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Karr-McGee Corporation  
ATTN: Mr. W. I. Shalley, Director  
Regulation and Control  
Karr-McGee Building  
Oklahoma City, Oklahoma 73102

Gentlemen:

This is in reference to your revised environmental report discussing the environmental impact related to your uranium hexafluoride plant located in Sequoyah County, Oklahoma. The report does not contain sufficient quantitative technical information to permit a reviewer independently to reach conclusions on the various environmental considerations associated with your proposed activities. Specific deficiencies are discussed as follows:

1. The report did not contain a complete description of your activities. For example, the present and anticipated capacity and/or throughput for all materials used in the plant was not provided; ancillary activities such as fluorine production, burial of wastes and open-pit incineration were not described; and the anticipated longevity of plant operation was not discussed. Also, the environmental impact associated with the construction of access and service roads, pipe lines and power lines, etc. should be included in the report.
2. The site and surrounding area should be described in greater depth. For example, all inhabited areas should be identified and the projected population changes during anticipated life of the plant should be discussed. Also, the present and projected uses of adjacent properties (farming, cattle grazing, recreation, etc.) should be discussed more thoroughly. The report should include a brief discussion of the historic significance, if any, of nearby areas with specific attention to the sites listed in the National Register of Historic Places. Also, any endangered species common to the area should be identified and a biota inventory of the area provided.
3. The report should contain a qualitative and quantitative flow diagram of the entire plant process including storage capacities for all materials.

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4. The report should contain a quantitative technical assessment of the environmental impact resulting from both chemical and radioactive effluents released from the plant, including the physical and chemical characteristics of all effluents, points of release, quantities of materials, and the quantity and maximum concentration of all materials reaching offsite locations. The assessment should also include a technical discussion of the projected chemical and radiological effects on the surrounding ecology and environment and an evaluation of the environmental radiation levels and potential annual radiation doses (both external and internal) to individuals (rems) and to the general population (man-rems). The important pathways of exposure to man, including food chains should be identified and the effects of long-term buildup of chemicals and radioactive materials in sediments and biota should be evaluated and discussed. The report should demonstrate that releases of all effluents into the environment are as low as practicable.
5. The report should contain a quantitative assessment of the geology and hydrology of the area in terms of potential contamination of surface and subsurface hydrological systems of the area from storage of waste liquids. This should include an evaluation of the effectiveness of your environmental monitoring program to detect the migration of waste liquids.
6. A quantitative technical assessment of the sanitary and domestic waste disposal procedures should be included in the report.
7. The report should contain a copy of your certification required under the Water Quality Act of 1970 from the State of Oklahoma, or interstate pollution control agency, or the Administrator of the Environmental Protection Agency, as appropriate, that there is reasonable assurance that the plant will not violate water quality standards. Copies of other permits and approvals required, if any, should be incorporated into the report.
8. In describing your environmental sampling program, you state that air, soil and vegetation samples are collected at the fence perimeter and at a radius of 1,000 feet in four directions. This program appears inadequate unless it can be shown using acceptable diffusion methods (calculations should be included giving all data and assumptions used) that these locations represent: (a) sites of maximum airborne concentration, (b) points where long-term buildup of radioactive and non-radioactive materials is likely to occur, and/or (c) critical points based on other considerations.

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9. The accidents considered in your environmental report do not appear to encompass potential accidents of sufficient severity. For example, we believe the accident section of the report should include an evaluation of the environmental impact of realistic potential accidents such as a rupture of the waste retention system in which raffinates are stored, a fire in the solvent extraction plant and a transportation accident discussing product shipping. The possibility of the plant area being flooded and the resultant environmental effects should be discussed.
10. The report states that retention basins are built to AEC standards, "Licensing Guide - Information And Criteria Pertinent To The Evaluation Of Embankment Retention Systems," and that raw materials are stored and handled by methods recommended by the Manufacturing Chemists Association. The report should contain sufficient information to permit confirmation of these statements, particularly in regard to evaluating potential accidents and minimizing effluents to the lowest practicable level.
11. The report should discuss the seismic history for the site including the frequency and severity of earthquakes and the probable effects such phenomena may have on the plant, if any, in relation to impact on the environment.
12. The report should contain a thorough discussion of Kerr-McGee's plans for site restoration and reclamation once operations have ceased. This should include an evaluation of the quantities of sludges and liquids present when operations cease, methods and costs of disposal, and the financial arrangements to be made to insure that restoration and reclamation will be financially feasible at that time.

Please supply 200 copies of the supplemental information when it is transmitted.

We would be happy to discuss these items with you at our Bethesda office in order to minimize any misunderstandings concerning the nature and scope of the above. If you would like to meet with us, the meeting should take place soon so that you will have opportunity to make appropriate changes before we take action on the report.

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**Sincerely,**

Original Signed by  
Cecil R. Buchanan

Cecil R. Buchanan, Assistant Chief  
Materials Branch  
Division of Materials Licensing

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