

KOOGLER & ASSOCIATES
ENVIRONMENTAL SERVICES4014 NW THIRTEENTH STREET
GAINESVILLE, FLORIDA 32609
352/377-5822 • FAX 377-7158

KA 124-96-03

April 9, 1997

RECEIVED

APR 10 1997

BUREAU OF
AIR REGULATION

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

Subject: IMC-Agrico Company
South Pierce Plant
Sulfuric Acid Production Increase
File 1050055-010, PSD-FL-235

Dear Mr. Linero:

This is in response to your letter dated March 7, 1997, requesting additional information on the above referenced project. The responses are in the order of the issues raised in your letter.

1. We are interested in knowing more precisely why the emission limit of 4 pounds of sulfur dioxide per ton of sulfuric acid cannot be lowered. This value is the original NSPS for these plants. Lower values are routinely achieved during most of the 18 month cycle following catalyst screening and addition.

RESPONSE:

At the time of the original federal rule making and during each subsequent NSPS review, EPA provided the technical and economic criteria justifying the sulfur dioxide emission standard of 4 pounds per ton of acid for double absorption sulfuric acid plants. This issue is addressed in IMC-Agrico's permit application.

The sulfur dioxide emission rates routinely achieved after turnaround at sulfuric acid plants vary from plant to plant. For many plants, the emissions level (lb SO₂/ton acid) is a function of the production rate. At South Pierce, plants will generally operate at the maximum achievable (permitted) production rate after turnaround and then gradually reduce the production rate to maintain emissions within permitted levels, as the pressure drop across the catalyst increases leading up to the next turnaround. For most plants operated in this manner, there is generally little change in the sulfur dioxide emission rate per ton of acid during normal plant operations. In these cases, the hourly sulfur dioxide emission rates decrease as the production rates decrease.

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

April 9, 1997
Page 2

2. It is our understanding that during a turnaround, activity tests are performed to determine how much of the catalyst needs to be removed such that the limit of 4 pounds per ton is maintained until the next turnaround (typically 18 months). We would like to know the marginal costs while aiming for 4, 3.5 and 3 pounds per ton by the end of the 18 month cycle.

RESPONSE:

Although we are not in a position to comment on the maintenance criteria and practices implemented at other fertilizer companies, we can provide you with information relevant to IMC-Agrico's South Pierce plant.

During a normal turnaround at the IMC-Agrico South Pierce plant, the catalyst is not tested for any activity level. It is, however, checked for structural integrity. Disintegrated catalyst causes pluggage and progressively increasing pressure drops. This results in a reduction in plant operating efficiency and production. The catalyst structural integrity is maintained by simply screening the catalyst during a turnaround. Fresh catalyst is added as replacement for the amount of catalyst removed.

Although the information on catalyst cost may not be useful, based on the above discussion, it is being provided for your reference. The current cost of catalyst, based on conversations with Monsanto staff, is in the range of \$2.55/liter (bulk rate, FOB California).

We trust that the information provided herein, along with our previous response, will enable the Department to complete the review of the proposed project.

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

Very truly yours,

KOOGLER & ASSOCIATES


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

JBK:par
c: C.D. Turley, IMC-Agrico

