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COLORADO STATE UNIVERSITY
environmental resources center
FORT COLLINS
COLORADO
80521

REGULATORY OPERATIONS

May 25, 1973

Mr. J. E. Rothfleisch
Fuel Fabrication and
Reprocessing Branch
Directorate of Licensing
Atomic Energy Commission
Washington, DC 20545

Dear Mr. Rothfleisch:

This transmits the comments of our review team concerning raffinate pond seepage and air sampling.

In general, we find the monitoring plans to be adequate, although the air samplers are not located near the estimated maximum ground concentration. If the meteorological data are reasonably representative, the samplers should be moved out at least to one mile.

After spending considerable time reviewing the three documents involved myself, I concluded that Kerr-McGee ought to do a better job of providing tables of content. Their reports are very poorly organized, in the first place, and finding and assembling data to analyze a particular question is a formidable task.

Yours truly,

Norman A. Evans
Director

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May 25, 1973

Supplementary Comments
on
Applicant's Environmental Report

KERR-MCGEE CORP
SEQUOYAH URANIUM HEXAFLUORIDE PLANT

Pond Seepage

Raffinate pond construction plans and specifications given in the applicant's Supplemental Report, June 1972, provide adequately for sealing and seepage control. No measurable seepage loss through the clay liner would be expected provided construction was carried out according to plans and specifications.

The monitoring well network consists of ten "holes" (Supplementary Report 1972) or "monitor wells" (Supplement No. 2, December 1972) surrounding the pond area. The heaviest concentration of observation wells is to the southwest in the down-dip direction. (The Atoka beds dip two-three degrees to the southwest.) Applicant's contention that any seepage from ponds would migrate in the down-dip direction is correct. The seepage well network should be adequate to detect pollution of ground water by seepage loss from the pond.

Chemical analysis of water from the observation wells following approximately one year of ponding showed no evidence of contamination.

Apparent contamination in two wells northeast of the ponds was satisfactorily explained as surface runoff into the up-dip well from the vicinity of settling basin No. 1. Residue left from use of that site for temporary storage is picked up by runoff and discharged into the upper well (2301). It subsequently moves by ground water flow down dip to the second well (2315) where it is detected in considerably diluted concentration.

Although the applicant's well monitoring network and chemical analysis program seems to be totally adequate for monitoring seepage from the raffinate ponds, it is suggested that he routinely measure water surface elevation in the monitor wells as an additional observation. Appreciable seepage from the ponds will be reflected by water mounding or steepened hydraulic gradients near the ponds.

Air Sampling

Applicant's plan for air sampling was again reviewed. Sampler locations are shown on Figure 1, Page 4, Supplemental Report, June 1972. Four samplers are located at distances of 1,000 feet in primary compass directions. Two additional samplers are located near the plant on the north and south sides. (Revised Report, November 1971)

The wind roses shown in the Supplemental Report, June 1972, Pages 14-18, indicate that the predominant wind frequencies correspond to the primary compass points. Thus, the directional orientation of the air samplers should be satisfactory.

The calculated mean distance at which maximum ground-level concentration will occur is 2,260 meters, or 7,414 feet. (Supplemental Report No. 2, December 1972, Page 78) Thus, it is apparent that the samplers ought to be

moved further from the plant site, e.g. 1 to 1.5 miles. Since the calculated distance of 2,260 meters is based upon rather crude assumptions, the predicted optimum sampling distance (maximum ground concentration) should be considered only as an order of magnitude estimate.