

APR 4 1988

IMUF:RP
40-8027

Ms. Doris Gibson
P. O. Box 305
Roseville, CA 95661-0305

Dear Ms. Gibson:

I am responding to your letter of February 26, 1988, in which you expressed concerns regarding existing environmental conditions on Kesterson Reservoir, located near your home in California, and your concern that similar conditions result from the use of ammonium nitrate solution as a fertilizer on pastureland near Gore, Oklahoma.

The use of ammonium nitrate solution as a fertilizer by Sequoyah Fuels Corporation (SFC), a wholly-owned subsidiary of the Kerr-McGee Corporation, has been authorized by the U.S. Nuclear Regulatory Commission (NRC) only after a careful program of testing. The fertilizer in question is derived from treatment of a chemical process waste stream from SFC's facility. This facility receives and processes natural uranium as one of the early steps in the production of nuclear reactor fuel. Chemical treatment (neutralization and precipitation) of an acidic waste stream from the process results in an ammonium nitrate solution with only trace quantities of radioactive material and certain heavy metals.

In 1973, under conditions prescribed in its NRC license, SFC initiated tests of the use of the ammonium nitrate solution as a fertilizer. Samples of the fertilizer solution, soil, forage, grasses, and runoff and groundwater were collected and evaluated over several years. The tests included the use of commercially available fertilizers, such as potash, phosphates, and aglime. The present fertilizer program conducted by SFC was approved by the NRC in 1982 only after completion of a comprehensive environmental assessment that provided an independent evaluation of SFC's test results from 1973 through 1980. In preparing this assessment, information was obtained from federal, state, and local agencies as well as from SFC.

The assessment concluded that there would be no significant impact to the environment or members of the public from use of the ammonium nitrate solution as a fertilizer and from the subsequent use of forage produced for animal feed. Simply stated, the basis upon which we authorized use of the fertilizer was that the ammonium nitrate solution produced by SFC and used as fertilizer on its lands contains amounts of radioactive materials and heavy metals which are generally below or comparable to amounts found in commercial agricultural fertilizers widely used throughout the U.S. With respect to radioactivity, the concentration of radium (the radioisotope of principal concern) in the ammonium nitrate fertilizer is less than the U. S. Environmental Protection Agency's (EPA)

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Ms. Doris Gibson

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drinking water standard, and the uranium concentration is far below the NRC limit for release to unrestricted areas. The ammonium nitrate fertilizer provides much less radioactive content to the soil, as applied per unit area, than common commercial fertilizers such as phosphates and aglime, which have significantly higher concentrations of the same radioisotopes.

Furthermore, the fertilizer must be applied such that the concentration of nonradioactive trace elements are within the limits recommended by the National Academy of Sciences, considering both long-term buildup in soils and content of the forage produced. In contrast to use of similar commercial fertilizers, the NRC license places substantial restrictions and monitoring requirements on the use of the ammonium nitrate fertilizer. SFC has an extensive quality assurance program to assure that use of the fertilizer is maintained within the limits required by the license.

In summary, the use of ammonium nitrate solution as a fertilizer by SFC produces no greater risk to the public health and safety or environmental impact than commercial fertilizers. We know of no technical basis for attributing the effects reported in the news article to the use of ammonium nitrate solution as a fertilizer and, based on your descriptions, for comparing the situation in Gore, Oklahoma, to environmental conditions on Kisterson's Reserve in California. SFC has conducted the program in accordance with conditions prescribed by the NRC license, and we have seen no public health and safety or environmental information which would warrant NRC to take action to rescind our approval.

Sincerely,

Original Signed by
Richard E. Cunningham

Richard E. Cunningham, Director
Division of Industrial and
Medical Nuclear Safety

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Docket 40-8027	PDR	LPDR	IMNS Central File	RECunningham
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Region IV				

*See previous concurrence

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Richard E. Cunningham, Director
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Radioactive spray in pastureland

Oklahoma

The Kerr-McGee Corp., after years of tests and studies, is spraying thousands of acres of pastureland in eastern Oklahoma with a fertilizer recycled from radioactive wastes.

The corporation says extensive studies of water, soil, hay, vegetation and cattle in areas sprayed with the fertilizer over the last decade show it is harmless. But the spraying program has alarmed hundreds of people who believe the substance is threatening their health and environment.

The fertilizer, which the company describes as treated raffinate, is processed from wastes at Kerr-McGee's Sequoyah Fuels Facility here, one of two plants in the United States that purify milled uranium, a step in the process of making nuclear fuel rods for power plants.

According to chemical analyses by the company, treated raffinate contains nitrogen, trace amounts of radioactive uranium, radium and thorium, some toxic solvents and at least 18 potentially poisonous heavy metals, including arsenic, lead, mercury, molybdenum, nickel, cobalt and cadmium.

Kerr-McGee scientists say the levels of radioactive elements and most of the heavy metals in the fertilizer are equal to or lower than the amount in some commercial phosphate fertilizers. The Nuclear Regulatory Commission, which oversees the plant's operations, approved the fertilizer program on a test basis in the mid-1970s. The state Department of Agriculture licensed treated raffinate as fertilizer last year.

Still, many residents have called on the state and federal governments to halt the spraying program, citing deaths of farm animals they cannot explain, several instances of gross malformations in newborn livestock and the discovery of a nine-legged frog in a pond that drains a pasture sprayed with treated raffinate.

Feb. 26, 1988

Lorris Gibson
P. O. Box 305
Roseville, Calif.
95661-0305

Mr. Richard C. Cunningham:
Sir will you read this item from our newspaper? We are very worried about it.

We have a place called Kestersons reserve, where farm lands drain to, all life that goes there, game, birds, etc, dies we have volcano salt here, all water has it, we drink it, but it is very poison, when the salt is in a heavy concentrated form, all things die from it, such as a pond that drains a pasture that sprayed with treated raffinate.

a nine legged frog is to much to handle, its not true life.

Will you please stop using treated raffinate?

Thank you
Sincerely
Lorris D. Gibson



United States
Department of
Agriculture

Agricultural
Research
Service

Office of the
Administrator

Washington, D.C.
20250

FEB 17 1986

Ms. Dorris Gibson
P.O. Box 305
Roseville, California 95661-0305

Dear Ms. Gibson:

A copy of your letter of January 6 to President Reagan expressing your concern about a fertilizer material processed from radioactive wastes (treated raffinate) by the Kerr-McGee Corporation of Oklahoma was forwarded to this Agency for comment.

The Department of Agriculture (USDA) has no regulatory authority in this matter. Historically, products advertised and sold as fertilizers generally are subject to regulation by States in which they are sold and State Commissioners of Agriculture would control the licensing of fertilizer materials in the respective regulating State. In this case, it would appear that Kerr-McGee has complied with the necessary regulations governing the use of this material on its own or privately held lands. The Nuclear Regulatory Commission (NRC) approved the Kerr-McGee fertilizer program on a test basis starting in the mid-1970's and, according to news releases, the Oklahoma State Department of Agriculture licensed treated raffinate as a fertilizer last year.

Responsibility for assessing the acceptability of risk involved in the use of this product would lie with the appropriate State and Federal regulatory agencies. Accordingly, you may wish to contact the following:

Mr. Richard E. Cunningham
Director, Division of Fuel Cycle,
Medical, Academic, & Commercial
Use Safety
U.S. Nuclear Regulatory Commission
1717 H Street N.W.
Washington, D.C. 20555

Mr. Jack Craig
Commissioner
Oklahoma Department of Agriculture
2800 North Lincoln
Oklahoma City, Oklahoma 73105

Thank you for taking the time to write to the President about your concerns.

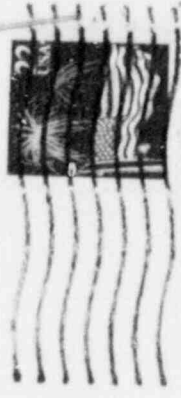
Sincerely,

T. B. KINNEY, JR.
Administrator



Agricultural
Research
Service

Miss Dickson
P.O. Box 305
Riverside, Calif.
95661-0305



Mr. Richard E. Cunningham
Director, Division of Fuel Cycle,
Medical, Academic, Commercial
and Safety
U.S. Nuclear Regulatory Commission
1717 H Street, N.W.
Washington, D.C. 20555