

PDR 40-3392

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U.S. NUCLEAR REGULATORY
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Mr. W. T. Crow, Section Leader
Uranium Process Licensing Section
Uranium Fuel Licensing Branch
Division of Fuel Cycle and Material Safety
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Crow:

This letter confirms previous informal discussions with members of your staff regarding our plans to recycle the calcium fluoride (CaF₂) generated by our wastewater treatment process to Allied Chemical's Geismar, Louisiana hydrofluoric acid plant. The Geismar Plant supplies the hydrofluoric acid consumed as a raw material in our UF₆ conversion facility.

We are quite pleased and proud that Allied Chemical's technology and resources will allow us to "close the loop" by recycling and reusing the calcium fluoride produced in removing fluoride contamination from our effluent water. We estimate the facilities required will cost in excess of four million dollars.

Our existing wastewater treatment process consists of lime neutralization of the fluoride bearing waste streams, followed by clarification to separate the bulk of the liquid from the solids contained in the slurry leaving the neutralizers. Recently, the neutralizer slurry has been mixed with additional HF waste liquor in an acidification reactor to remove excess lime and remaining carbonates. At this point, a slurry is produced containing essentially solid CaF₂, and needs only to be separated from the liquid and dried.

The calcium fluoride recovery project will provide for liquid removal by a thickening operation, followed by dewatering with vacuum filtration. Final drying to a product moisture of 25 - 30% will be accomplished with a flash dryer system. This synthetic fluorspar will be transported by barge to our Geismar Plant where it will be blended with natural fluorspar in the routine production of hydrofluoric acid (HF).



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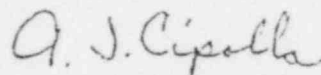
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Approximately 100,000 N.T. of untreated sludge is presently stored on site in settling ponds. U.S. EPA's Resource Conservation and Recovery Act (RCRA) regulations define this sludge as hazardous waste due to the pH (approximately 13.0). No other contaminants have been found present in excess of current regulatory limits. Once this material is processed through our proposed recovery facility, the hazardous characteristic of high pH will be removed, and the synthetic CaF_2 product (pH 4-6) will be transported in the same manner as natural fluorspar.

We have considered three alternative disposal methods for this material: off-site disposal, on-site disposal, and recovery and re-use. Recovery of the waste as described above is felt to be the most environmentally sound, as well as economical means of doing so.

If you have any questions regarding this matter, please call.

Yours very truly,



A. J. Cipolla
Plant Manager

AJC:mt

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