



# KERR-McGEE CORPORATION

KERR-McGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

ENVIRONMENT AND HEALTH MANAGEMENT DIVISION

June 29, 1983

FEDERAL EXPRESS

Mr. Anthony Drypolcher, Project Manager  
Surface Water Section  
State of New Mexico  
Environmental Improvement Division  
725 St. Michaels Drive  
Santa Fe, New Mexico 87504-0968

Re: NPDES Permit No. NM0020532

Dear Mr. Drypolcher:

With reference to your June 7, 1983 letter about State certification of the draft NPDES permit for Kerr-McGee Nuclear Corporation's Ambrosia Lake Mining Area, we submit the following comments:

1. Monitoring for Lead-210, Polonium-210, Barium, and Manganese.

EID has proposed to require monthly monitoring for barium and manganese and monitoring once every 60 days for lead-210 and polonium-210 as a condition for State certification. Kerr-McGee is not aware of any valid basis for such a requirement and considers this condition to be both unnecessary and unreasonable.

a. The Proposed Requirements Are Unnecessary.

EPA's proposed NPDES permit specifies discharge limitations for total radium-226, dissolved radium-226, and total uranium. These limits are adequate for assuring Pb-210 and Po-210 in discharged water are below levels at which there would be any concern. Both Pb-210 and Po-210 are decay products of the uranium decay series, which includes radium-226. More specifically, Pb-210 and Po-210 are separated from their antecedent radium-226 by radon-222, which is an inert gas that rapidly diffuses out of water, and six other short-lived radionuclides. This, along with other factors, results in a lower Pb-210 and Po-210 concentration in water, relative to the radium-226 concentration. For example, measurements have shown Pb-210 and Po-210 to be significantly low relative to Ra-226 content in potable waters<sup>1</sup>. There are no regulatory or health-based reasons

<sup>1</sup> Holtzman, R.B. (1964). Lead-210 and Polonium-210 in Potable Waters in Illinois. In "The Natural Radiation Environment" (Adams and Lowder, editors), p. 226. University of Chicago Press, Chicago, Illinois.

for requiring monitoring for these two radionuclides as a condition for the NPDES permit. Similarly, Kerr-McGee is not aware of any basis for requiring monitoring for manganese and barium. It would appear this monitoring serves only to obtain information which EID has arbitrarily determined it wants.

Moreover, even if there were a valid basis for requiring monitoring for these substances, proposed frequencies are not justified. Occurrence of these substances does not fluctuate sufficiently to justify such extensive and costly monitoring. We believe monitoring, if required, should only be done annually. If more frequent monitoring is made a requirement, we believe one year is sufficient to establish concentration levels; and monitoring for these parameters should then be discontinued. This provision should be included in the permit.

b. The Proposed Requirements Are Unreasonable.

The main source of Pb-210 and Po-210 in the atmosphere is Rn-222 emanation from the ground. Surface water concentrations vary with atmospheric concentrations. In the uranium-rich Ambrosia Lake area, it would be impossible to differentiate naturally occurring Pb-210 and Po-210 surface water concentrations from any contributions from the Kerr-McGee Ambrosia Lake discharge.

Furthermore, EPA has not approved analytical methods for Pb-210 or Po-210; and none of the four parameters require monitoring under Federal NPDES Guidelines<sup>2</sup>. Until such time as EPA develops approved analytical methods, it would be unreasonable of the EID to arbitrarily impose such requirements.

2. Limitations for pH.

The draft NPDES permit limits pH to between 6.6 and 8.6. EPA apparently believes that State law requires these limits. Part 2 of the Water Quality Control Commission Regulations does not, however, require NPDES discharges to conform to these pH limits. The permit limitation should be changed to a range of 6.0 to 9.0, and we have enclosed a Waiver Request form to the EID requesting this change.

3. Monitoring Requirements for Molybdenum, Selenium, and Vanadium.

The draft NPDES permit requires monthly monitoring of molybdenum, selenium, and vanadium. We believe monitoring frequency should be quarterly instead of monthly, as EID has proposed to EPA for the

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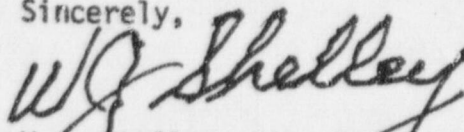
<sup>2</sup> Ore Mining and Dressing Point Source Category, Subpart E guidelines (Uranium, Radium and Vanadium Ores), 40 CFR Part 440, dated December 3, 1982.

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Kerr-McGee Nuclear Corporation Rio Puerco Mine (NPDES Permit No. NM0028169). We further believe monitoring for these parameters can be discontinued after one year. This period will be sufficient to establish typical concentration levels.

If you have any questions, please contact me.

Sincerely,



W.J. Shelley, Vice President  
Nuclear Licensing & Regulation

WJS:TB/br

cc: Mr. Mark Satterwhite, U.S.EPA



APPLICATION FOR THE ELIMINATION OF THE pH REQUIREMENT UNDER  
SECTION 2-101A. OF THE WATER QUALITY CONTROL COMMISSION REGULATIONS

(September 20, 1983)

COMPANY NAME: Kerr-McGee Nuclear Corporation  
COMPANY MAILING ADDRESS: ATTN: Mr. W.J. Shelley  
P.O. Box 25861  
Oklahoma City, Oklahoma 73125  
FACILITY NAME: Kerr-McGee Nuclear Corporation Ambrosia Lake Facility  
FACILITY MAILING ADDRESS: ATTN: Mr. W.J. Shelley  
P.O. Box 25861  
Oklahoma City, Oklahoma 73125  
FACILITY LOCATION: Ambrosia Lake  
McKinley County  
Grants, New Mexico

1. pH of the effluent (after final treatment process) during the past  
12 months

Max: 8.4  
Min: 7.8

2. pH of the effluent (after final treatment process) anticipated in  
the future:

Max: 9.0  
Min: 6.0

3. Name of Receiving water: Unnamed ditch to Arroyo del Puerto

4. pH of the water course upstream from the facility (avg): 7.8-8.0

5. Effluent flow characteristics

Present: Min: 0.3 MGD Future: No Discharge  
Max: 3.2 MGD 3.2 MGD  
Avg: 0.4 MGD 0.4 MGD

6. Reason for requesting elimination Existing NPDES Permit limitation is  
6.0 to 9.0. However, draft renewal permit limitation is 6.6 to 8.6.  
EPA BAT Effluent Guidelines (40 CFR 440.30) have pH limitations of  
6.0 to 9.0.

Signature: W.J. Shelley  
Title: Vice President, Nuclear Licensing & Regulation  
Date: June 29, 1983

June 1, 1983