



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

JUN 22 1970

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(0622)

Eastern Oklahoma Economic
Development District
P. O. Box 1367
Muskogee, Oklahoma 74401

Attention: Mr. Al C. Young, Jr.
Community Developer

Gentlemen:

Your letter of April 23, 1970, to the Director, Division of Technical Information, has been referred to us for reply.

The Kerr-McGee Corporation's activities involving radioactive materials at its Secuoyah, Oklahoma plant are licensed by the AEC and are limited to handling natural uranium in the conversion of ore concentrates to uranium hexafluoride. These activities must be performed in compliance with the enclosed Commission regulation, Title 10, Code of Federal Regulations, Part 20, "Standards for Protection Against Radiation," and the terms and conditions of Kerr McGee's license. The regulations in Part 20 prescribe radiation protection standards, including specifications on releases of radioactive materials from the plant, and certain procedures necessary for meeting the standards. The regulations are based on the recommendations of the Federal Radiation Council, which are approved by the President for guidance of the various Federal Agencies. They also take into account the recommendations of the National Council on Radiation Protection and Measurements and the International Commission of Radiological Protection.

Regarding your question on the recommended population density of the surrounding area to the plant, there are no radiological safety requirements which would result in limiting the population density in the surrounding area to the plant site. The nature and scope of Kerr-McGee's activities involve only natural uranium. Radiation levels emanating from natural uranium are very low, and potential radiation safety problems are minimal. Engineering safeguards, such as off-gas scrubbers, are designed into the facility to control releases of material from the plant. The size of Kerr-McGee's site (1500 acres) will further reduce the possibility of material reaching unrestricted areas.

Prior to the issuance of the AEC license to Kerr-McGee to operate the plant, we reviewed an assessment made by Kerr-McGee of the consequences of a severe hypothetical occurrence involving the release of natural uranium from the

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plant. Even though it is highly unlikely, it was assumed that a ton of natural uranium in the form of uranium hexafluoride was instantaneously released from the plant into the atmosphere. Using standard meteorological methods, Kerr-McGee calculated that an individual's intake directly downwind at the nearest uncontrolled location from the facility would be 0.053 micro-curies. Kerr-McGee concluded, and we agree, that this amount of natural uranium would not pose a hazard to the health and safety of the public based on established radiation safety limits. Intakes of uranium by individuals at greater distances from the site would, of course, be proportionally less. In addition to the safety provided by the size of Kerr-McGee's site and the safeguards engineered into the plant, planned emergency actions by Kerr-McGee further minimize the chances of exposures to persons in the vicinity of the plant.

With respect to your questions regarding release of effluents containing radioactive materials, Kerr-McGee is required by Part 20 and its AEC license to measure and control its effluents and conduct an environmental surveillance program to assure that its activities do not result in releases of radioactive materials in excess of AEC standards. The surveillance program involves taking air, water, and vegetation samples in the vicinity of the plant. AEC representatives conduct on-site inspections to assure that the facility is operated in accordance with the provisions of the AEC license and the Commission's regulations.

I hope the above information will be useful to you in your program.

Sincerely,

Annually,
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Original Signed by
Lyll Johnson

Lyll Johnson
Acting Director
Division of Materials Licensing

Enclosure:
10 CFR Part 20

bcc: LJohnson, DML
MMann, DR
HKShapar, OGC
LDLow, CO
CO, Reg IV
St. Br. Dist.
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DR

OFFICE	DML:MB	DML:MB	CO	OGC	DR	DML:A
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