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JAN 7 1986

MEMORANDUM FOR: W. T. Crow, Section Leader
 Uranium Process Licensing Section
 Uranium Fuel Licensing Branch

FROM: Donald A. Cool
 Uranium Process Licensing Section
 Uranium Fuel Licensing Branch

SUBJECT: REGULATORY COMPLIANCE OF SEQUOYAH FUELS CORPORATION

Upon completion of the NMSS staff review of Sequoyah Fuels application for renewal of Source Materials License SUB-1010, the staff's analysis and findings were documented in a Safety Evaluation Report dated September 20, 1985. The following pages which discuss the staff analysis of licensee regulatory compliance were taken from the Safety Evaluation Report. Highlights have been provided which indicate the outcome of the staff analysis.

As an overview of the staff findings concerning regulatory compliance, the staff found that Sequoyah Fuels had received a number of infractions and Severity IV, V, and VI violations during the period of the last renewal. These are considered by NRC to be the least significant types of violations. The types of violations which occurred are detailed in Table 2 of the Safety Evaluation Report. The staff concluded that the number of violations indicated that there was a lack of attention to detail in the safety program. Therefore, the staff requested and the licensee committed (in revised pages of the license renewal application) to frequent inspections and audits which would be conducted in accordance with an approved written plan to insure consistent and complete coverage of the licensee's program.

The Safety Evaluation Report pages dealing with Regulatory Compliance are enclosed as Appendix 1.

The pages of the license renewal application, as revised to meet NRC staff concerns, are enclosed as Appendix 2. Yellow highlights are provided on these pages to show the commitments made by the licensee. These pages are incorporated as part of the license by Condition No. 9.

Original Signed by

Donald A. Cool
 Uranium Process Licensing Section
 Uranium Fuel Licensing Branch
 Division of Fuel Cycle and
 Material Safety

Enclosures: As stated

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SAFETY EVALUATION REPORT

APPENDIX 1

area, and boiler area are all located in the main process and administration building. Retention ponds for sanitary sewerage, fluoride treatment and clarification, and raffinate storage are located west and south of the plant buildings. The relative locations of these structures are shown in Figure 3.

V. LICENSE APPLICATION

A. Review History

The safety review of the Sequoyah Fuels renewal application included an evaluation of the application transmitted by letter dated September 24, 1982, its revision dated October 17, 1983 (by letter dated November 4, 1983), subsequent page revisions dated May 21, 1984 (by letter dated May 23, 1984), August 13, 1984 (by letter dated August 20, 1984), September 18, 1984 (by letter dated September 24, 1984), and December 6, 1984 (by letter dated December 14, 1984), and the revision of Chapters 1 through 8 dated August 23, 1985.

During the review, a number of site visits were made to the facility by members of the NMSS staff. These included visits by B. Kosla on February 14-18, 1983; B. Kosla and W. T. Crow on November 26-27, 1984; and D. Cool and M. Horn on June 5-6, 1985. The NMSS staff has also met with representatives of Sequoyah Fuels and Kerr-McGee Corporation at the NRC offices in Silver Spring, Maryland.

B. Current Application

The application for renewal is divided into two basic sections, the license conditions section, contained in Chapters 1 - 8, and the demonstration section, Chapters 9 - 17. In the license conditions section, the licensee has committed to minimum requirements for which he will be held accountable. Accordingly, Condition No. 9 incorporates Chapters 1 - 8 as a condition of the license and shall read as follows:

9. Authorized Use: For use in accordance with the statements, representations, and conditions contained in Chapters 1 through 8 of the license renewal application dated August 23, 1985.

The operations described in the application have been and will continue to be conducted at the existing facilities in Gore, Oklahoma. Accordingly, Condition No. 10 incorporates this location as the authorized place of use and shall read as follows.

10. Authorized Place of Use: The licensee's existing facilities at Gore, Oklahoma.

VI. PERFORMANCE HISTORY

A. Regulatory Compliance

The compliance history of Sequoyah Fuels Corporation was reviewed based upon the eight health and safety inspections conducted by

Region IV personnel since October 7, 1977. A summary of the inspection results is given in Table 2.

During the time period since the last renewal, a total of 15 violations or items of noncompliance has been observed. These violations were classified as infractions from 1978 through 1980, and Severity Levels IV, V, or VI from 1981 onward. These are considered to be the least significant types of violations. Several of these have been for repeated problems such as inappropriate use of half-mask respirators for respiratory protection, failure to survey and collect appropriate samples, and failures to properly post and control access to radiation areas. While these items are not severe in terms of their consequences to employee health and safety, the total number of violations is excessive, and the presence of repeated problems indicates a lack of management oversight for operations involving source material.

In response to NRC staff concerns regarding management oversight, Sequoyah Fuels has committed, in Chapter 2.8, to a monthly inspection of all radiation safety-related activities and quarterly audits by the Director, Regulatory Compliance, for compliance with federal and state regulations, NRC license conditions, permits, corporate policies, and facility procedures. The inspections and audits shall be conducted in accordance with preconceived written plans and reports and recommendations made to the Facility Manager. These commitments should improve management oversight and control and thereby reduce the number of radiation safety problems encountered.

B. External Exposures

At Sequoyah Fuels, 96 percent of the employees receive an annual external dose of less than 500 mrem. This level is 10 percent of the occupational exposure limits given in 10 CFR Part 20.

Table 3 presents a summary of exposures for 1979 through 1983. During this time period, the distribution of doses has remained constant without any obvious trend towards increased or decreased levels. A pattern such as this is expected in a facility in which operations and procedures have been improved and there are no major changes in the processes being conducted.

C. Internal Exposures

The primary means for determining compliance with the requirements of 10 CFR Part 20.103 is by measurement of airborne radioactivity. Table 4 gives air sampling averages for various areas within the facility for 1979 through 1983. These data indicate that airborne activity levels have been reduced considerably during the past 5 years.

TABLE 2 - SUMMARY OF LICENSE INSPECTION FINDINGS

<u>Inspection Dates</u>	<u>Summary of Results</u>
August 10-11, 1978	<ol style="list-style-type: none"> 1. Infraction: Respiratory Protective Equipment. <ol style="list-style-type: none"> a. Incomplete fitting and training. b. Failure to test half-masks for fit. c. Straps over hard hat rather than head. 2. Infraction: Failure to control access to a high radiation area. 3. Infraction: Failure to adopt appropriate procedures. 4. Infraction: License Condition 9. <ol style="list-style-type: none"> a. Surface contamination in excess of control values. b. Failure to conduct tests of licensing effectiveness. 5. Infraction: Soil samples not collected as specified in Condition 12. 6. Infraction: Failure to collect sediment samples as specified in Condition 15.
December 4-5, 1978	Investigation of release of licensed material to unrestricted areas on December 1, 1978. No items of noncompliance.
May 21-24, 1979	Infraction: Straps for half-mask respirators worn over hard hat rather than head.
July 23-25, 1980	Infraction: Straps of half-mask respirators worn over hard hat rather than head.
February 22-25, 1982	<ol style="list-style-type: none"> 1. Severity Level IV violation: Inadequate surveys for airborne uranium.

TABLE 2 - CONTINUED

<u>Inspection Dates</u>	<u>Summary of Results</u>
February 14-18, 1983	2. Severity Level VI violation: Improper posting of radiation area.
	3. Severity Level V violation: Failure to sample main plant stack.
	1. Severity Level IV violation: Failure to perform surveys.
July 17-19, 1984	2. Severity Level IV violation: Failure to properly sample HF off gas stack.
	No violations of NRC requirements.
March 11-15, 1985	1. Severity Level V violation: Failure to post radiation area.
	2. Severity Level V violation: Failure to decontaminate areas in excess of action levels.

LICENSE RENEWAL APPLICATION

APPENDIX 2

- o Initiating and directing programs to ensure compliance with all applicable provisions of Corporate Radiation Health and Safety Standards and Procedures, federal and state regulations and license conditions,
- o Establishing and maintaining systems for recording facility radiation survey and exposure data,
- o Coordinating on-site contacts with representatives of federal and state agencies responsible for regulating radioactive materials and advising the Director, Nuclear Licensing and Regulation, of the results of the on-site contacts,
- o Identifying and proposing new and revised radiation health and safety standards and procedures as needed, and
- o Notifying the Corporate Medical Director immediately of any radiation related incident or emergency situation involving radioactive materials.

The Corporate Medical Director shall be responsible for training the Radiation Safety Officers to perform these duties and shall assist and advise them on matters involving radiation exposure and related subjects.

The Director, Regulatory Compliance, shall review the radiation health and safety practices of each company facility involved with radioactive materials. This review is to ensure compliance with the current Corporate Radiation Health and Safety Standards and Procedures, applicable federal and state regulations, and license conditions. The Director, Regulatory Compliance, shall submit the results of each review and any recommendations for new or revised standards and procedures to the facility manager with copies to the responsible organizational unit head, the Corporate Medical Director, and the Director, Environment and Health Management Division. Information copies shall be furnished to other corporate executives as appropriate.

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I. 2-2

In the event of a radiation-related incident or emergency situation, the Corporate Medical Director, the Director, Safety Services, and the Radiation Safety Officer shall conduct a thorough investigation and prepare a special incident report which will be distributed to the appropriate individuals.

2.2 Organizational Responsibilities and Authority (See Figure 2-1)

The Vice President of Sequoyah Fuels Corporation shall be responsible for all nuclear manufacturing activities, including technical service activities. He specifically approves of the modifications, process and equipment criteria, and standards of the health and safety program. He reports to the President, Sequoyah Fuels Corporation.

Responsibility for the safe, efficient operation and for the control of all materials at the Sequoyah Facility shall rest with the Facility Manager who reports to the Vice President, Sequoyah Fuels Corporation.

The Sequoyah Manager of Health Physics and Industrial Safety, shall be the facility Radiation Safety Officer (RSO). He reports to the Facility Manager, and shall be responsible for the conduct of the health physics and industrial safety program at the Sequoyah Facility, including (a) the effluent monitoring program, (b) the bioassay program, (c) the health physics training program, (d) the program for surveillance of all plant activities in the area of health physics and industrial safety and (e) maintaining all radiation exposure and other health and safety and industrial safety records required by Kerr-McGee Corporation and Sequoyah Fuels Corporation policy and by regulatory agencies.

The Manager of Conversion Engineering, reporting to the Sequoyah Facility Manager, shall provide and supervise engineering services to safely, efficiently and economically convert yellowcake to UF_6 through process design modification, process evaluations and the monitoring of operating conditions.

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I. 2-3

2.3 Safety Review

The independent overview functions carried out under the Director Environment and Health Management Division, through his staff shall be as follows:

1. To establish the criteria and standards for contamination control and radiation protection for manufacturing processes and equipment.
2. To establish the standards for procedures to be followed by operations management in assuring that processes and equipment are operated in a way to prevent spread of contamination and radiation exposure.
3. To make periodic routine and non-routine inspections against the criteria, standards and procedures of the program.
4. To maintain technical liaison with regulatory agencies, of local, state and federal government.
5. To offer expert professional advice and counsel to Corporate and Facility Management in health and safety matters.
6. To procure as required special audit services, inspections or calculational capability for problems from qualified consultants or other divisions of Kerr-McGee Corporation when it appears that an adequate solution definition exceeds the capability of the staff.

2.4 Approval Authority for Personnel Selection

The Vice President Sequoyah Fuels Corporation shall be responsible for personnel selection for all safety related staff positions and safety review committee membership.

2.5 Personnel Education and Experience Requirements

The education, training, and experience requirements for all safety-related management and staff positions and for safety review committee members shall be as follows:

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I. 2-6

Table 2-1

PROCEDURE APPROVALS

<u>Activities</u>	<u>Procedures Prepared by</u>	<u>Procedures Approved by</u>
H&S Stds and changes	Staff HP	Dir. Nucl. Lic. Mgr. Seq. Facility V.P. Seq. Fuels
Proc. & Equip. Design	Mgr. Conv. Eng.	Dir. Nucl Lic. Staff HP Mgr Seq Fac. V.P. Seq. Fuels
Modif. to Proc or Equip	Mgr Conv. Eng.	RSO Mgr. Seq. Facility
Operating Proc. & changes	Mgr. Prod.	RSO Mgr Seq. Facility
Exp. & Dev.		Mgr. Seq. Facility V.P. Seq. Fuels
Maint. WO	Maint. Sup.	RSO or HP Tech.

2.8 Audits and Inspections

The Manager Health Physics and Industrial Safety shall conduct an inspection of all Radiation Safety related activities on a monthly basis in accord with a written plan and a report of the inspection shall be made to the facility manager. The Director, Regulatory Compliance shall conduct quarterly audits and inspections at the Sequoyah Facility to evaluate and verify compliance with applicable federal and state regulations, NRC license conditions, permits, corporate policies, and facility procedures in accordance with a preconceived written plan. The audits and inspections apply to major subject areas such as radiation protection, health physics, industrial safety, and environmental control programs. The audits and inspections shall be conducted by qualified

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I. 2-12

Compliance Specialists trained in basic radiation protection who are required to evaluate on-going programs and identify existing or potential deficiencies. A formal report of findings, observations and recommendations shall be prepared and submitted to the Director. After further review, the Director shall forward a copy of the report along with any additional comments to the Facility Manager. Information copies are furnished to the Director, Nuclear Licensing and Regulation, Corporate Medical Director and executives of Sequoyah Fuels Corporation as appropriate. In responding to the report, the Facility Manager may take exception to specific findings, give the status of corrective action that has been taken; and provide a schedule for additional action which will be taken. The Compliance Specialists will conduct immediate follow-up by telephone to ensure corrective action is being taken. On-site follow-up shall also be made during the next regularly scheduled inspection.

2.9 Investigations and Reporting of Non-Normal Occurrences

The Sequoyah Facility shall provide an "Incident Report" system. An incident report shall be made for each release of material resulting in an excess of 3 MPC. This incident report shall be initiated by the health physics group and is directed to the supervisor whose personnel was exposed. The supervisor shall sign the report including any pertinent observations as to the correction of the condition to avoid future incidents. The report shall then be distributed to the Manager of Production, the Facility Manager, the staff Health Physicist and the Director of Nuclear Licensing & Regulation. These reports form a basis for the quarterly ALARA review.

Releases of uranium to the environment exceeding established release criteria shall be reported promptly to Nuclear Licensing and Regulation and reported to the controlling agency immediately as required. Subsequently, the matter is investigated by a manager of the Sequoyah facility and a written report submitted as required.

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I. 2-13

- e. HWP's shall be terminated and reissued if, during the work, conditions change which do not fit the task for which the HWP was approved.

The shift supervisor or designated representative shall be authorized to sign work permits.

3.1.2 ALARA Committee

An ALARA committee shall be established for the Sequoyah Facility. Membership in the committee shall be comprised of corporate personnel from the Environment and Health Management Division of Kerr-McGee Corporation and personnel from Sequoyah Fuels Corporation. The Oklahoma City membership includes the Corporate Medical Director, the Director Nuclear Licensing and Regulation and, the Staff Health Physicist of Kerr-McGee Corporation and the Vice President of Sequoyah Fuels Corporation. The facility membership includes the Facility Manager, the RSO, and managers of the Production, Maintenance, and Engineering Departments.

Quarterly ALARA audits shall be performed by the Corporate Staff Health Physicist resulting in a report to the committee consisting of a trend and cause analysis of radiological exposure conditions within the facility, employee exposures, and progress of administrative and engineering controls needed to assure that exposures to personnel and release to the environment are maintained as low as is reasonably achievable.

The ALARA Committee shall meet at least annually to evaluate the quarterly trend and cause analysis supplied by the Corporate Staff Health Physicist audit. The ALARA Committee shall also review exposure and effluent release data to determine (1) if there are any upward trends developing in personnel exposures for identifiable categories of workers, types of operations, or effluent releases, (2) if exposure and release

might be lowered in accordance with the ALARA concept, and (3) if equipment for effluent control is being properly used, maintained, and inspected. From this review the committee shall institute additional investigations as required and revise equipment and/or procedures to improve ALARA performance. The annual meeting shall be documented.

3.2. Technical Requirements

Technical requirements to minimize exposures to radiation and radioactive materials shall include access controls, ventilation controls, monitoring the release of radionuclides, and monitoring of personnel for external and internal exposure.

3.2.1 Access Control

The Sequoyah facility is surrounded by a 6 foot security fence fitted with intrusion detectors and monitored by a closed-circuit television system. A guard station is provided at the facility entrance. Employees are issued identification badges which are surrendered as they enter and returned as they leave the site. Visitors are issued badges by the guard as they enter the facility and are escorted while on the premises.

All persons shall pass through a change room before entering a controlled area. The controlled areas include the process areas, service and storage yards and the storage lagoon and emergency basin area. Employees entering the controlled area shall be required to wear coveralls, process area safety shoes, hard hats and safety glasses. Administrative employees and visitors shall wear smocks, shoe covers, hard hats and safety glasses.

All entrances to the controlled areas shall be conspicuously posted in accordance with 10 CFR 20.203(e)(2).

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I. 3-3