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FCFF:JER 40-8027

Kerr-MoGee Muclear Corporation ATTN: Nr. W. J. Shelley, Director Regulation and Control Kerr-MoGee Center Oklahoma City, Oklahoma 73125

Gentlemen:

This is in reference to the discussion reported in the enclosure to our letter of October 8, 1976, regarding the proposed on-site disposal of the Sequeyah UF6 plant solvent extraction raffinate, and further discussion on this subject in a meeting at the NRC Washington, D.C. offices on November 2, 1976 attended by Mesars. W. J. Shelley, L. C. Rouse and J. E. Rothfleisch.

In order for NRC to be able to schedule an assessment of this proposal and carry it through other interested agencies, it is requested that you submit a formal application for an asondment to Source Material License No. SUB-1010 authorizing the desired modification to your current procedure for handling the plant raffinate. We assume that you will withdraw all outstanding amendment applications pertaining to raffinate disposel with the submittal of your new application.

Your application should address the projected on-site buildup of radionuclides over the operating life of the facility so that the acceptability of the site at decomissioning can be evaluated and agreed upon. In addition, an extensive monitoring program should be conducted to demonstrate that the actual buildup of nuclides remains consistent with the projections. It is expected that your submittal will furnish, as a minimum, the following information in support of the amendment application:

- Sufficient analyses of site soil, ground water, flora and fauna samples to establish a baseline prior to starting the raffinate disposal program.
- Details of your proposed procedure and the frequency of distributing the treated raffinate in a manner designed

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- 3. Facts, or if furnished previously, reference to facts on the hydrology and geohydrology of the site in sufficient detail to permit an assessment of the potential for contaminating ground water or aquifers underlying the area to be irrigated. Please include your analysis of the available dats along with the rationale followed in reaching any conclusions presented.
- 4. Through the use of a qualified consultant in the appropriate field (with professional qualifications presented along with the amendment application), design sampling and monitoring programs which will include the following items as a minimum:
 - a) Obtain sufficient measurements, samples and analyses to clearly define the quantity and composition of the treated raffinate being applied to area being irrigated.
 - b) Establish a sampling program using a grid system to ensure that samples are obtained from each area where the treated raffinate is applied. Provide a drawing of the entire plant site showing land contours, wooded and open areas within a numbered grid system.
 - c) Obtain representative soil and vegetation samples from each grid area and analyze for all parameters of interest to investigate possible buildup of contaminants.
 - d) Describe in detail the proposed sampling frequency, sampling procedure, sample preparation; i.e., blending, if any, frequency of analyses and components analyzed for.
 - e) Establish and describe details of the proposed procedure for determining run-off from the plant site, specifying sampling procedures and frequency and components analyzed for.
 - f) It is expected that the vegetation and soil sampling programs will consider the land contours, so that buildup of contamination in low-lying areas and natural run-off paths, if occurring, will be clearly established.
 - g) Collot representative samples of fauna from the entire plant site at a specified frequency and through analyses of the specimens, determine whether or not buildup of radioisotopes and/or heavy metals is a problem.

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h) Prepare and submit semi-annual reports of the monitoring study findings covering periods ending in April and in November. These reports should include analyses of the data collected during the study periods, and the rationale for any conclusions reached.

In addition to the above, please provide your estimates (with accompanying essumptions, calculations and rationale) of the quantities as well as the chemical and radiological composition of the sludge precipitated and collected after neturalization of the raffinate with ammonia and similar information on the sludge precipitated in the radium removal step. These estimates should be provided for the projected plant production rate of 10,000 STU/yr. Describe your proposed methods for disposal of the freshly generated sludges as well as those currently residing in the existing raffinate ponds. Include in your description how and when you would propose to discontinue the use of the existing ponds for raffinate storage and your plans for decontamination and possible future use of the ponds.

You will find enclosed a copy of EPA Region VI comments regarding on-site disposal of treated raffinate solutions which may be of assistance to you in formulating your program.

We will be pleased to answer any questions you may have concerning the above or to meet with you at our Washington offices to discuss the matter further.

Sincerely,

1. R. Roibfleisch.

J. S. Rothfleisch Fuel Processing & Fabrication Branch Division of Fuel Cycle and Material Safety

Enclosure: As stated.

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