



KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES

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

KA 124-97-01

MEMORANDUM

RECEIVED

OCT 22 1997

BUREAU OF
AIR REGULATION

TO: John Reynolds, FDEP Tallahassee

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

DATE: October 21, 1997

SUBJECT: DAP 2 Plant Production Increase Application
IMC-Agrico (New Wales)

This is in response to your request for clarification on the costs associated with two technologies previously discussed in the BACT analysis for fluorides for the above referenced project. We apologize for the delay in getting back to you on these issues. It has been rather difficult to reach some of the contractors for "cost factors" you had inquired about. The contractors contacted indicated that they do not know of any "generic cost factors". They were, however, able to back-calculate cost factors based on past project(s).

Item 1: IMC-Agrico is providing additional information in response to your request for a clarification of the costs associated with utilizing a recirculated scrubber water system with a holding/treatment tank. Please refer to the Memorandum from IMC-Agrico presented in Attachment 1.

The updated information does not change the conclusion of the BACT analysis previously submitted. Therefore, this technology is rejected as BACT.

Item 2: FDEP requested additional information on the use of a recirculated scrubber water treatment system with a dedicated cooling pond. Discussions with staff at various fertilizer companies and contractors for the phosphate industry yielded the following estimates:

1. The minimum size of a dedicated lined pond, based on the required heat dissipation rate, is about 22 acres (total for both trains).
2. The cost of the liner for the pond is about \$20,000 per acre.
3. The estimated construction costs associated with a completed lined pond range from \$50,000 to \$100,000 per acre depending on the site complexity and need for earthmoving. An estimated cost of about \$80,000 per acre, is appropriate for the IMC-Agrico site.

4. Liming costs associated with neutralization of the scrubber water, assuming fresh water makeup, can range from \$5 to \$10 per 1000 gallons. The liming costs have been known to vary significantly from site to site depending on the buffering capacity of the pond water constituents. For the proposed project, it is assumed that the liming cost would be \$5 per 1000 gallons.
5. The cost of installing a liming station is estimated at \$500,000. At another company, the expected costs were closer to \$1,500,000 due to more intensive site specific requirements.
6. Sludge disposal costs at a landfill can approach \$50 per ton. However, for the proposed project it is assumed that the sludge can be stored on-site at no additional cost.
7. Pumping costs are assumed to be equal to the current requirements.

The resulting cost of a dedicated scrubber water pond system to serve the DAP 2 Plant can be estimated as follows:

ITEM	COST FACTOR	COST
Installation Cost:		
Lined Pond	\$80,000/ac; 22 ac	\$1,760,000
Liming Station	\$500,000	\$ 500,000
Total (TIC)		\$2,260,000
Annual Costs:		
Capital Recovery (1)	TIC x 1.91 x 0.1175	\$ 507,200
Lime Treatment	\$5/1000 gals; 5.2 MMgal	\$ 26,000
Total		\$ 533,200

NOTES (1): The capital recovery is based on an EPA multiplier of 1.91 applied to the Total Installed Cost (TIC) and an amortization factor of 0.1175 based on a 10 percent interest rate over a 20 year period.

Based on FDEP's recently proposed BACT for fluorides from a fertilizer (MAP) plant, of 0.019 lb/ton P2O5 feed, which has an option for a recirculated scrubber water treatment system with a dedicated pond to meet the BACT emissions limit, the potential emissions from the DAP 2 Plant can be projected as follows:



Mr. John Reynolds
Florida Department of
Environmental Protection

October 21, 1997
Page 3

Total F = 160 tph P205 x 0.019 lb/ton P205 x 8760 hrs/yr x ton/2000 lbs
= 13.3 tpy

The cost of additional control:

Total cost = \$533,200 / (42.0 tpy - 13.3 tpy)
= \$18,578/ton F removed

Based on this incremental cost, the recirculated scrubber water treatment system, with a dedicated cooling pond, is rejected as BACT.

Drawings of the existing scrubbers, previously submitted to you, have been labeled per your suggestion and are presented in Attachments 2 and 3.

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

JBK:par
encl.

c: C.D. Turley, IMC-Agrico

cc: Jile
SWD
POLK CO

NPS
EPA



ATTACHMENT 1
IMC-AGRICO INFORMATION ON BACT COST



Koogler & Associates: Attention Pradeep Raval
D. L. Hill
October 6, 1997
BACT Cost Analysis - DAP 2 Plant

This is a follow up to the phone discussion of October 2. A short discussion of the equipment costs associated with converting either of the DAP 2 plants to a recirculation scrubber can be seen below:

1. **Replacement Fans** - Replace the existing two fans in either plant with larger fans. At present, the tailgas scrubber is on once through pond water which quenches the gases entering the fans to approximately 105 F. In the recirculation mode the gas temperature entering the fans will increase to about 145 F. These gas streams to the two fans are saturated with water and at the higher temperatures contain much more water vapor. Also, the gas density is lower at these higher temperatures. To get the same DSCFM of air being evacuated from the plant, the ACFM has to increase by about 27%. This requires bigger fans and replacement of the old fans. The cost of each fan including a new foundation is about \$140,000 each for a total of **\$280,000**.
2. **Tank/Agitator/ Separator** - Install a 20,000 gallon 316L SS surge tank to provide retention time for the recirculated scrubbing liquid. Retention time is needed for pH control. Cost of open top tank, tank agitator, and tank foundation is about \$100,000. If the tail gas packing plugs due to precipitates in the recirculation scrubbing liquid then impact sprays with a cyclonic separator(s) will need to be installed at a cost of \$160,000 including foundation. Total equipment cost in this section is **\$260,000**.
3. **Piping** - The once through water return pumps will be converted to the recirculation mode by piping changes. Makeup/pH control fluid piping will be required as well as blowdown piping back to the process. These costs are estimated at **\$35,000**.
4. **Ductwork** - The larger fans will require larger ducts. Also, if impact sprays and a cyclonic separator(s) are installed new ducting from the venturi scrubbers to the cyclonic separator(s) will be required. These costs are estimated at **\$90,000**.
5. **Electrical** - Initially, the electrical cost estimate was high due to the possibility that the increased horsepower from the larger fans would require an upgrade of the transformer in the DAP 2 motor control center (MCC). It appears that the existing transformer will handle the increased fan load which is expected to increase from 1400 hp. to 2000 hp. These two upgraded fans will require upgraded starters and wiring at \$10,000 each. The new agitator will require a starter and wiring at \$10,000. Total electrical cost is **\$30,000**.

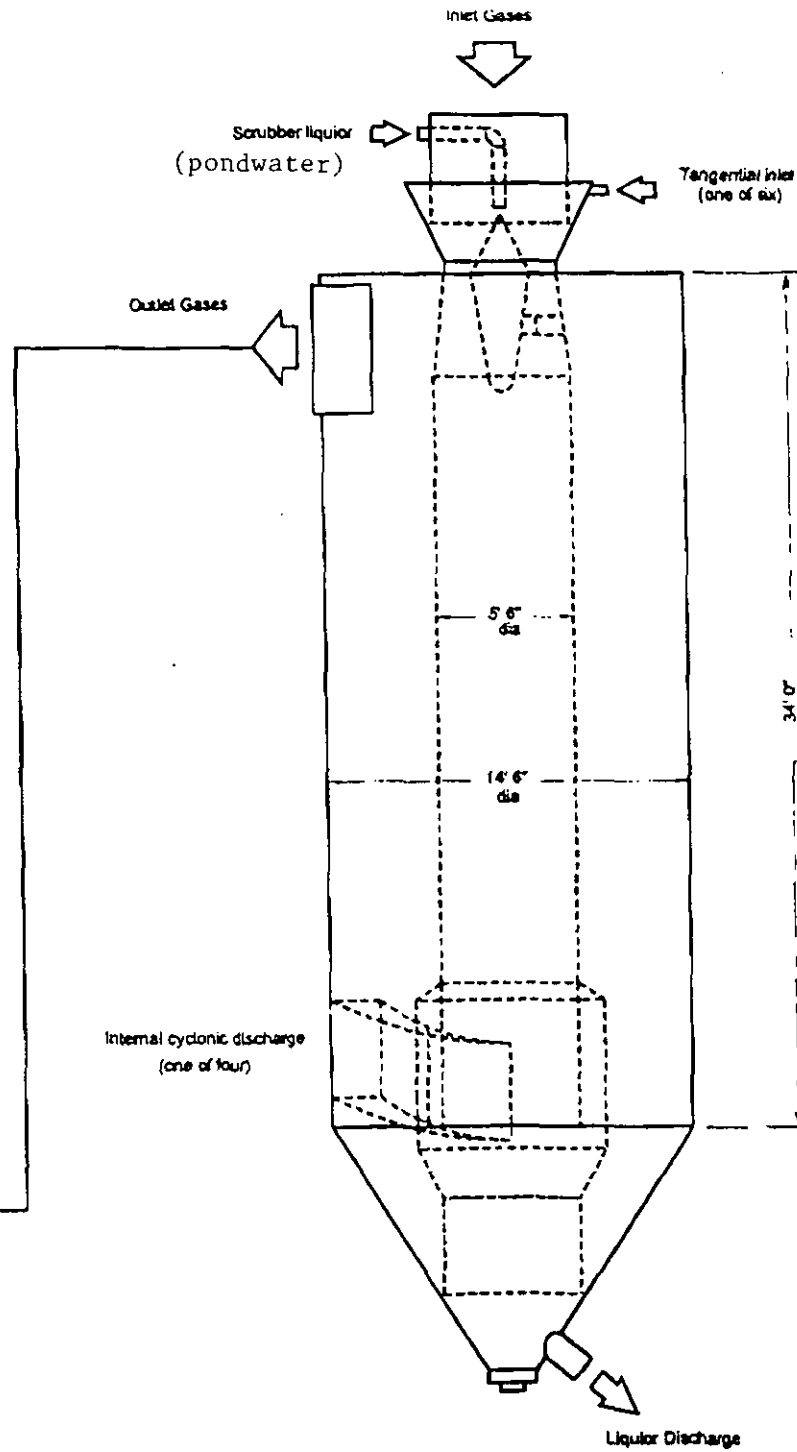
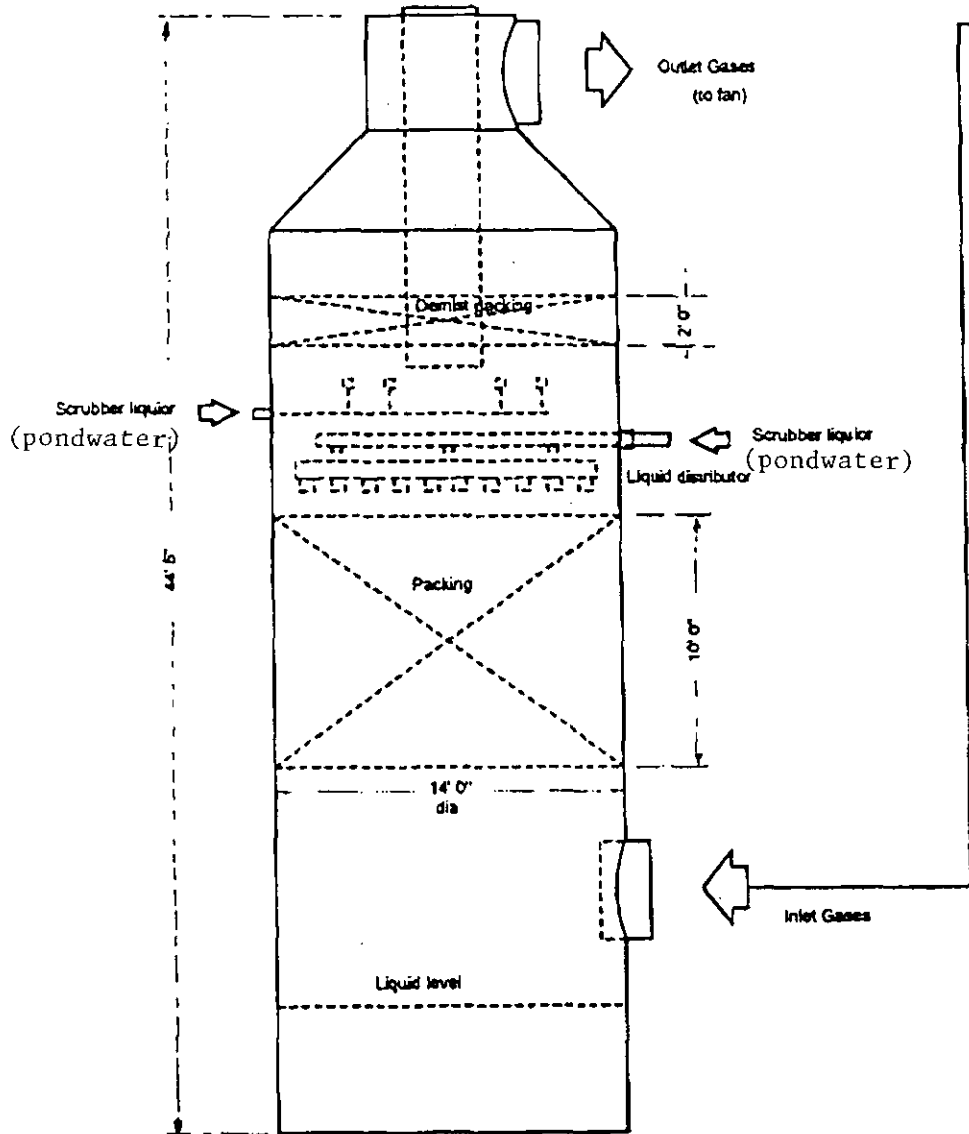
6. **Instrumentation** - Five instrumentation loops will be installed for operation of the scrubber in the recirculation mode. The instrumentation loops are: scrubber pH control, scrubber makeup flow, scrubber level control, scrubber blowdown flow, and scrubber recirculation flow. Five instrumentation loops at \$12,000 each equals **\$60,000**.
7. **Site Preparation** - Demolition of pad to prepare site for installation of fan foundations, surge tank foundation, and if needed cyclonic separator foundation. Estimated cost at **\$10,000**.
8. **Engineering** - Design and create drawings for surge tank, cyclonic separator, ductwork, piping, and instrumentation. Estimated cost at **\$25,000**.
9. **Taxes & Freight** - Estimated cost at **\$55,000**.
10. **Contingency (10%)** - **\$85,000**

Total estimated cost equals \$930,000

ATTACHMENT 2

DAP II Venturi and Tail Gas Scrubbers

IMC-AGRICO COMPANY

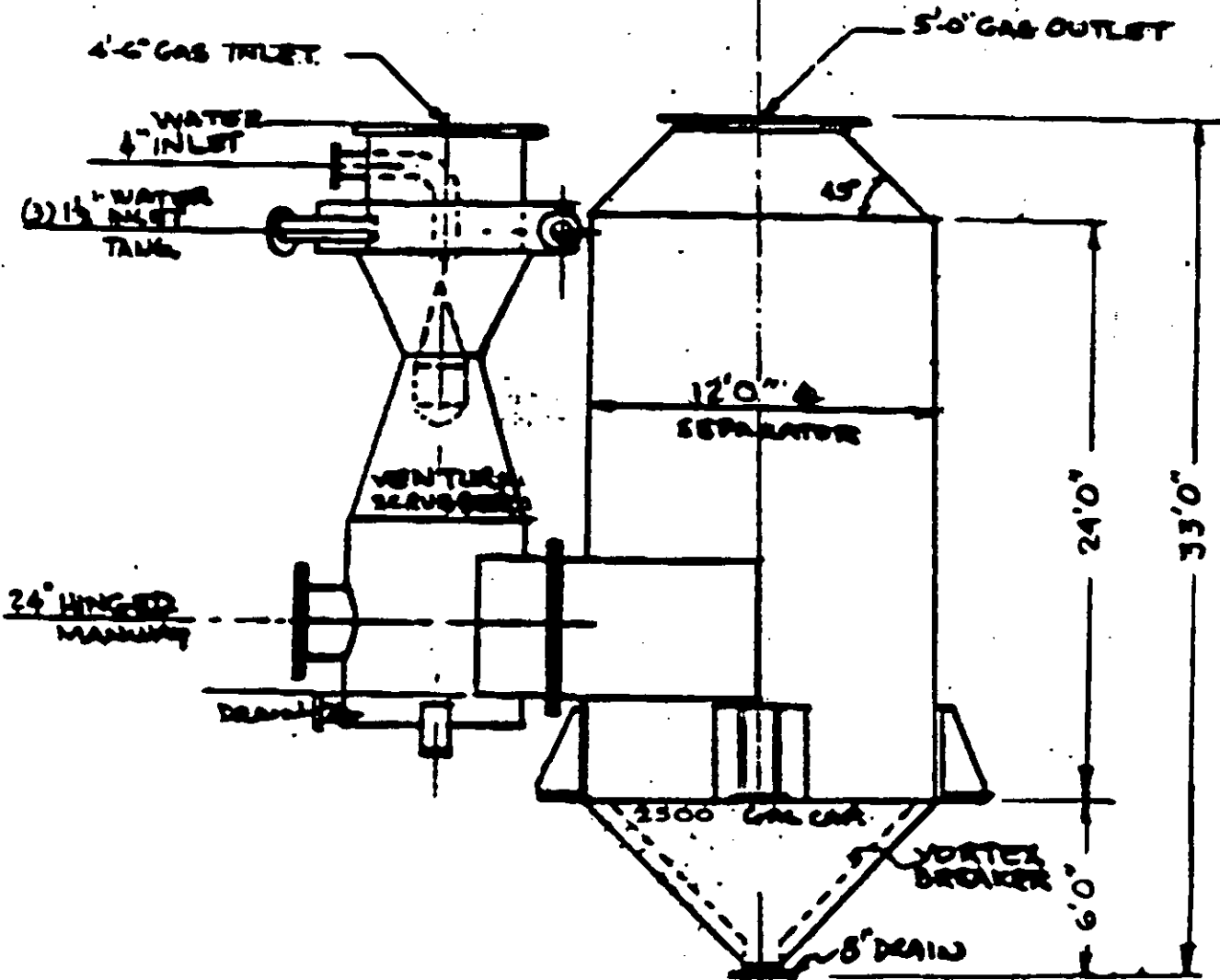
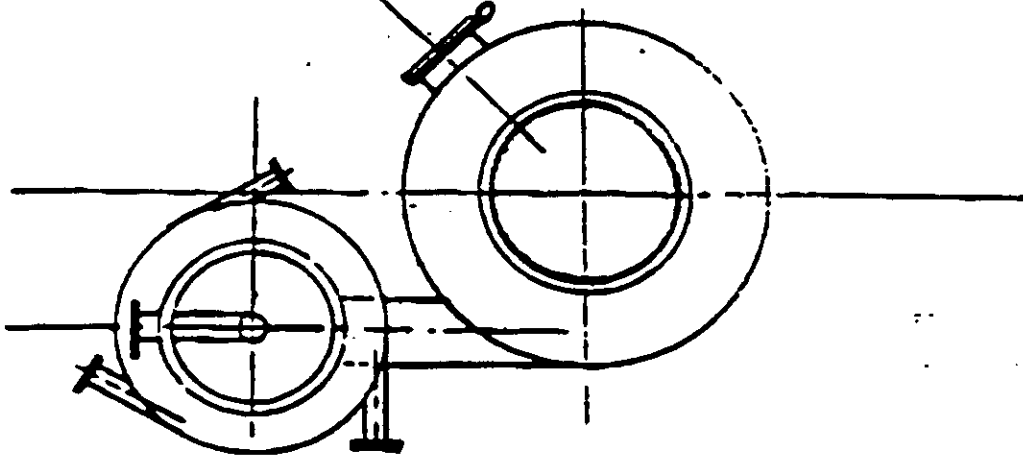


ATTACHMENT 3

EAST TRAIN COOLER VENTURI-CYCLONIC SCRUBBER

DAP 2 PLANT - IMC-AGRICO (NW)

24" HINGED MANWAY W/LINER TO CONFORM TO SEPARATOR I.D.





KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES

4014 NW THIRTEENTH STREET
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KA 124-97-01

August 22, 1997

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

RECEIVED

AUG 27 1997

BUREAU OF
AIR REGULATION

Subject: IMC-Agrico Company (New Wales)
DAP 2 Plant Production Increase
File No. 1050059-020-AC, PSD-FL-241

Dear Mr. Linero:

This is in response to FDEP's request dated August 7, 1997, for additional information for the above referenced project. The two issues raised by FDEP are addressed below.

1. The Department must decline the requested waiver for emissions unit supplemental information item "L.3," (Detailed Description of Control Equipment) on page 107 since the subject information in the Department's construction permit files is over five years old (see Instructions for DEP Form No. 62-210.900(1), page 50) and also since the application involves physical changes and will require a new BACT determination. Therefore, the additional information submitted should contain a more detailed description of the physical changes and include emission control system flow and equipment diagrams, control system flow rates (gas and liquid streams), pond water fluoride concentrations and temperatures, and an economic analysis of BACT options. It should be sufficiently detailed to allow a determination of achievable fluoride emission levels and an assessment of the cost/benefit considerations that are typically performed in BACT evaluations.

RESPONSE:

The permit application contained a waiver request as there is no change in any equipment or process associated with the proposed project. However, IMC has no objection to providing information to supplement the permit application.

Available information on the existing DAP 2 Plant layout and the air pollution control equipment are provided in Attachment 1.

Please note that no physical equipment changes were necessary to the existing plant to operate at the higher rates. It is recognized that even if any physical changes would have been required, it would not affect the rule applicability for this project.

A detailed BACT analysis for the proposed project, including a cost/benefit analysis, is included in Attachment 2.

2. The request is to issue one permit for both East and West Trains and their coolers as a "single emissions unit". It appears that these emissions units are, in fact, two separate plants that typically run independently, though they have the capability for interchangeability of the coolers. It also appears that normal operation involves no interchangeability and that compliance testing would not involve cooler interchangeability. Since these units have different emission control systems on the coolers (scrubber vs. baghouse), and since the Subpart V affected facility definition is specific to an individual plant, i.e., "... each ... plant ...," these units should be treated separately for permitting and compliance testing purposes. They have always had separate operating permits and are listed as separate emissions units in the Title V application. However, although treated separately, they can be combined into one permit without another application fee by virtue of the similar source rule. If any information is available to show that the above analysis is not correct, please provide it.

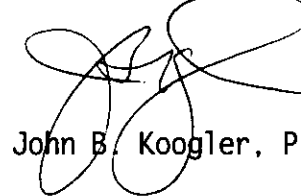
RESPONSE:

We have no objection to FDEP's above approach for this project.

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

Very truly yours,

KOUGLER & ASSOCIATES



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

CC: J. Reynolds, BAR
B. Thomas, SWO
R. Harwood, Polk Co.
NPS
EPA

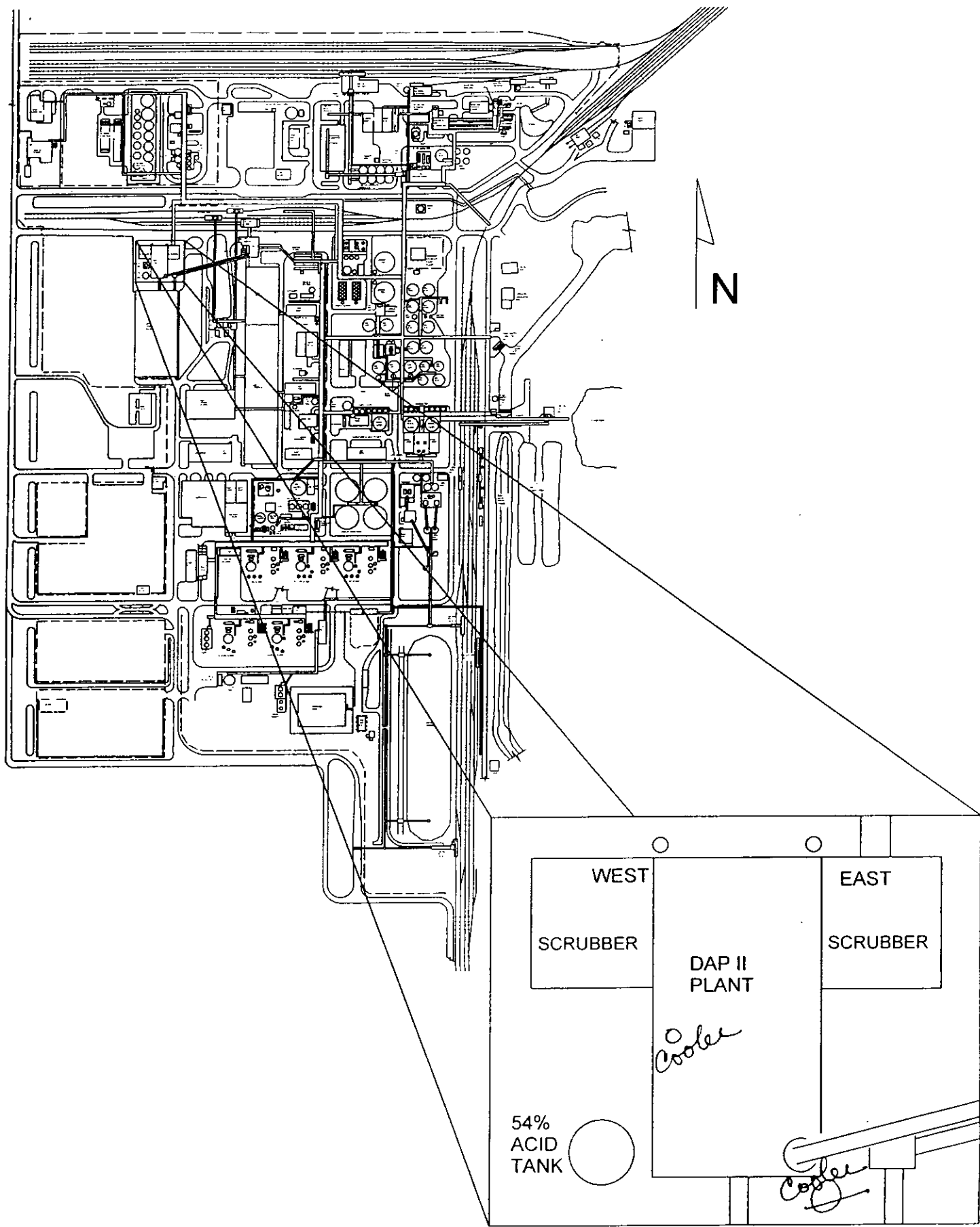
JBK:par

c: C.D. Turley, IMC-Agrico
W.C. Thomas, FDEP Tampa

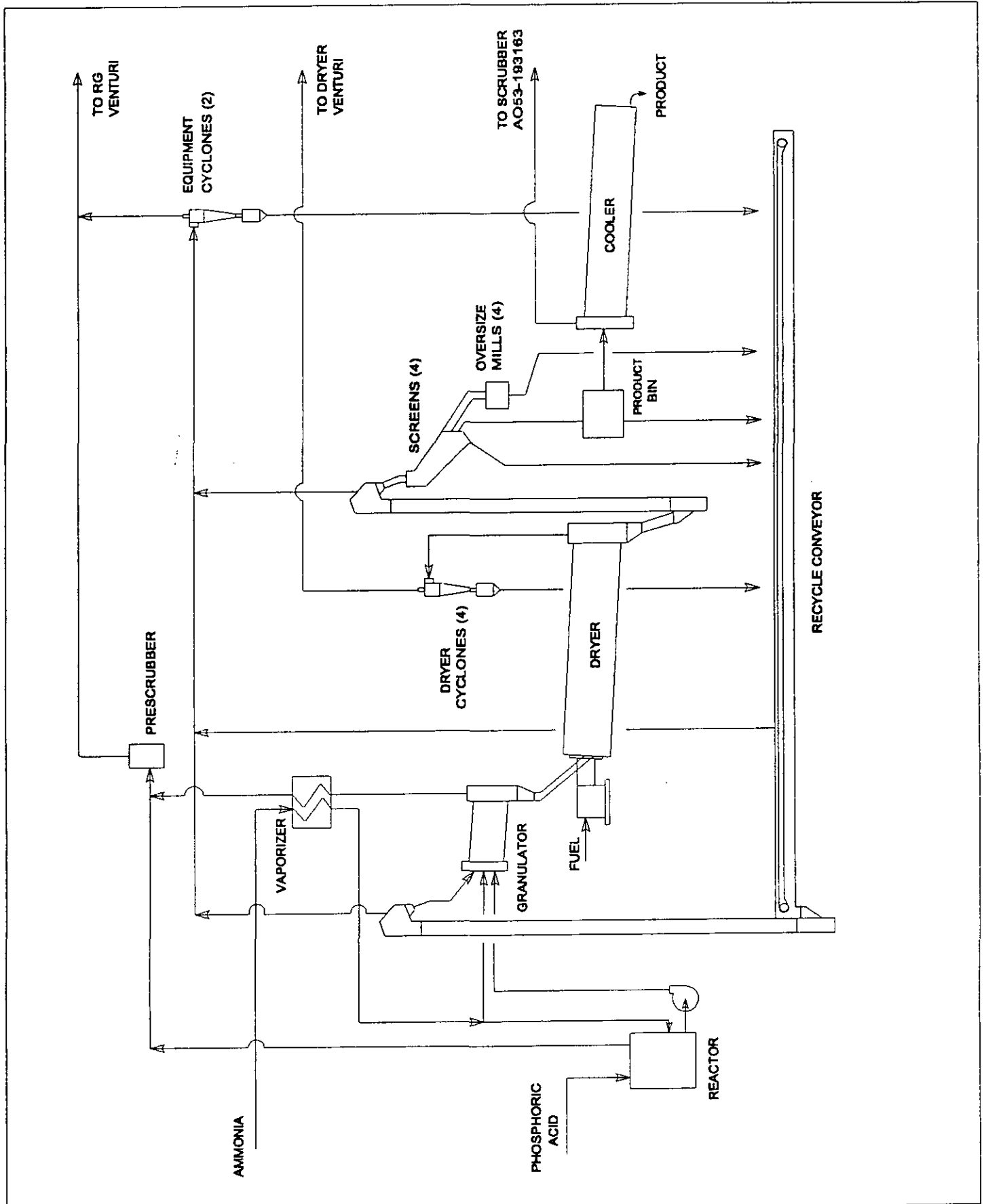


ATTACHMENT 1
DAP 2 PLANT INFORMATION





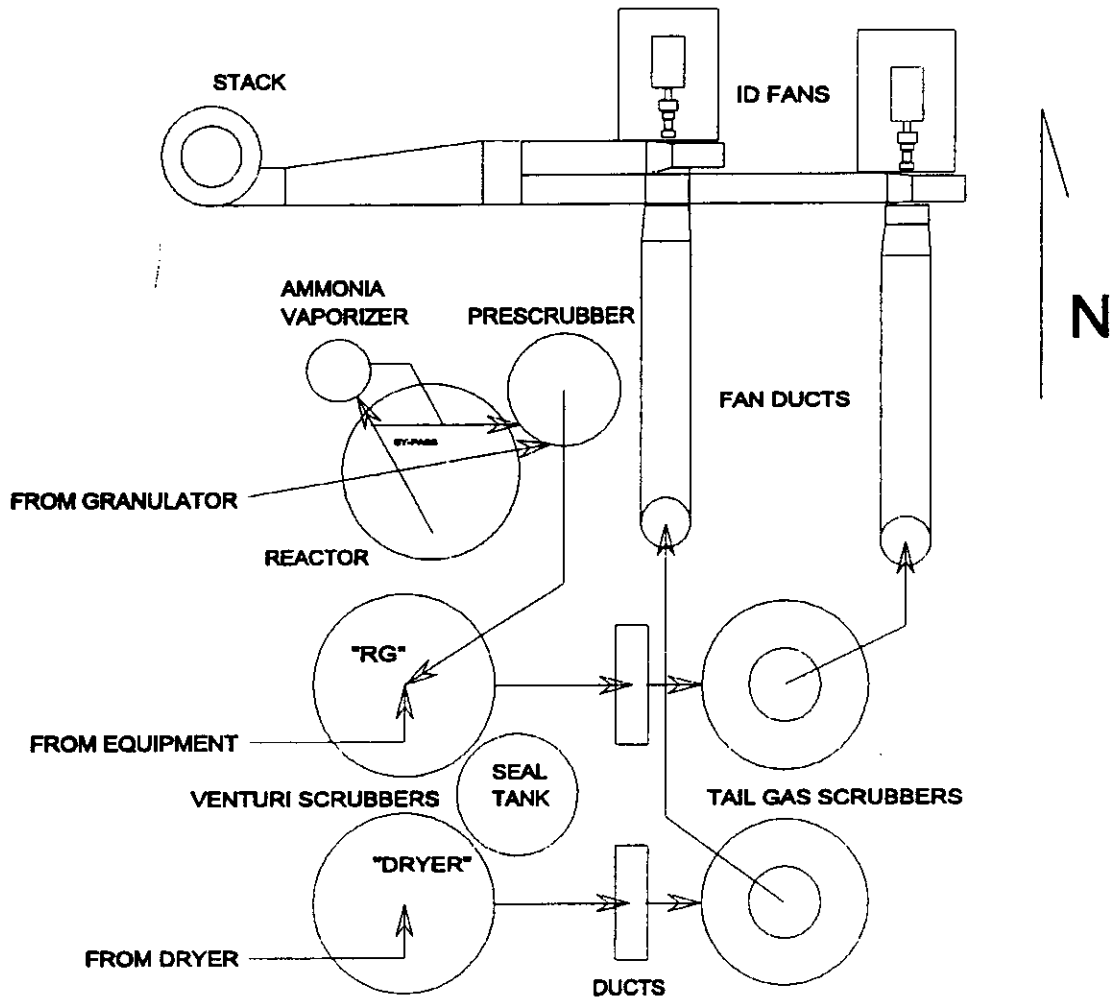
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DATE 5/15/92	LOCATION DIAGRAM	LOCATION. NEW WALES	FILE NWLSMIN
REVISED		SCALE.	REF NO.: 1030



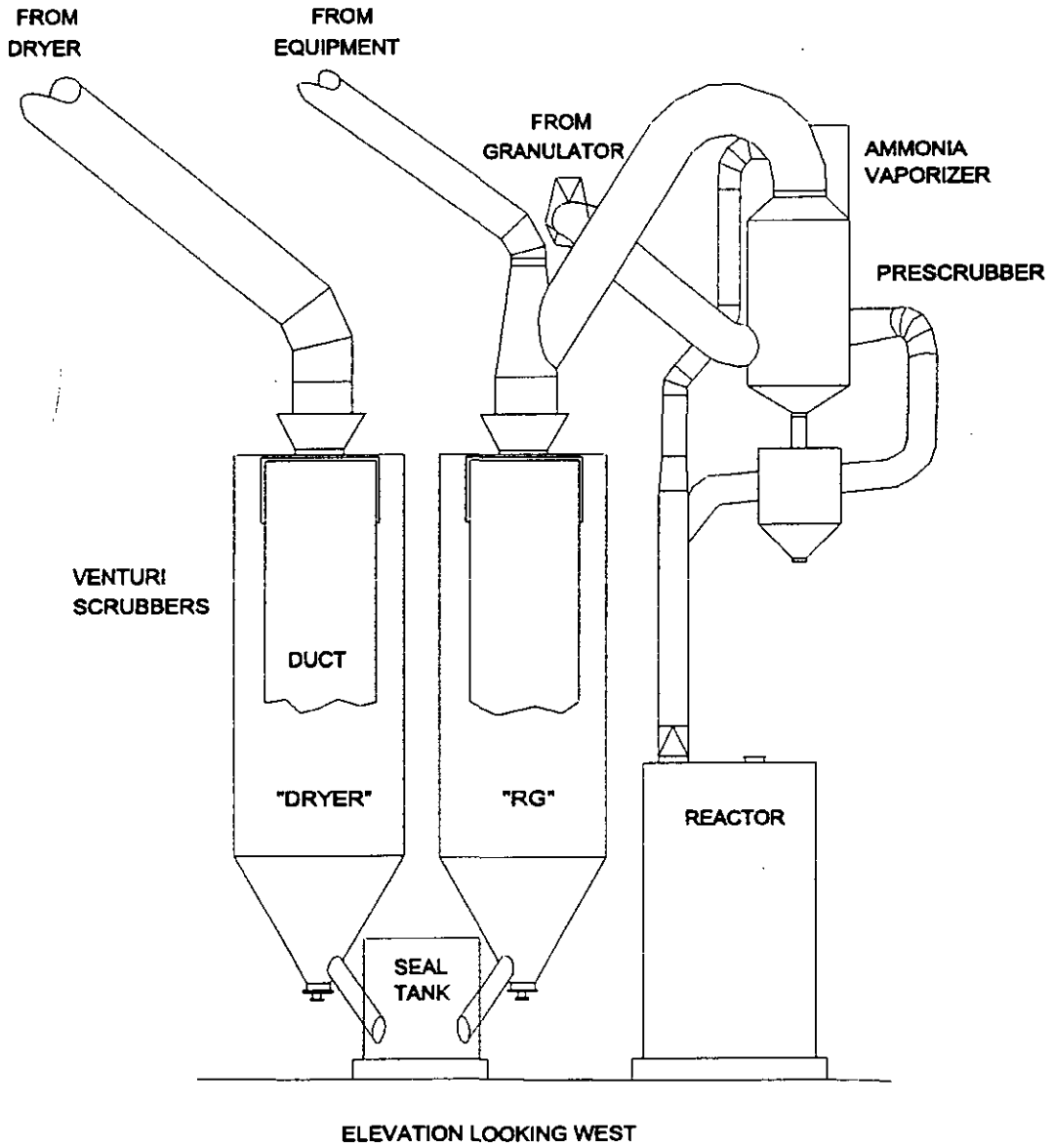
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 DATE: 5/12/92

TITLE: DAP 2 EAST FLOW DIAGRAM

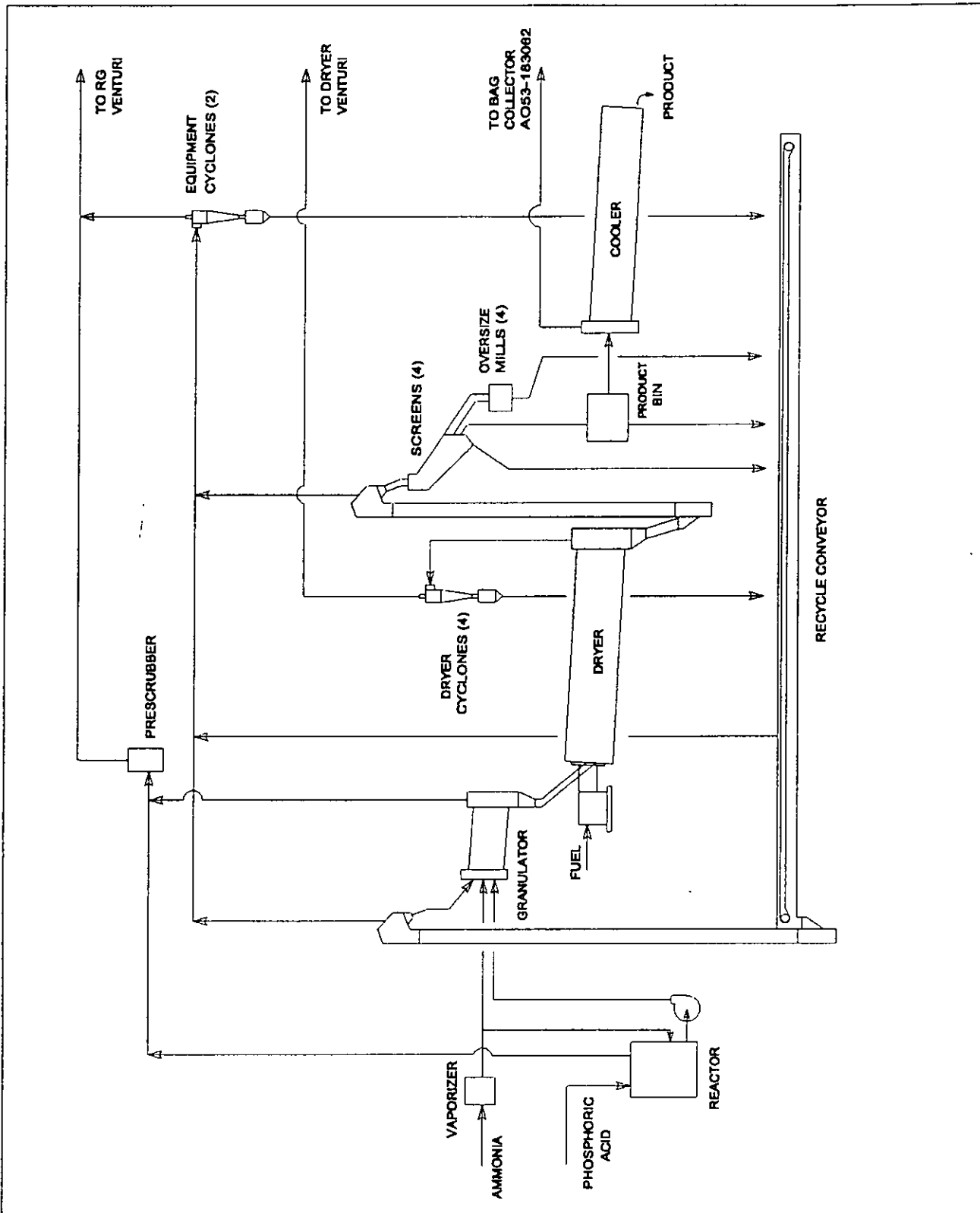
IMC FERTILIZER, INC.
 LOCATION: NEW WALES FILE: DAP2 11



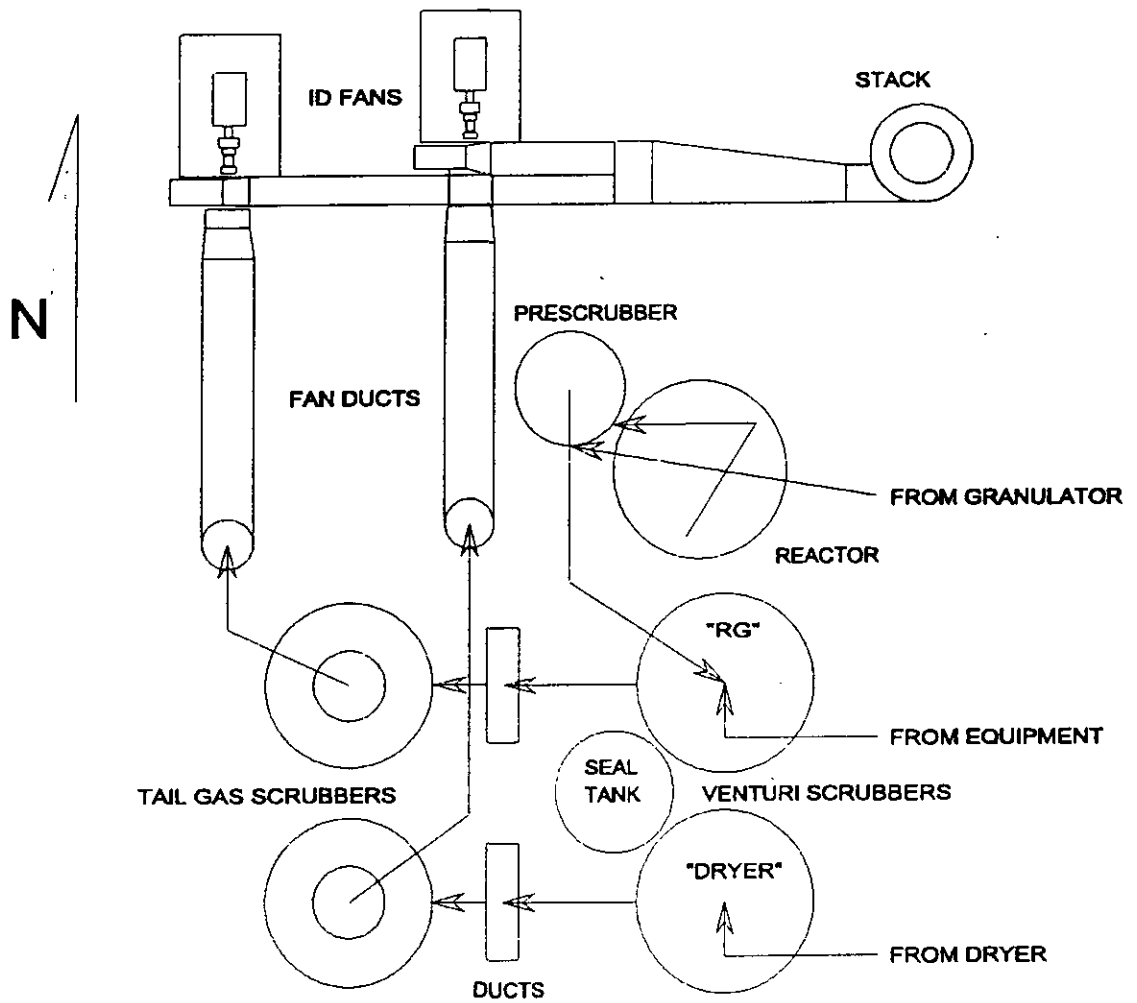
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DATE: 5/12/92	SCRUBBER SYSTEM	LOCATION: NEW WALES	FILE: DAP2
REVISED:		SCALE: NONE	DRAWING NO.: L7



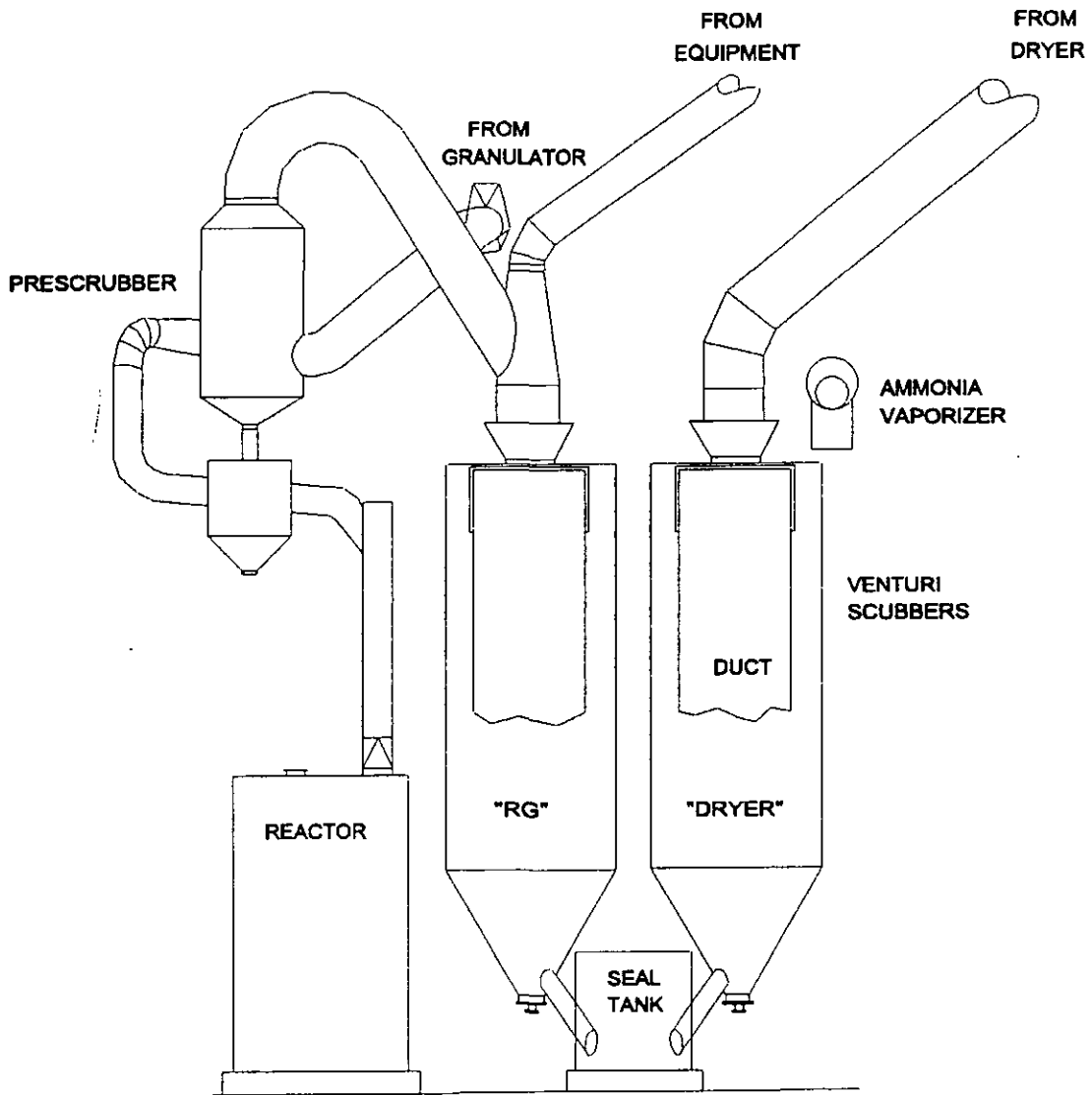
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DATE: 5/12/92	PRESCRUBBER AND VENTURI	LOCATION: NEW WALES	FILE: DAP2
REVISED:	SCRUBBERS	SCALE: NONE	DRAWING NO.: L9



PREPARED: CDT	TITLE: DAP 2 WEST FLOW DIAGRAM	IMC FERTILIZER, INC.	
DATE 5/12/92		LOCATION: NEW WALES	FILE: DAP2
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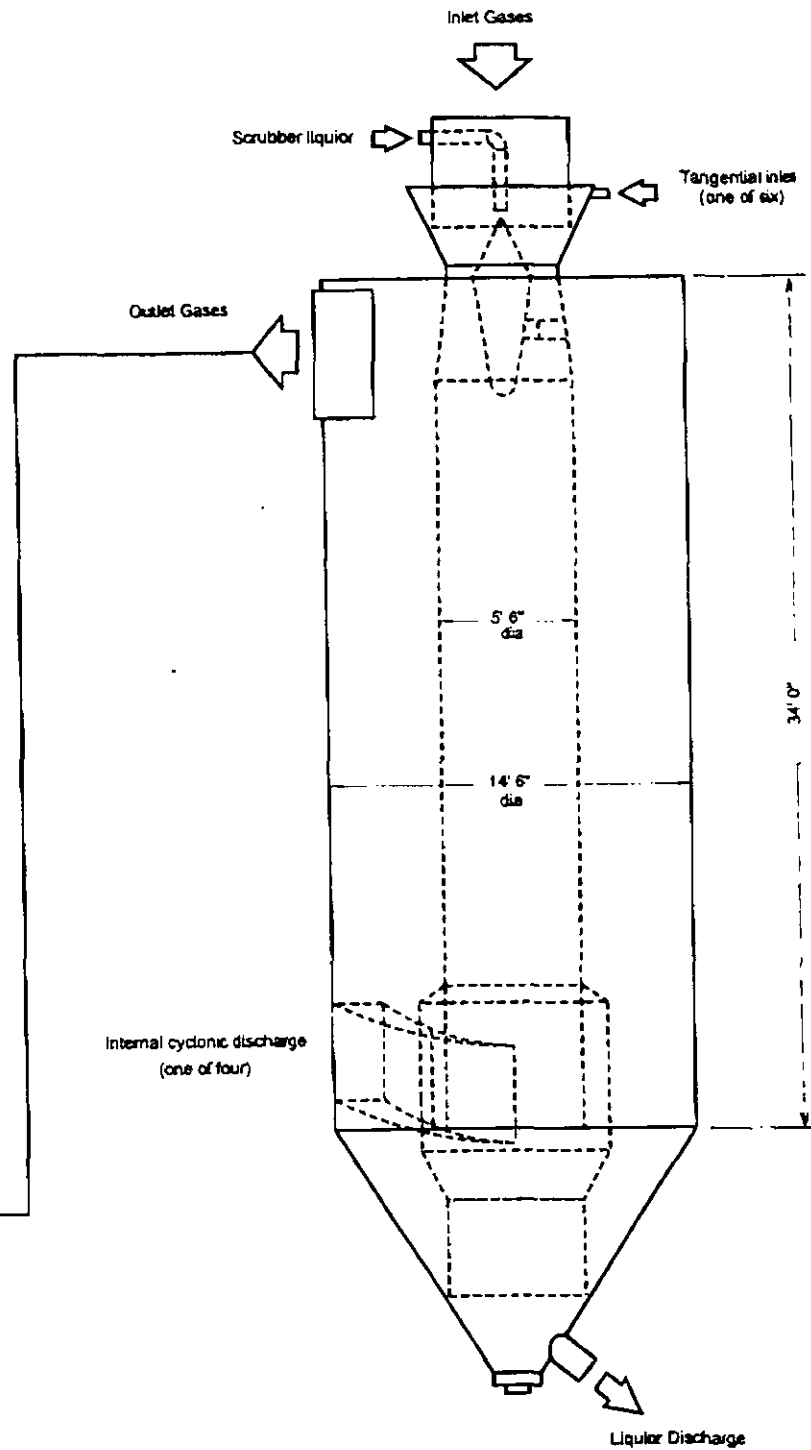
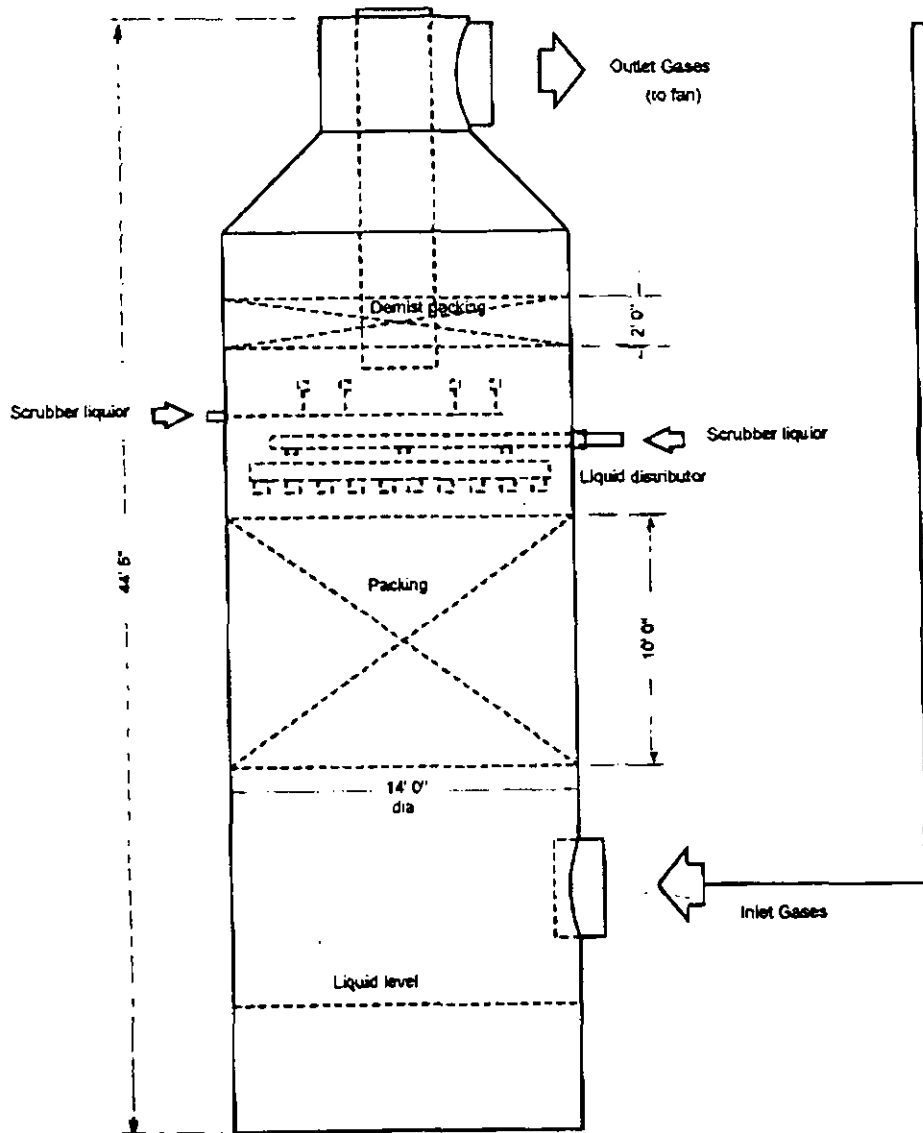
PREPARED: CDT	TITLE: DAP 2 WEST PLAN VIEW	IMC FERTILIZER, INC.	
DATE: 5/12/92	SCRUBBER SYSTEM	LOCATION: NEW WALES	FILE: DAP2
REVISED:		SCALE: NONE	DRAWING NO.: L1

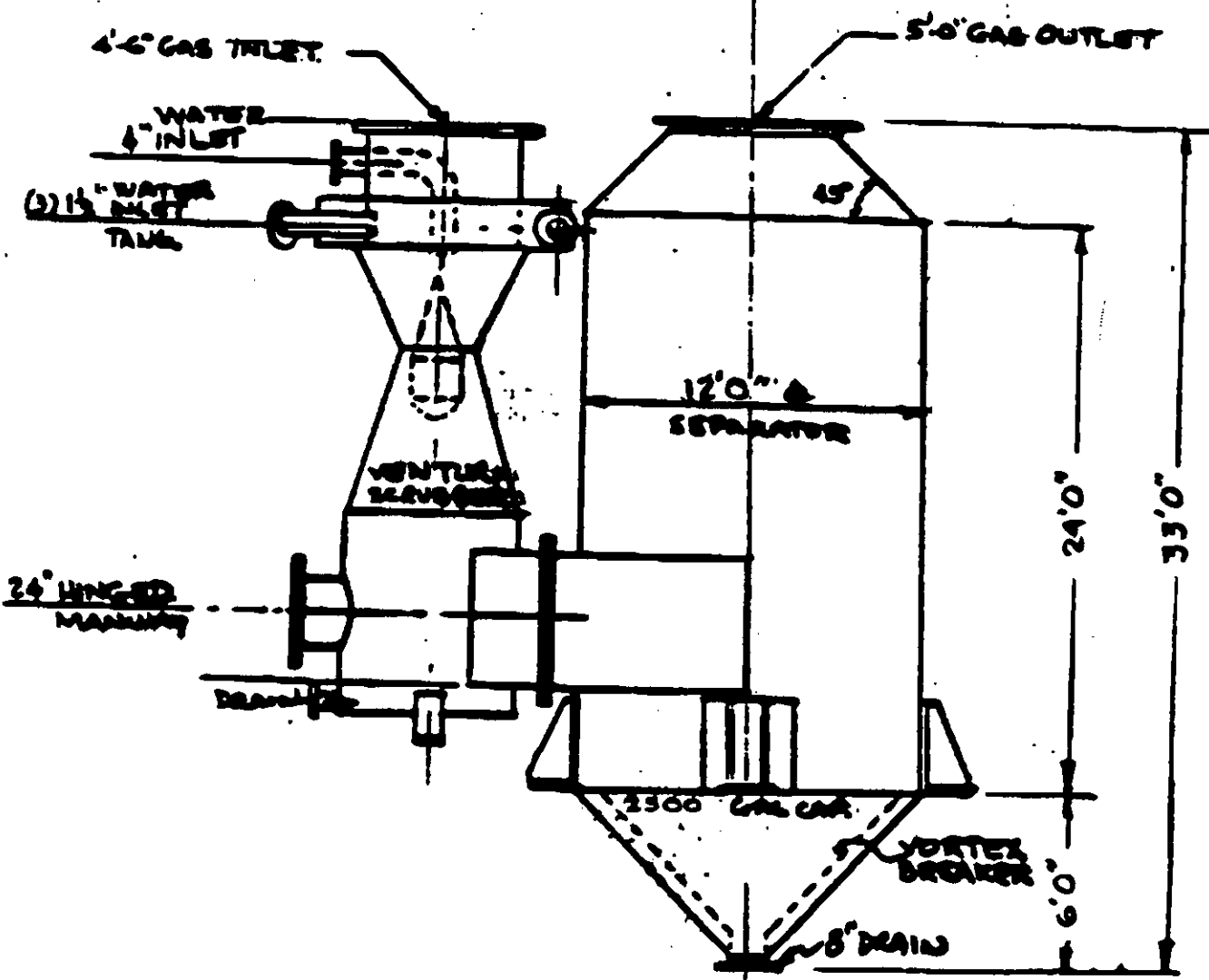
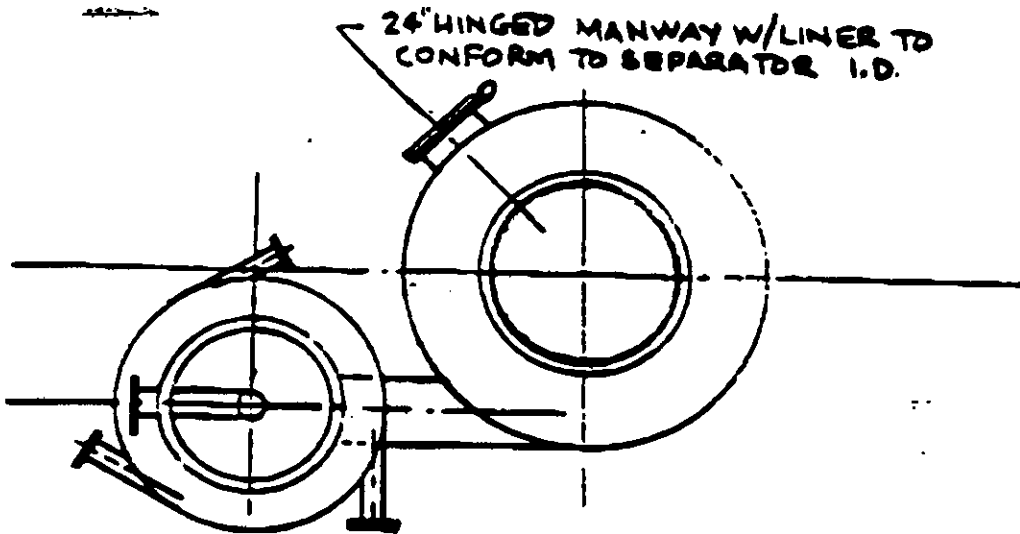


ELEVATION LOOKING EAST

PREPARED: CDT	TITLE: DAP 2 WEST ELEVATION VIEW	IMC FERTILIZER, INC.	
DATE: 5/12/92	PRESCRUBBER AND VENTURI	LOCATION: NEW WALES	FILE: DAP2
REVISED:	SCRUBBERS	SCALE: NONE	DRAWING NO.: L3

DAP II Venturi and Tail Gas Scrubbers





**TYPICAL OPERATION PARAMETERS
FOR THE DAP 2 PLANT**

As IMC-Agrico is not required to measure all the operation parameters requested by FDEP, the following list contains typical information as gathered/projected based on the DAP 2 East Train.

<u>PARAMETER</u>	<u>TYPICAL VALUES</u>
R/G Venturi Flow	1000-2000 gpm
Dryer Venturi Flow	1000-2000 gpm
Pond Water to R/G Tail Gas Scrubber (TGS)	1000-3500 gpm
Pond Water to Dryer TGS	1000-2400 gpm
R/G Venturi DP	11-24 in. H2O
Dryer Venturi DP	11-24 in. H2O
R/G TGS DP	2-10 in. H2O
Dryer TGS DP	2-10 in. H2O
R/G TGS Fan Amps	80-110 amps
Dryer TGS Fan Amps	80-110 amps
TGS gas flow, acfm	110,000 acfm (from stack test)
TGS gas flow, scfm	90,000 scfm (from stack test)
Stack Temp	110 F (from stack test)
Pond water F conc.	1.2% (season dependent)
Pond water temp.	85 F (season dependent)

ATTACHMENT 2

SUPPLEMENTAL BACT EVALUATION FOR DAP 2 PLANT

As indicated in the PSD permit application for the DAP 2 Plant, a BACT review is required for particulate matter (PM) and fluorides (F).

BACT is defined in Chapter 62, 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 which 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.

BACT ANALYSIS

Previous FDEP BACT analyses for PM and F from MAP/DAP plant reactors, granulators and dryers, indicate that the air pollution control of choice is a combination of venturi scrubbers followed by packed-bed tail gas scrubber. A venturi scrubber primarily controls PM. The F emissions are controlled to a lesser extent. A tail gas scrubber controls primarily gaseous fluorides. IMC-Agrico currently has this scrubbing arrangement on the reactor/granulator/dryer stream.

For the control of PM from the coolers, IMC-Agrico has utilized a venturi scrubber on the East Train and a baghouse on the West Train. No gaseous F emissions are expected from the coolers. While baghouses are widely



used to control PM, they are less frequently used in MAP/DAP plants due to moisture condensation problems. IMC-Agrico avoids this problem on the West Train by maintaining suitable operation temperatures.

To the best of our knowledge, there has been no change in the recommended control equipment for MAP/DAP plants since the previous BACT determination at the time this plant was constructed (under a PSD permit).

The use of once-through fresh water, in place of pond water, would enhance the gaseous fluorides controlled by the tail gas scrubber. However, the use of fresh water raises several environmental and chemical process related issues which need to be addressed. The IMC-Agrico operation is located in a sensitive water management area. A strict water conservation program is in place under the direction of the local Water Management District. The use of once-through fresh water would result in a significant increase in the amount of fresh water consumed by the facility. This would contradict the facility's commitment to the Water Management District and jeopardize the facility's zero discharge status.

Also, the increased fresh water usage would alter the water balance for the complex such that the cooling pond surge capacity would be exceeded. As an alternative, a separate fresh water recirculation system could be constructed with a dedicated pond and distribution system at considerable expense. This system would still require makeup fresh water and possibly require a water discharge from the facility, raising the same issues discussed above. In consideration of the above adverse impacts, the use of fresh water over pond water for a marginal increase in fluoride removal does not seem justified.

A closed loop water treatment system can be implemented to reduce the F concentration of the recirculating water. However, this approach would impose a large equipment and materials cost for minimal gain in F removal. Additionally, the water treatment process would cause a solid waste (precipitate) disposal problem. In consideration of these adverse impacts, the use of a recirculating scrubber water system for marginal increase in fluoride removal is not justified.

An economic analysis for the implementation of a recirculating scrubber water system for the tail gas scrubbers, requested by FDEP, is presented below. The resulting annual cost of control, of over \$19,000 per ton fluoride removed, is clearly not justified as BACT for fluorides. It should be noted that there are no air impact or sensitive issues impacts associated with this project.

The existing control equipment utilized by IMC-Agrico does represent BACT for both PM and F. In the case of F, although the existing control equipment is capable of lower average emission rates, an allowable emission rate of 0.06 lbF/ton P205 input is requested in order to allow for normal process variations and the variability of the test method (EPA Method 13B).



BACT COST ANALYSIS - DAP 2 PLANT
RECIRCULATED WATER SYSTEM

<u>Equipment Cost</u>	<u>COST, \$</u>
Replacement fans	280,000
Tank/Separator/Agitator	260,000
Piping	35,000
Ductwork	90,000
Electrical	190,000
Instrumentation	60,000
Total Equipment Cost (TEC)	<u>915,000</u>
Site Preparation	10,000
Engineering	25,000
Taxes & Freight	60,000
Contingency (10%)	<u>100,000</u>
Total Installed Cost (TIC)	1,110,000

Operation & Maintenance Cost

Although there will be additional O&M costs, assume for the purposes of this analysis that there is no difference in O&M costs between new and existing system.

Indirect Costs

General costs include overhead, administrative, insurance and property tax. Capital recovery cost is based on a 10% interest rate and a ten year life of the equipment in the recirculation system.

General Costs = \$915,000 x 0.08 (EPA factor)
= \$73,200

Capital Recovery = \$915,000 x 1.91 (EPA factor) x 0.1628 (rec. factor)
= \$284,517

Total Annual Cost = \$73,200 + \$284,517
= \$357,717

Fluoride Control Cost

The recirculating water system is being considered in order to reduce the projected emissions. The proposed F emission rate for the existing system is 18 tpy from the two tail gas scrubbers from one train. The above costs are based on one train. For the purposes of this analysis, assume that all 18 tpy of F can be controlled by the new system.

F Reduction = 18 tpy

Annual cost/ton = \$357,717 / 18 tpy
= \$19,873 per ton F removed





Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

August 7, 1997

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. E. M. Newberg
Vice President and General Manager
IMC-Agrico Company
P.O. Box 2000
Mulberry, Florida 33860

Re: File No. 1050059-020-AC (PSD-FL-241)
New Wales Facility, DAP Plant No. 2

Dear Mr. Newberg:

The Department has reviewed your application for a production increase for the DAP Plant No. 2 received on July 15, 1997. We need the additional information listed below to process this request.

1. The Department must decline the requested waiver for emissions unit supplemental information item "L.3." (Detailed Description of Control Equipment) on page 107 since the subject information in the Department's construction permit files is over five years old (see Instructions for DEP Form No. 62-210.900(1), page 50) and also since the application involves physical changes and will require a new BACT determination. Therefore, the additional information submitted should contain a more detailed description of the physical changes and include emission control system flow and equipment diagrams, control system flow rates (gas and liquid streams), pond water fluoride concentrations and temperatures, and an economic analysis of BACT options. It should be sufficiently detailed to allow a determination of achievable fluoride emission levels and an assessment of the cost/benefit considerations that are typically performed in BACT evaluations.
2. The request is to issue one permit for both East and West Trains and their coolers as a "single emissions unit". It appears that these emissions units are, in fact, two separate plants that typically run independently, though they have the capability for interchangeability of the coolers. It also appears that normal operation involves no interchangeability and that compliance testing would not involve cooler interchangeability. Since these units have different emission control systems on the coolers (scrubber vs. baghouse), and since the Subpart V affected facility definition is specific to an individual plant, i.e., "...each ... plant ...", these units should be treated separately for permitting and compliance testing purposes. They have always had separate operating permits and are listed as separate emissions units in the Title V application. However, although treated separately, they can be combined into one permit without another application fee by virtue of the similar source rule. If any information is available to show that the above analysis is not correct, please provide it.

Mr. E. M. Newberg
Page 2 of 2
August 7, 1997

The Department will resume processing this application after receipt of the requested information. If you have any questions on this matter, please call John Reynolds at 850/488-1344.

Sincerely,



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

AAL/JR

cc: Bill Thomas, SWD
Roy Harwood, Polk Co.
John Koogler, P.E.
Brian Beals, EPA
John Bunyak, NPS

P 265 659 249

US Postal Service
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Do not use for International Mail (See reverse)

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Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	\$
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1050059-020-AC PSD-FI-241	

PS Form 3800, April 1995

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Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- Addressee's Address
- Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

E. M. Newberg, V.P. & G.M.
IMC-Asico Co.
P.O. Box 2000
Mulberry, FL 33860

4a. Article Number

P 265 659 249

4b. Service Type

- | | |
|---|---|
| <input type="checkbox"/> Registered | <input checked="" type="checkbox"/> Certified |
| <input type="checkbox"/> Express Mail | <input type="checkbox"/> Insured |
| <input type="checkbox"/> Return Receipt for Merchandise | <input type="checkbox"/> COD |

7. Date of Delivery

8-11-97

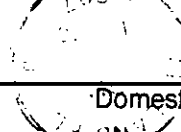
5. Received By: (Print Name)

Delfino

6. Signature: (Addressee or Agent)

X

8. Addressee's Address (Only if requested and fee is paid)



PS Form 3811, December 1994

Domestic Return Receipt

Thank you for using Return Receipt Service.



IN REPLY REFER TO:

United States Department of the Interior

FISH AND WILDLIFE SERVICE

1875 Century Boulevard

Atlanta, Georgia 30345

August 6, 1997

RECEIVED

AUG 11 1997

BUREAU OF
AIR REGULATION

Mr. C. H. Fancy
Chief, Bureau of Air Regulation
Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dear Mr. Fancy:

We have reviewed the Prevention of Significant Deterioration Application for the proposed increase in diammonium phosphate production at the IMC-Agrico New Wales Plant. The facility is located 105 km south of Chassahowitzka Wilderness Area (WA), a Class I air quality area, administered by the U.S. Fish and Wildlife Service. The proposed modification will result in significant increases in fluoride emissions (32.9 tons per year) and particulate matter (PM - 126 tons per year). The comments of our Air Quality Branch follow:

Best Available Control Technology (BACT) Analysis

IMC proposes to use a wet scrubber to control fluoride emissions. We agree this technology represents BACT for this facility. However, IMC proposes a fluoride emission rate of 0.06 lb/ton P_2O_5 , a rate significantly higher than the current actual emission rates at the facility. In fact, test results provided in the application indicate that emission rates an order of magnitude lower than the proposed level may be achievable. While we understand that past actual emission levels may not be achievable at higher production rates, we believe that operation at higher production rates may demonstrate that a limit significantly lower than the proposed 0.06 pounds per ton of P_2O_5 is achievable.

In addition, IMC proposes to retain the current allowable emission rates for PM. However, past compliance tests at the plant demonstrate that actual emission rates are 50-75 percent lower than the allowable rates. We believe it is reasonable to establish allowable permit conditions that reflect the actual capabilities of the control equipment. Therefore, we request that FDEP require IMC to meet actual achievable emission rates for fluoride and PM as demonstrated during compliance tests or over a reasonable amount of operating time.

Air Quality Analysis

The proposed project's contributions to the PM-10 Class I increments are below the FWS significant impact levels. No cumulative analysis is required.

Air Quality Related Values Analysis

IMC is not requesting an increase in the hourly emission rate of PM. Therefore, the proposed project should not have an impact on visibility at Chassahowitzka. However, because the proposed project will contribute to the cumulative loading of fluoride in Chassahowitzka, we ask that your department propose fluoride emission rates that not only reflect actual rates (see BACT analysis, above), but minimize impacts to the Class I area.

Thank you for giving us the opportunity to comment on this permit application. We appreciate your cooperation in notifying us of proposed projects with the potential to impact the air quality and related resources of our Class I air quality areas. If you have questions, please contact Ms. Ellen Porter of our Air Quality Branch in Denver at (303) 969-2617.

Sincerely yours,



Acting Regional Director

cc: J. Reynolds, BAR
C. Holladay, BAR
B. Thomas, SWO
EPA



KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES

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

KA 124-97-01

July 11, 1997

Mr. Cleve Holladay
Florida Department of
Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Subject: Polk County - AP
IMC-Agrico Company (New Wales)
DAP 2 Plant Production Increase

Dear Mr. Holladay:

Enclosed is a disk containing air dispersion modeling output. The modeling information is in support of the recently submitted application for an increase in the production rate of the DAP 2 Plant at the IMC-Agrico New Wales facility, Polk County, Florida.

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

Very truly yours,

KOOGLER & ASSOCIATES

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

JBK:par
encl.

c: C. Dave Turley, IMC-Agrico

RECEIVED

JUL 18 1997

BUREAU OF
AIR REGULATION

THIS DISK CONTAINS PARTICULATE MATTER MODELING (PM10) FILES FOR THE IMC NEW WALES PHOSPHATES FACILITY IN NEW WALES FLORIDA. THE FOLLOWING ARE OUTPUT FILES ARE IN SELF EXTRACTING ARCHIVE FORMAT.

CHASSAHOWITZKA NWR PSD CLASS I AREA FILES:
C1-PM.EXE 59,804 07-03-97

SIA OF FAAQS, AND PSD CLASS 2 AREA:
C2-PM.EXE 79,007 07-03-97

TO UNARCHIVE THESE FILES COPY THEM TO A HARD DISK DRIVE AND TYPE THE FILE NAME. FOR EXAMPLE TO UNARCHIVE THE PM10 ISCST3 OUTPUT FILES, TYPE "C2-PM" AND PRESS ENTER. THE FILES WILL AUTOMATICALLY UNARCHIVE TO THE HARD DISK DRIVE. THESE ARCHIVED FILES CONTAIN THE MODELING AND ANALYSIS FILES ASCII DESCRIBED AS FOLLOWS;

THE FOLLOWING FILES CONTAIN ISCST3 MODELING OF SIGNIFICANT IMPACT ANALYSIS (SIA) FOR FAAQS AND PSD CLASS 2 AREAS FOR PM10.

THE FOLLOWING SIA FILES ARE PROVIDED:

C1-PM.EXE CHASSAHOWITZKA NWR PSD CLASS I AREA FILES;

PMC1-87	STO	34,804	07-03-97	24-HOUR AVERAGING PERIOD FOR 1987
PMC1-88	STO	34,804	07-03-97	24-HOUR AVERAGING PERIOD FOR 1988
PMC1-89	STO	34,804	07-03-97	24-HOUR AVERAGING PERIOD FOR 1989
PMC1-90	STO	34,804	07-03-97	24-HOUR AVERAGING PERIOD FOR 1990
PMC1-91	STO	34,804	07-03-97	24-HOUR AVERAGING PERIOD FOR 1991

PMC1-87	ANO	32,718	07-03-97	ANNUAL AVERAGING PERIOD FOR 1987
PMC1-88	ANO	32,718	07-03-97	ANNUAL AVERAGING PERIOD FOR 1988
PMC1-89	ANO	32,718	07-03-97	ANNUAL AVERAGING PERIOD FOR 1989
PMC1-90	ANO	32,718	07-03-97	ANNUAL AVERAGING PERIOD FOR 1990
PMC1-91	ANO	32,718	07-03-97	ANNUAL AVERAGING PERIOD FOR 1991

C2-PM.EXE SIA OF FAAQS, AND PSD CLASS 2 AREA:

PMC2-87	STO	58,696	07-03-97	24-HOUR AVERAGING PERIOD FOR 1987
PMC2-88	STO	58,696	07-03-97	24-HOUR AVERAGING PERIOD FOR 1988
PMC2-89	STO	58,696	07-03-97	24-HOUR AVERAGING PERIOD FOR 1989
PMC2-90	STO	58,696	07-03-97	24-HOUR AVERAGING PERIOD FOR 1990
PMC2-91	STO	58,696	07-03-97	24-HOUR AVERAGING PERIOD FOR 1991

PMC2-87	OUT	38,479	07-03-97	ANNUAL AVERAGING PERIOD FOR 1987
PMC2-88	OUT	38,479	07-03-97	ANNUAL AVERAGING PERIOD FOR 1988
PMC2-89	OUT	38,479	07-03-97	ANNUAL AVERAGING PERIOD FOR 1989
PMC2-90	OUT	38,479	07-03-97	ANNUAL AVERAGING PERIOD FOR 1990
PMC2-91	OUT	38,479	07-03-97	ANNUAL AVERAGING PERIOD FOR 1991

IF THERE ARE ANY QUESTIONS OR IF I MAY PROVIDE ADDITIONAL FILES, OR ANALYSIS PLEASE CALL ME.

July 3, 1997
MARK KOLETZKE
KOOGLER AND ASSOCIATES
(352) 377-5822
KOOGLER@WORLDNET.ATT.NET