

KOOGLER & ASSOCIATES, *Environmental Services*

1213 NW 6th Street • Gainesville, Florida 32601 • 904/377-5822

KA 124-85-01

December 18, 1986

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DEC 22 1986

PSD-FL-034

BAQM

Mr. C. H. Fancy
Deputy Chief,
Bureau of Air Quality Management
Florida Department of
Environmental Regulation
2600 Blair Stone Road
Tallahassee, FL 32301-8241

Subject: IMC-New Wales
Permit AC53-23546
No. 2 DAP Plant

Dear Mr. Fancy:

On November 10, 1986, information was forwarded to your attention through our office regarding nitrogen oxides emissions from the IMC-New Wales No. 2 DAP plant. That information was supplied in response to your letter of June 9, 1986 and confirmed much of the information presented to your staff during a meeting with IMC in your office on July 9, 1986. Subsequent to our November 10, 1986 letter, we have communicated with your staff and have been requested to supply nitrogen oxides emission data from the No. 2 DAP plant during times when the DAP dryer was fired with natural gas. IMC has conducted the required tests and is transmitting the emission data herein.

Nitrogen oxides emission tests were conducted on the No. 2 East DAP train while the dryer was fired with natural gas. The nitrogen oxides emission measurements were made with a continuous emission analyzer while the plants was operated at various production rates. The test results are summarized in the following table.

DAP Prod. Rate	Fuel (tph)	Heat Input (MMBTU/hr)	NO _x		
			(ppm)	(lb/hr)	(lb/MMBTU)
75	Gas	19.46	5.7	3.42	0.18
100	Gas	21.76	6.5	3.84	0.18
125	Gas	22.26	7.5	4.70	0.21

In considering the feasibility of natural gas as a fuel for the No. 2 DAP plant, the Department must consider that IMC-New Wales has no FERC gas allocation. Natural gas is supplied on an interruptible basis; when gas supplies become tight, there will be no natural gas available for IMC-New Wales. The Department should also recognize that prior to last year there was no gas at all available at the IMC-New Wales chemical complex.

Another factor to consider when evaluating the feasibility of natural gas is cost. The 1986-87 production planned from the No. 2 DAP plant is 830,900 tons. The planned oil consumption is 1.5 gallons per ton of DAP. The oil presently used by IMC releases 151,500 BTU per gallon. At a use rate of 1.5 gallons per ton, this relates to 2.27 therms per ton. Based on the current oil cost of \$0.32 per gallon, the annual fuel oil cost for the No. 2 DAP plant is projected to be \$398,832.

The present cost of natural gas is \$0.2531 per therm. Due to the lower net heating value of natural gas, there is an 11.7 percent penalty for using gas; i.e. to get the same net heat input to the dryer, IMC has to burn 11.7 percent more therms of natural gas than oil. This results in a projected annual fuel cost when burning gas of \$533,237; or a \$134,405 per year penalty for burning gas, if the gas is available.

The prices of oil and gas have been very volatile lately, and the real fuel costs to IMC could be quite different at the end of the year.

In addition to the nitrogen oxides emission measurements that have been conducted by New Wales and reported in our letter of November 10, 1986 and herein, New Wales has recently had nitrogen oxides emissions measurements made by the John Zink Company; the suppliers of the burners used on the two trains of the No. 2 DAP plant. Zink tested the burner on the No. 2 East plant while being fired with No. 6 oil. Zink's report has not yet been received, but preliminary data show that as nitrogen oxides emissions were reduced, the opacity of the stack increased markedly to well over 50 percent as a result of unburned fuel. Even if the opacity of emissions could be reduced when the dryer burner was adjusted to yield low nitrogen oxides emissions (or if the Department would grant a variance allowing a 50 percent opacity), the excess fuel required to operate at these conditions would result in a significant increase in annual fuel oil costs.

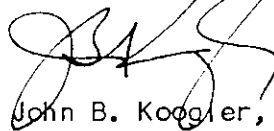
Mr. C. H. Fancy
Florida Department of
Environmental Regulation

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If there is any additional information that the Department requires or if there are any questions regarding the information provided herein, please do not hesitate to contact me.

Very truly yours,

KOOGLER & ASSOCIATES



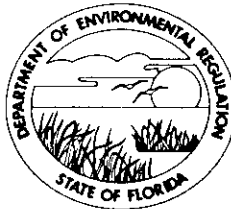
John B. Koogler, Ph.D., P.E.

JBK:app

cc: Mr. J. M. Baretincic
Mr. A. L. Girardin

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301-8241



BOB GRAHAM
GOVERNOR
VICTORIA J. TSCHINKEL
SECRETARY

December 9, 1986

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

John B. Koogler, Ph.D., P.E.
Koogler and Associates Environmental Services
1213 N.W. 6th Street
Gainesville, Florida 32601

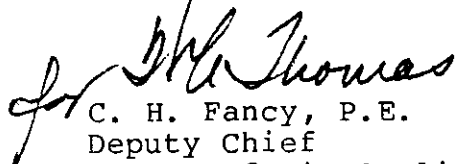
Dear Dr. Koogler:

Re: IMCC - No. 2 DAP Plant

Confirming earlier conversations, the information you submitted in your November 10 letter to me along with the NOx emission data from the No. 2 DAP plant that you are presently preparing to send to the bureau will complete the application requesting relief from the current NOx standard for IMCC's No. 2 DAP plant. Our preliminary determination and technical evaluation, including the proposed BACT determination, will be distributed within 60 days of the receipt of your letter giving the measured NOx emissions from the plants.

Please call Barry Andrews or Willard Hanks at (904)488-1344 if you have any questions on this matter.

Sincerely,


C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

CHF/WH/s

cc: Mr. J. M. Baretincic

P 408 532 101

RECEIPT FOR CERTIFIED MAIL

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Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return Receipt Showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date 12/9/86	

PS Form 3800, Feb. 1982

PS Form 3811, July 1983 447-945

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- Show to whom, date and address of delivery.
- Restricted Delivery.

3. Article Addressed to:
Dr. John B. Koogler
1213 N.W. 6th Street
Gainesville, FL 32601

4. Type of Service:	Article Number
<input type="checkbox"/> Registered <input type="checkbox"/> Insured <input checked="" type="checkbox"/> Certified <input type="checkbox"/> COD <input type="checkbox"/> Express Mail	P 408 532 101

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