

# AMAX Chemical Corporation

A SUBSIDIARY OF AMAX INC.

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April 5, 1985

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BAQM

Mr. C. H. Fancy, P.E.  
Bureau of Air Quality Management  
Department of Environmental Regulation  
Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, FL 32301-8241

Dear Mr. Fancy:

In response to a request for additional information concerning file no. A029-091316, we are submitting the following:

1. The test data for fluoride removal from the phosphoric acid was gathered simply by determining, by analyses, the fluoride content of the acid at various stages of the defluorinating process. As referenced by Louis John Lamb to Joe Floyd; attachment F of the permit application, the maximum fluoride emissions occurred during a two hour period when the heated acid, diatomaceous earth, and caustic mixture was air sparged, worst case condition. Laboratory analysis of the acid before and after this two hour period indicated that 32.12 lbs. of fluorides had been removed. Each of the two reaction tanks will be swept with 1,025 ACFM during the defluorinating process. The 1.83 grains  $F_2/ft^3$  calculates as follows:

$$\frac{32.12 \text{ Lbs } F_2}{2 \text{ Hours}} \times \frac{1 \text{ Hour}}{60 \text{ Min.}} \times \frac{1 \text{ Minute}}{1025 \text{ Ft}^3} \times \frac{7000 \text{ Grains}}{1 \text{ Lb}} = \frac{1.83 \text{ Grains}}{\text{Ft}^3}$$

2. Approximately 95% of the sludge produced during the phosphoric acid defluorinating process is recovered and used in another manufacturing process. The remaining 5% may be sluiced to the process water system
3. The 99+% fluoride removal capability of the Rigidome 4837 scrubber is based on the phosphoric acid fluoride removal test data and the engineering data presented by Louis John Lamb. AMAX will investigate the use of packing in this scrubber if it is needed to meet the BACT for fluoride set forth in the operating permit.

Sincerely,

*George Townsend*

George Townsend  
Environmental Supervisor

GT:cr

cc: J. J. Lewis  
G. P. Ubelhoer