



KERR-MCGEE CORPORATION

KERR-MCGEE BUILDING • OKLAHOMA CITY, OKLAHOMA 73102

January 28, 1971

Mr. L. D. Low
Director, Division of Compliance
U. S. Atomic Energy Commission
Washington, D. C. 20545

Reference: Source Material License No. SUB-1010
Docket No. 40-8027

Dear Mr. Low:

In accordance with the provisions of 10CFR20.405, as applicable to the reference license, Kerr-McGee Corporation reports on the exposure of one (1) individual at its Sequoyah Facility to concentrations of airborne radioactive material in excess of the occupational concentration limits in 10CFR20, Appendix B, Table 1.

The exposure involved natural uranium as UO_2F_2 and the exposure calculations were made from urinary excretion data.

Table 1

PERSONNEL EXPOSURE TO AIRBORNE CONCENTRATIONS

<u>Employee</u> (1)	<u>Period of Exposure</u>	<u>Conc. Averaged for 40 hours (2)</u> (uCi/ml)
A	12/27/70 - 1/3/71	8×10^{-11}

(1) In accordance with 10CFR20.405, the names, identification data and exposure data for the individual employee are listed in the enclosed Appendix.

(2) The maximum permissible concentration in air (MPC) limit of 7×10^{-11} uCi/ml for soluble natural uranium based on a forty (40) hour exposure in a seven day period was applied.

The exposure occurred when a leak developed in a small copper line being used to transfer UF_6 gas between two shipping cylinders located in the Cylinder Scale Room. The employee had with him a full face respirator equipped with an "ultra" particulate filter which he used while taking remedial control actions. These actions included closing a valve on each of the shipping cylinders and

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in accordance with the Freedom of Information

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leaving the scale room. Use of the plant vacuum system to collect the UF₆ gas at the point of leakage was not possible because the vacuum system was temporarily shutdown for maintenance.

A urine sample was collected from the exposed employee approximately two hours after the exposure occurred. This sample had a uranium concentration of 1660 µg/l which was the highest concentration observed in any samples collected from the exposed employee. Urine data was used to calculate the employees exposure since there were no air samples collected in the immediate vicinity when the release occurred.

The individual involved is being notified of the nature and extent of his exposure in accordance with 10CFR20.405(c).

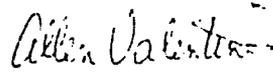
Corrective Action

To protect against recurrence of similar future personnel exposures, the following actions have been taken.

1. UF₆ transfer lines are inspected for leaks and faults prior to use.
2. UF₆ transfer operations of the type described are done only when the vacuum system is operating properly.

Please advise us should you require any additional information.

Sincerely,


Allen Valentine
Coordinator, Radiation
Health and Safety

AMV:dg

Enclosure

cc: Mr. Donald Walker
Region IV, Division of Compliance
U. S. Atomic Energy Commission

Mr. Dale McHard, Oklahoma Department of Health
Division of Occupational and Radiological Health

Mr. Howard Eberline
Director, Physical Science and Measurements Dept.

Appendix to letter from A. M. Valentine, Kerr-McGee Corporation to
L. D. Low, U. S. Atomic Energy Commission, January 28, 1971.

APPENDIX A

Employee Identification and Exposure Data

<u>Report</u> <u>Symbol</u>	<u>Employee's Name</u>	<u>Birthdate</u>	<u>Security Number</u>	<u>Exposure</u> ⁽¹⁾ <u>(uCi/ml)</u>	<u>Period</u>
A				8×10^{-11}	12/27/70 to 1/3/71

Ex. 6

(1) Average concentration exposure to airborne natural uranium as UO_2F_2 for 40 hours during the reference seven (7) day period.