

JUL 21 1981

Distr:
Docket 40-8027
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FCUP:WAN
40-8027
SUB-1010, Amendment No. 13

Kerr-McGee Nuclear Corporation
ATTN: Mr. W. J. Shelley, Director
Regulation and Control
Kerr-McGee Center
Oklahoma City, Oklahoma 73102

RECunningham

Gentlemen:

Pursuant to Title 10, Code of Federal Regulations, Part 40, Source Material License No. SUB-1010 is hereby amended to authorize the following activities:

1. The use, on a permanent basis, of barium treated neutralized solvent extraction raffinate for fertilizer on Kerr-McGee owned land in Haskell County, Oklahoma, in accordance with the statements contained in your April 13, 1981 application, and subject to the following requirements:
 - a. The barium treated neutralized solvent extraction raffinate to be used as fertilizer shall have a pH no lower than 7.5 and a Ra-226 content not exceeding 2 pCi/l of solution.
 - b. No fertilizer shall be applied closer than 100 feet to any occupied residence, business or school.
 - c. In addition to the sampling and monitoring program described in the April 13, 1981 application, quantitative analyses for heavy metals and specified isotopes shall be performed as outlined in the attached Appendix I.
 - d. A description of the previous year's fertilizer program for the Choctaw area and the results obtained shall be included in the annual completion report submitted to NRC by May 1 of each year.

All other conditions of this license shall remain the same.

Please note that this license amendment does not authorize disposal off-site, except for non-forage use, of any material grown on the areas fertilized with treated raffinate. In addition, grazing of livestock on the fertilized areas is prohibited.

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We note that the area covered by the detailed soil map given in Appendix A of the application does not correspond completely with the proposed fertilizer application area shown on Drawing 290-C-1017. Soil mapping should be completed for all areas prior to the start of the fertilizer program to help assure that the soils are suitable for the fertilizer program.

The general requirements for metal analyses of soil, vegetation and treated raffinate were discussed with your Mr. Shelley by W. A. Nixon of my staff on July 14, 1981.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by:

W. A. Crow *for*

Ralph G. Page, Chief
Uranium Fuel Licensing Branch
Division of Fuel Cycle and
Material Safety

Enclosure:
Appendix I

OFFICE	FCUP <i>man</i>	FCUF <i>lt</i>	FCUP <i>wac</i>	FCUF <i>wac</i>		
SURNAME	WANTON:mjb	LTyson	WTCrow	RGPage		
DATE	7/21/81	7/21/81	7/21/81	7/21/81		

APPENDIX I

<u>Element</u>	<u>Soil(1)</u>	<u>Required Quantitative Analyses</u>	
		<u>Vegetation (2)</u>	<u>Treated Raffinate(3)</u>
As	X	X	X
Ba			X
B	X	X	X
Cd			X
Co	X	X	X
Cr			X
Cu	X	X	X
Fe	X	X	X
Hg			X
Mg			X
Mn	X	X	X
Mo	X	X	X
Ni	X	X	X
Pb	X	X	X
Se			X
V	X	X	X
Zn	X	X	X
U	X	X	X
Th-230	X	X	X
Ra-226	X	X	X

- (1) Soil samples representative of the major soil types in the fertilized area should be collected and individually analyzed once per year for the elements indicated. Samples should be collected after the final raffinate addition each year. Base line soil samples shall be analyzed prior to the use of raffinate fertilizer.
- (2) Vegetation samples shall be collected and analyzed for the listed elements either just prior to or immediately after harvest. The licensee shall develop and use a statistically sound sampling program to ensure that the results obtained are representative of the vegetation harvested.
- (3) A representative composite sample of treated raffinate shall be collected during the application season and analyzed for the elements indicated once each year.