shall not exceed 0.06 pounds per ton of P_2O_5 input and 2.92 pounds/hour (based upon 48.7 tons P_2O_5 /hour feed.

[Construction Permit 1050059-013-AC]

F.4. The maximum allowable particulate emissions from DAP Plant No. 1 shall not exceed 28.6 pounds/hour. This particulate matter emission rate limitation qualifies the facility for the PM-RACT exemption per Rule 62-296.700(2)(b), F.A.C.

[Construction Permit 1050059-013-AC]

Page F2 of F3

F.5. The maximum allowable particulate matter emission rate from the No. 1 DAP Plant Product Cooler baghouse exhaust shall not exceed 7.7 pounds per hour and 33.7 tons per year. This particulate matter emission rate limitation qualifies the facility for the PM-RACT exemption per Rule 62-296.700(2)(b), F.A.C.
[Requested by permittee, November 29, 1994]

F.6. Visible emissions shall not be equal to or greater than 20% opacity in accordance with Rule 62-296.320(4)(b)(1).

Test Methods and Procedures

F.7. Frequency of Compliance Testing. Test the No. 1 DAP Plant for visible emissions, particulates and fluorides emissions per Conditions F.3., F.4., and F.6., annually, within 60 days prior to the due date of March 20.
[Rule 62-297.310(7)(a)4., F.A.C.]

F.8. Test the No. 1 DAP Plant Product Cooler Baghouse exhaust for visible emissions per Condition F.6 annually, on or during the 60 day period prior to October 23. Testing at conditions that are not representative of actual operating conditions may invalidate the test.
[Rule 62-297.310(7)(a)4, F.A.C.]

F.9. Test the No. 1 DAP Plant Product Cooler Baghouse exhaust for particulate matter emissions per Condition F.5 on or during the 180 day period prior to the expiration date of this permit.
[Rule 62-297.310(7)(a)3, F.A.C.]

F.10. Compliance with the emission limitations of Condition Nos. F.3, F.4, F.5 and F.6 shall be determined using EPA Methods 1, 2, 3, 4, 5, 9, and 13A or 13B contained in 40 CFR 60, Appendix A and adopted by reference in Rule 62-297, F.A.C.
[Rule 62-297, F.A.C.]

F.11. Compliance testing shall be conducted while firing oil, if oil of any type, has been used in the DAP Plant No. 1 dryer for a sum total of more than 400 hours from the previous test. If a test is conducted while firing natural gas, and in the 12 month period following the test, oil of any type is burned for a sum total of more than 400 hours, then an additional visible emission test per Condition F.6 shall be conducted, while burning in that source, within 30 days of having exceeded the 400 hour oil burning limit. A compliance test submitted using a better grade oil, other than No. 6 grade fuel oil, will automatically amend this operation permit to allow subsequent operation on only that better grade oil or a higher ranked oil, unless a compliance test is submitted based on any other allowable permitted oil within 30 days of fuel switching.
[Rules 62-297.310(7)(a)5., and 62-4.070(3), F.A.C.]

Monitoring Requirements

F.12. In order to provide reasonable assurance, when DAP Plant #1 is operating, that the pollution control equipment (e.g., dryer venturi scrubber, reactor-granulator venturi scrubber, and two cyclonic scrubbers) is operating properly, the permittee shall comply with Facility-wide Condition No. 14.

[Rule 62-4.070(3), F.A.C.]

F.13. In order to provide reasonable assurance that the control equipment is operating properly, the permittee shall create and keep a record log of the DAP Plant #1 Cooler baghouse operating parameters. The record log shall contain, at a minimum, the gas pressure drop (inches of water), the date and time of the measurements, and the person responsible for performing the measurements. A record log entry shall be made at least once for every 12 hour period that the DAP Plant #1 operates.

[Rule 62-4.070(3), F.A.C.]

F.14. Raw material input to the plant shall be monitored continuously by a flow measurement device capable of measuring material flows with an accuracy of ± 5 percent over the normal operating range.

[Construction permit 1050059-013-AC]

F.15. Total liquid flow rate and pressure drop across the scrubbing system and each individual scrubber shall be continuously measured, and permanently recorded (at least once per 12 hour period) by a monitoring device or devices. The "scrubbing system" is defined as beginning at the entrance to the dryer venturi scrubber.

[Rule 62-4.070, F.A.C., and Construction Permit 1050059-013-AC]

Recordkeeping and Reporting Requirements

F.16. A daily record log(s) shall be established and maintained to document, at a minimum, the following:

- a. The daily equivalent P_2O_5 feed.
- b. Hours of operation.
- c. The quantity of the fuel oil utilized in the dryer.
- d. The sulfur content (percent, by weight) of the fuel oil utilized in the dryer.

[Rule 62-4.070(3), F.A.C.]

APPENDIX C - MODELING OUTPUT

THIS COMPACT DISK CONTAINS PARTICULATE (PM10), AND FLUORIDE (FL) MODELING FILES FOR THE IMC NEW WALES PHOSPHATES FACILITY IN NEW WALES FLORIDA. THE FOLLOWING DIRECTORIES CONTAIN FILES ORGANIZED BY MODELING CONCERN:

ASI	CLASS 2 AREA ISCST INPUT AND OUTPUT FILES
BPIP	BUILDING DOWNWASH CALCULATIONS
C1PUFF	CALPUFF CLASS 1 AREA MODELING FILES
C1POST	CALPOST CLASS 1 POST PROCESSING FILES
VIZPUFF	CALPUFF VISIBILITY CLASS 1 AREA MODELING FILES
VIZPOST	CALPOST VISIBILITY CLASS 1 POST PROCESSING FILES

IN THE DIRECTORY <ASI> THERE ARE THREE SUB DIRECTORIES CONTAINING ISCST3 MODELING FILES FOR AREA OF SIGNIFICANT IMPACT (ASI) FOR FAAQS AND CLASS 2:

\ASI\PM	PARTICULATE ASI ANALYSIS
\ASI\PMMEI	MAXIMUM EXPOSED INDIVIDUAL (MEI) ANALYSIS
\ASI\FL	FLUORIDE ASI ANALYSIS

Directory: \ASI\PM

DAPASI87.OUT	391.147	08/25/02	PM10 MODELING FOR 1987
DAPASI88.OUT	391.147	08/25/02	PM10 MODELING FOR 1988
DAPASI89.OUT	391.147	08/25/02	PM10 MODELING FOR 1989
DAPASI90.OUT	391.147	08/25/02	PM10 MODELING FOR 1990
DAPASI91.OUT	391.147	08/25/02	PM10 MODELING FOR 1991

Directory: \ASI\PMMEI

DAPMEI87.OUT	38.176	08/25/02	PM10 MEI MODELING FOR 1987
DAPMEI88.OUT	38.176	08/25/02	PM10 MEI MODELING FOR 1988
DAPMEI89.OUT	38.042	08/25/02	PM10 MEI MODELING FOR 1989
DAPMEI90.OUT	38.176	08/25/02	PM10 MEI MODELING FOR 1990
DAPMEI91.OUT	38.042	08/25/02	PM10 MEI MODELING FOR 1991

Directory: \ASI\FL

DAP-FL87.OUT	321.996	08/25/02	FLUORIDE MODELING FOR 1987
DAP-FL88.OUT	321.996	08/25/02	FLUORIDE MODELING FOR 1988
DAP-FL89.OUT	321.996	08/25/02	FLUORIDE MODELING FOR 1989
DAP-FL90.OUT	321.996	08/25/02	FLUORIDE MODELING FOR 1990
DAP-FL91.OUT	321.996	08/25/02	FLUORIDE MODELING FOR 1991

THE DIRECTORY <BPIP> CONTAINS BUILDING INPUT PROFILE PROGRAM (BPIP) FILES THESE BUILDING DOWNWASH CALCULATIONS ARE USED IN ALL MODELS. THE FOLLOWING BPIP FILES ARE PROVIDED:

NW-DAP.INP	1.236	08/25/02	INPUT
NW-DAP.OUT	2.929	08/25/02	OUTPUT
NW-DAP.SUM	33.372	08/25/02	SUMMARY

DIRECTORY <C1PUFF> CONTAINS CALPUFF INPUT AND OUTPUT FILES FOR THE CLASS 1 AREA PM10 IMPACT ANALYSIS:

Directory: \C1PUFF

DAPNEG90.INP	65.069	08/25/02	NEGATIVE PM10 SOURCE INPUT FILE
DAPPOS90.INP	65.069	08/25/02	POSITIVE PM10 SOURCE INPUT FILE
DAPNG.LST	228.528	08/25/02	NEGATIVE PM10 SOURCE LISTING FILE
DAPPS.LST	228.528	08/25/02	POSITIVE PM10 SOURCE LISTING FILE

DAPNGCNC.DAT 491,993 09/15/02 NEGATIVE PM10 SOURCE LISTING FILE
DAPPCNC.DAT 489,715 09/15/02 POSITIVE PM10 SOURCE LISTING FILE

DIRECTORY <C1POST> CONTAINS CALPOST POSTPROCESSING INPUT AND OUTPUT FILES FOR THE CLASS 1 AREA PM10 IMPACT ANALYSIS:

DAPNGPST.INP 19,848 08/26/02 NEGATIVE PM10 SOURCE INPUT FILE
DAPPSST.INP 19,845 08/26/02 POSITIVE PM10 SOURCE INPUT FILE
PST-NEG.LST 67,956 08/26/02 NEGATIVE PM10 SOURCE LISTING FILE
PST-POS.LST 67,956 08/26/02 POSITIVE PM10 SOURCE LISTING FILE
TSNEG24.DAT 77,876 08/26/02 NEGATIVE PM10 SOURCE DATA FILE
TSPOS24.DAT 77,876 08/26/02 POSITIVE PM10 SOURCE DATA FILE
ANN-POS.PRN 562 08/26/02 NEGATIVE PM10 SOURCE ANNUAL DATA FILE
NEG-ANN.PRN 800 08/26/02 POSITIVE PM10 SOURCE ANNUAL DATA FILE
TSNEG24.PRN 73,032 08/26/02 NEGATIVE PM10 SOURCE PLOT FILE
TSPOS24.PRN 73,390 08/26/02 POSITIVE PM10 SOURCE PLOT FILE
ADD.WK1 305,623 08/26/02 CONTRIBUTION ADDITION IMPACT ANALYSIS

DIRECTORY <VIZPUFF> CONTAINS CALPUFF INPUT AND OUTPUT FILES FOR THE CLASS 1 AREA VISIBILITY ANALYSIS:

Directory: \VIZPUFF

DAPNEG90.INP 65,081 09/15/02 NEGATIVE VISIBILITY SOURCE LISTING FILE
DAPPOS90.INP 65,073 09/15/02 POSITIVE VISIBILITY SOURCE LISTING FILE
DAPNG.LST 431,617 09/15/02 NEGATIVE VISIBILITY SOURCE LISTING FILE
DAPPS.LST 228,631 09/15/02 POSITIVE VISIBILITY SOURCE LISTING FILE
DAPNG-RH.DAT 397,908 09/15/02 NEGATIVE VISIBILITY SOURCE INPUT FILE
DAPPSRH.DAT 397,908 09/15/02 POSITIVE VISIBILITY SOURCE INPUT FILE

DIRECTORY <VIZPOST> CONTAINS CALPOST POSTPROCESSING INPUT AND OUTPUT FILES FOR THE CLASS 1 AREA VISIBILITY ANALYSIS:

Directory: \VIZPOST

NGVIZPST.INP 19,903 09/15/02 NEGATIVE VISIBILITY SOURCE INPUT FILE
PZVIZPST.INP 19,898 09/15/02 POSITIVE VISIBILITY SOURCE INPUT FILE
NGVZ-PST.LST 172,568 09/15/02 NEGATIVE VISIBILITY SOURCE LISTING FILE
PSVZ-PST.LST 172,568 09/15/02 POSITIVE VISIBILITY SOURCE LISTING FILE
NEGTS24.DAT 77,876 09/15/02 NEGATIVE VISIBILITY SOURCE DATA FILE
NEGV24.DAT 112,283 09/15/02 POSITIVE VISIBILITY SOURCE DATA FILE
POSTS24.DAT 77,876 09/15/02 NEGATIVE VISIBILITY SOURCE DATA FILE
POSV24.DAT 112,283 09/15/02 POSITIVE VISIBILITY SOURCE DATA FILE
NEGTS24.PRN 73,032 09/15/02 NEGATIVE VISIBILITY SOURCE PLOT FILE
POSTS24.PRN 73,032 09/15/02 POSITIVE VISIBILITY SOURCE PLOT FILE
ADD-VIZ.WK1 306,062 09/21/02 CONTRIBUTION ADDITION IMPACT ANALYSIS

AND IN THE ROOT DIRECTORY THIS FILE:

README.TXT 5535 092102 THIS FILE

IF I MAY PROVIDE ADDITIONAL FILES, OR CLARIFICATION PLEASE CONTACT ME.
SEPTEMBER 21, 2002
MARILYN KOLETZKE
KOOGLER AND ASSOCIATES
(352) 377-5822