

MAR 03 1983

DOCKET NO. 70-1193

LICENSE NO. SNM-1174

LICENSEE: Kerr-McGee Nuclear Corporation

FACILITY: Cimarron Plutonium Plant
Crescent City, Oklahoma

SUBJECT: SAFETY EVALUATION REPORT -- RENEWAL APPLICATION
FOR MATERIALS LICENSE SNM-1174, KERR MCGEE NUCLEAR
CORPORATION, DOCKET NO. 70-1193

Background

Kerr McGee's Cimarron Plutonium Plant located north of Crescent City, Oklahoma was licensed for fabrication of fuel elements for a test nuclear reactor. In 1975, having completed its contract work, Kerr-McGee shut down the facility and proceeded with decontamination and removal of equipment. By letter dated July 15, 1977, the license was renewed for a five-year term to authorize possession only of radioactive materials for the purpose of decontamination of the facility prior to requesting termination of the license. By letter dated March 29, 1982 and supplemented October 15, 1982, the licensee filed an application for renewal of the license for continuing the same activities.

The current license authorizes the possession of plutonium, natural uranium, and calibration sources for conducting necessary decontamination and decommissioning activities.

During the five-year period since 1977, license amendments had been issued to facilitate in a more general manner the decontamination activities. The renewal request incorporates a request for the still applicable authorizations contained in those amendments.

Scope of Review

The safety review for Kerr-McGee's renewal application included a review of the current license and a comparison of it with the information provided by Kerr-McGee transmittals dated March 29, 1982 and October 15, 1982 to determine that the administrative control procedures and equipment were still adequately presented.

The staff reviewed and analyzed Inspection and Enforcement reports of Kerr-McGee's license SNM-1174 and supplemented this analysis by discussions with the NRC inspector to evaluate past performance and the extent to which the renewal license provides sufficient adequacy for monitoring the continuing activities at the Kerr-McGee facility.

A site visit was made by the staff on March 11, 1982 to discuss the license renewal determination and to observe the ongoing activities.

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Discussion

Based on the areas of review discussed above, the staff determined that no major changes to the license renewal request are required. The information provided and the commitments made by Kerr-McGee are sufficient to meet the requirements of 10 CFR 70.23, "Contents of Application." The renewal application incorporated and consolidated the pertinent amendment requirements in the existing license.

For the purpose of clarity and to minimize misunderstanding in future licensing and enforcement activities, several license conditions are incorporated in the renewed license. Additionally, conditions which are generic to plutonium fuel cycle facilities are included. A commentary on each of these conditions is provided as an attachment to this safety evaluation.

Summary Evaluations/Conclusions

Based on a review of the Kerr-McGee application for renewal of License SNM-1174, other pertinent documents, and the licensee's compliance history, the staff concludes that:

1. The issuance of a revised license, subject to certain conditions, would not be inimical to the common defense and security or to the health and safety of the public.
2. The licensee meets the requirements of the Atomic Energy Act of 1954, as amended (Act), and the regulations of the Commission in that, in accordance with the provisions of 10 CFR 70.23:
 - a. The application is for a purpose authorized by the Act;
 - b. The licensee is qualified by reason of training and experience to use the source, byproduct and special nuclear materials for the purpose requested in such manner as to protect health and minimize danger to life or property; and
 - c. The licensee's equipment, facilities and procedures are adequate to protect health and minimize danger to life or property.

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MAR 03 1983

The staff recommends that the Kerr-McGee License No. SNM-1174 be renewed in its entirety to incorporate the (1) Termination Plans IV, V, and VI dated January 8, 1980 and resubmitted in the renewal application dated March 29, 1982; (2) Environmental Monitoring Procedure: KM-NC-20-2, Revision 3 submitted in the March 29, 1982 license renewal request; and (3) Appendix A dated October 15, 1982 subject to the conditions found in the license, as renewed in its entirety.

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Approved L.C. Rouse
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Enclosure: Commentary

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COMMENTARY ON LICENSE CONDITIONS FOR MATERIALS LICENSE
SNM-1174--KERR-McGEE PLUTONIUM PLANT

Condition 11

The licensee shall implement and maintain the Environmental Monitoring Procedure: KM-NC-20-2, Revision 3 submitted in the March 29, 1982 license renewal request. The licensee may revise this procedure according to existing Kerr-McGee administrative practices providing that a documented and approved assessment is prepared to demonstrate that such changes will not reduce the effectiveness of protection provided the health and safety of the public. The licensee shall provide to NRC an annual Environmental Report summarizing the results from the procedure and identifying any revision to the procedures.

Commentary

Kerr-McGee has had an ongoing environmental monitoring procedure during the conduct of its past activities. Although not presently required of some licensees it has become NRC practice to require an annual environmental report that summarizes the results of the monitoring program and identifies any revisions to the procedures. It is the purpose of this license condition to formalize the submittal of such a report.

Condition 12

Notwithstanding the statements in subsection 5.0.3 of page 5-1 in Appendix A of the application dated October 15, 1982, the licensee shall comply with the requirements specified in 10 CFR 70.24.

Commentary

The existing license initially included an exemption to the requirements of 10 CFR 70.24. "Criticality Accident Requirements." An operation associated with volume reduction of slightly contaminated liquids had resulted in Kerr-McGee no longer being exempted from this regulation. The purpose of this license condition is to clarify certain statements provided as operating conditions by Kerr-McGee.

Condition No. 13

Unless an operation or maintenance work is covered by an effective operating procedure, a Special Work Permit (SWP) shall be prepared and approved according to existing Kerr-McGee Administrative Practices (Section 2.1.1 on pages 2-2 and 2-2.1 in Appendix A) for all work involving entry into a system containing SNM or where a potential for release of contamination or exposure of contaminated surfaces exists such that the airborne radioactivity concentration to which employees are exposed from the proposed operation or work is likely to exceed the concentrations in Appendix B, Table 1, of 10 CFR 20.

SWPs shall specify the necessary radiation safety controls including but not limited to respiratory protection, special air sampling, fire protection special local ventilation, and health physics coverage.

Commentary

Kerr-McGee's application provides the administrative control for using a special work permit under certain specified conditions. The conditions of these special work permits were reviewed during the staff's site visit and found to be adequate. However, in the license condition section of the application (Appendix A, October 15, 1982), informational contents of the work permits were not identified. To assure a continuation of present practice, this license condition has been included.

Condition 14

The licensee shall implement, maintain, and execute the response measures of his Radiological Contingency Plan submitted to the Commission on August 28, 1981, and revised on March 9, 1982. The licensee shall also prepare and maintain implementing procedures for his Radiological Contingency Plan as necessary to implement the Plan. (This Radiological Contingency Plan and associated implementing procedures incorporate the emergency planning requirements of 10 CFR 70.22(i) as they refer to onsite planning and notification.) The licensee shall make no change in his Radiological Contingency Plan that would decrease the response effectiveness of the Plan without prior Commission approval as evidenced by a license amendment. The licensee may make changes to his Radiological Contingency Plan without prior Commission approval if the changes do not decrease the response effectiveness of the Plan. The licensee shall maintain records of changes that are made to the Plan without prior approval for a period of two years from the date of the change and shall furnish the Chief, Advanced Fuel and Spent Fuel Licensing Branch, Division of Fuel Cycle and Material Safety, NMSS, U.S. Nuclear Regulatory Commission, Washington, DC 20555, and the Regional Administrator, NRC Region III, 799 Roosevelt Road, Glen Ellyn, Illinois 60137, a report containing a description of each change within six months after the change is made.

Commentary

This license condition is generic in nature for all fuel cycle facilities.

Condition 15

The licensee shall comply with the provisions of Annex B (attached), "License Condition for Leak Testing Sealed Byproduct Material and Sealed Plutonium Sources" for all sealed byproduct or plutonium sources in his possession.

Commentary

This license condition is generic in nature for all fuel cycle facilities.

Condition 16

The release of facilities, equipment and material from the plant to offsite or from controlled to uncontrolled areas onsite, shall be in accordance with Annex C (attached), "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material," dated July 1982. Records of the contamination survey and the final disposition of any equipment shall be kept for inspection by the NRC.

Commentary

This license condition is generic in nature for all fuel cycle facilities.

Condition 17

The inspections described in the first paragraph of Subsection 7.1.1, Radiation Safety, of page 7-1, Appendix A of the licensee's application dated October 15, 1982 shall be conducted quarterly.

Commentary

In subsection 7.1.1, Radiation Safety, of Appendix A of the license condition section of Kerr McGee's renewal application (dated October 15, 1982), provision is made for inspection of various health physics procedures and compliance with these procedures. The frequency of these inspections were not identified. It has been the past practice by Kerr McGee to conduct the inspection on a quarterly basis. This condition is to provide a continuation of that practice.

Condition 18

For the conduct of new activities that may possibly involve more than a critical mass, as defined in 10 CFR 70.24, the licensee shall, as part of his safety analysis, prepare and document (1) an initial criticality analysis; (2) an independent review by a recognized expert criticality consultant and (3) as appropriate physical inspection by the individual performing the original analysis to assure that the physical environment and parameters assumed in the analysis are valid.

Commentary

This condition has been incorporated from an amendment to the existing license (issued after the October 15, 1982, Appendix A, submittal), to assure that with organization changes at Kerr-McGee the conduct of nuclear safety-related activities will adequately addressed.

Condition 19

Notwithstanding the statements in Appendix A of the licensee's application, Section 3.4, pp 3-7 and 3-8, Respirator Protection Allowance (dated October 15, 1982), the licensee shall comply with the requirements specified in paragraph 20.103(c) of 10 CFR Part 20 for use of respiratory protective equipment to limit the inhalation of radioactive material pursuant to paragraph 20.103(b)(2) of 10 CFR Part 20.

Commentary

Subsequent to Kerr-McGee's development of respirator protection allowances, changes in NRC regulations for this subject have been provided in 10 CFR Part 20. The purpose of this condition is to assure that Kerr-McGee will, where necessary, revise their implementation of respirator protection allowances in accordance with the appropriate regulations.

Condition 20

Upon completion of the decontamination of facilities, the licensee shall submit a report that identifies all facilities where radioactive materials were used and stored, or disposed on the site. The report shall briefly describe operations conducted and radioactive materials used in the facilities and shall assess the results of the decontamination activities. The report shall provide the basis for unrestricted release of the facilities and the site, including a description of sampling and survey methods and instrumentation used, and shall include final contamination survey data for the facilities and grounds.

Commentary

The report by Kerr-McGee required by this condition, together with a confirmatory survey performed by the NRC and supplemented by an NRC assessment, provides the justification for release of the facility and termination of the license.