

40-8027

FEB 25 1972

L. Manning Muntzing  
Director of Regulation

## KERR-McGEE SEQUOYAH SHOW-CAUSE

Enclosed for your consideration is the "Discussion and Findings" for the Sequoyah Uranium Hexafluoride Plant. Under 3.2.4, Gaseous Wastes (Page 5 of the Discussion and Findings) you had a question about the original submittal. You picked up a possible inconsistency between the one part per billion concentration of fluoride calculated as a maximum off-site concentration and the actual sampling data which were stated "not to exceed five parts per billion."

We have taken care of the problem in the attached report; for easy reference, the specific pages are attached and the specific items of interest are highlighted in yellow.

Frankly, your question raised another question in our minds and we did some additional checking to confirm the original findings. Briefly, the situation is this. From the standpoint of fluoride emission, we did not have a "people" problem; however, livestock occasionally graze on land adjacent to the perimeter where fluoride concentrations in the air were reported to be almost one part per billion. For livestock, we are concerned about parts per billion (well below the HP limit of personnel occupational exposure of 3,000 parts per billion) because grass and other vegetation concentrate fluoride. Livestock are reported to be affected adversely by continuous ingestion of grass containing at least 40 parts per million of fluoride, according to authoritative literature. Since the accuracy of measured values in the air at the level of one part per billion is highly questionable, we requested additional "fluoride-in-grass" data from the licensee. The data showed that the concentration of fluoride in grass within the grazing area at locations calculated to be at the highest expected concentration, averaged 10 parts per million (with a range of 4 to 20 parts per million). The "grazing area" is the approximately 2,000 acres lying between the 75 acre fenced "restricted" area and the site boundary.

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Based on this information, we are recommending permitting continuing operation; however, we will require the licensee to submit "fluoride-in-grass" data on a regular basis.

While we were revising this section on gaseous effluents, we included some additional details regarding NO<sub>2</sub> emissions.

Original Signed by  
S. H. Smiley

S. H. Smiley, Director  
Division of Materials Licensing

Enclosures:

1. Determination
2. Discussion and Findings
3. Letter to JCAE

cc: C. K. Beck, DR

bcc: DR R/F  
IML R/F  
~~CTEdwards, DR~~  
SHSmiley, IML  
CTEdwards, IML

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