UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
612 EAST LAMAR BLVD, SUITE 400
ARLINGTON, TEXAS 76011-4125

July 23, 2010

John H. Ellis, President
Sequoyah Fuels Corporation
P.O. Box 610
Gore, Oklahoma 74435

SUBJECT: NRC INSPECTION REPORT 040-08027/10-002

Dear Mr. Ellis:

This refers to the inspection conducted on June 29-30, 2010, at the Sequoyah Fuels Corporation site located near Gore, Oklahoma. This inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel. The enclosed report presents the results of this inspection. In summary, the inspector determined that you were conducting decommissioning activities in compliance with regulatory and license requirements, with one exception.

Based on the results of this inspection, the NRC has determined that one Severity Level IV violation of NRC requirements occurred. Your discovery of additional contaminated equipment in an unrestricted area on your site was determined to be a violation of the license. The violation is being treated as a Non-Cited Violation (NCV), consistent with Section VI.A of the Enforcement Policy. The NCV is described in the subject inspection report. If you contest the violation or significance of the NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001, with copies to: (1) the Regional Administrator, Region IV, 612 East Lamar Blvd., Arlington, TX 76011-4125; and (2) the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response, if you choose to provide one, will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC's Web site at http://www.nrc.gov/reading-rm/adams.html. If you choose to respond, to the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

Should you have any questions concerning this inspection, please contact Mr. Gerald Schlapper, Health Physicist, at (817) 860-8273 or the undersigned at (817) 860-8191.

Sincerely,

/RA/

D. Blair Spitzberg, PhD, Chief
Repository and Spent Fuel Safety Branch

Docket: 040-08027
License: SUB-1010

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NRC Inspection Report 040-08027/10-002

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U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket:	040-08027
License:	SUB-1010
Report:	040-08027/10-002
Licensee:	Sequoyah Fuels Corporation
Location:	Highway 10 and Interstate 40 Gore, Oklahoma
Dates:	June 29-30, 2010
Inspector:	Gerald A. Schapper, PhD, CHP, Health Physicist Repository and Spent Fuel Safety Branch
Accompanied By:	Michelle Varbel, Environmental Program Specialist Land Protection Division Oklahoma Department of Environmental Quality
	Morgan Buckner, Environmental Program Specialist Land Protection Division Oklahoma Department of Environmental Quality
Approved by:	D. Blair Spitzberg, PhD, Chief Repository and Spent Fuel Safety Branch
Attachment:	Supplemental Inspection Information

ENCLOSURE

EXECUTIVE SUMMARY

Sequoyah Fuels Corporation
NRC Inspection Report 040-08027/10-002

This inspection was a routine, announced inspection of decommissioning activities being conducted at the Sequoyah Fuels Corporation site. This inspection included a review of the licensee's implementation of the NRC-approved Reclamation Plan. In summary, the licensee was conducting decommissioning activities in compliance with license and regulatory requirements, with one exception as described below.

Management Organization and Controls; Decommissioning Inspection

- The organizational structure was in agreement with license requirements. A sufficient number of staff members were available for the decommissioning activities in progress. The licensee had a functioning As Low As Reasonably Achievable program as required by the license. Routine program reviews were conducted as required by the license and by regulations (Section 1).

Radiation Protection

- The licensee conducted its radiation protection program in accordance with the requirements of 10 CFR Part 20 and the license. Occupational exposures were below regulatory limits (Section 2).

- A Non-Cited Violation was identified involving the licensee's discovery of contaminated equipment in the unrestricted area onsite, a violation of the license This equipment was identified as a result of corrective actions implemented in response to a previous finding related to a contaminated ladder found in the new warehouse, an unrestricted area (Section 2).

Maintenance and Surveillance Testing

- The licensee maintained a sufficient number of calibrated survey meters for use at the facility (Section 3).

Effluent Control and Environmental Protection

- The effluent and environmental monitoring programs were implemented in accordance with license and regulatory requirements. The sample results indicated that liquid and gaseous radioactive effluent releases were less than regulatory limits. Elevated concentrations of radioactive material continued to be identified by the licensee in selected groundwater monitoring wells. In response, the licensee continued to implement an interim groundwater corrective action program (Section 4).

- The licensee continued to utilize an ammonium nitrate solution as a fertilizer on land used to produce hay. The licensee implemented the fertilizer distribution program in accordance with license application requirements (Section 4).

Low Level Radioactive Waste Storage; Inspection of Transportation Activities

- The licensee effectively implemented and maintained a program for monitoring and securing solid waste storage as required by the license (Section 5)

Onsite Construction

- The licensee has completed construction of the base of the first phase of the onsite disposal cell in accordance with the Reclamation Plan requirements and has begun placement of calcium fluoride sludge (Section 6).

Report Details

Summary of Plant Status

At the time of the inspection, the licensee was conducting site decommissioning. Site decommissioning will include dismantlement and removal of systems and equipment, demolition of structures, removal and treatment of sludges and sediments, remediation of contaminated soils, and treatment of wastewater. Most of the residual waste material will be placed in an onsite disposal cell for permanent disposal. The disposal cell was originally designed for a capacity of 8.3 million cubic feet of disposed material, although the cell design can be modified to accommodate from 5 to 11 million cubic feet of material.

The disposal cell is being constructed in phases. Prior to the inspection, the licensee had completed construction of the cell base of Phase I of the onsite disposal cell. Phase I includes the north-eastern portion of the cell. The licensee had begun placement of potentially contaminated calcium fluoride material into the cell. Next, the licensee will excavate contaminated soils in the Phase II footprint. Soils in the Phase II area that exceed the NRC-approved cleanup level will be placed into the Phase I cell for disposal.

During 2010, the licensee expects to complete the construction of the Phase I base, permanently close Pond 2, remediate the emergency basin/north ditch, remediate the north fluoride holding base, remediate contaminated soil in the Phase II footprint, construct the Phase II base, and initiate building demolition.

The licensee still possesses approximately 11,500 tons of de-watered raffinate sludge. The sludge was being stored in heavy duty bags for possible offsite transfer to an out of state uranium mill for processing as alternate feed material. If the licensee is unable to transfer the material, the NRC-approved Reclamation Plan allows the licensee to dispose of the sludge in the onsite disposal cell.

1 Management Organization and Controls; Decommissioning Inspection Procedure for Materials Licensees (88005, 87104)

1.1 Inspection Scope

The inspector reviewed management organization and controls to ensure that the licensee was maintaining effective oversight of decommissioning activities.

1.2 Observations and Findings

The organizational structure is provided in Section 11.1 and Figure 2-1 of the license application. At the time of the inspection, the plant staff consisted of five individuals: the president, environmental manager, senior health and safety technician, decommissioning and decontamination project supervisor, and administrative assistant. The licensee also received part-time support from the director of regulatory affairs. Contractors were used for geotechnical support, cell construction, radiation safety support, and miscellaneous site maintenance activities as needed. In addition, security guards provided facility oversight during nights, weekends, and holidays. The inspector concluded that the licensee had sufficient staff to ensure compliance with license and regulatory requirements.

The corporate office conducts quarterly compliance audits. The corporate audits are conducted, in part, to ensure compliance with license requirements. One quarterly audit had been conducted since the last inspection. The inspector reviewed exit briefing notes from this audit. The licensee will forward a copy of the audit report when received.

1.3 Conclusions

The organizational structure was in agreement with license requirements. A sufficient number of staff members were available for the decommissioning activities in progress. The licensee had a functioning As Low As Reasonably Achievable (ALARA) program as required by the license. Routine program reviews were conducted as required by the license and by regulations.

2 Radiation Protection (83822)

2.1 Inspection Scope

The inspectors examined the licensee's radiation protection program for compliance with the license and 10 CFR Part 20 requirements.

2.2 Observations and Findings

a. Occupational Exposures

The inspectors reviewed personnel monitoring records. Personnel monitoring included monitoring of both external and internal exposures of workers. The inspectors reviewed the licensee's occupational exposure records for the first quarter of 2010.

To monitor for external exposures, thermoluminescent dosimeters were assigned to selected individuals. During the first quarter of 2010, 13 individuals were monitored with thermoluminescent dosimeters. The TLD results indicated zero exposure for the monitored individuals.

The bioassay requirements are noted in License Condition 9.4. The licensee assigned internal exposures based on bioassay sample results. Bioassay sampling consisted of measurement of uranium concentrations in urine. Of a total of 220 sample results reviewed by the inspector for 2010, only 10 exceeded the detection limit of 1.0 micrograms per liter. None of the results exceeded the action level of 20 micrograms of uranium per liter of urine. The results were consistent with ALARA goals.

To complement the bioassay program, the site also monitored internal exposures utilizing lapel samples. The licensee measured the derived air concentration-hours (DAC-hours) to which individuals were exposed. The inspector reviewed records for 12 individuals. The maximum observed for any individual in the randomly selected time periods was 0.20 DAC-hr. Total DAC-hr exposures summed for all individuals for 2010 were approximately 5 DAC-hr, much less than the NRC's limit for an individual of 2,000 DAC-hr.

b. NRC Review of Licensee's Condition Reports

The licensee used the Condition Report process to document potentially negative trends and events. The inspectors reviewed selected Condition Reports during the inspection and discussed these reports with the licensee's representatives. In summary, the licensee was effectively using Condition Reports to document potential problems and the corrective actions needed to mitigate these problems.

As noted in the previous inspection, on February 24, 2010, during a survey of tools and as part of an oversight audit being conducted by a corporate auditor, a ladder with high levels of fixed beta-gamma contamination was identified in the new warehouse, an unrestricted area. Further surveys confirmed the presence of contaminated tools in the administration building, another unrestricted area. A Licensee Event Report was issued to the NRC on March 16, 2010. Surveys of tools and equipment continued and additional items were discovered. The Condition Report applicable to this effort was closed out on May 3, 2010.

License Condition 9.1 states that the licensee shall implement the statements, representations, and conditions contained in the license application. Section 3.3.4.7 of Part I to the license application provides the contamination control limits for equipment in all unrestricted areas. The direct (fixed) alpha and direct beta-gamma contamination limits are both 5,000 disintegrations per minute per 100-square centimeters. During further equipment surveys, the licensee discovered on March 18,2010, a pallet with a beta direct, fixed contamination measurement of 1,000,944 disintegrations per minute per 100-square centimeters along with an alpha direct level of 721,896 disintegrations per minute per 100-square centimeters in the unrestricted area. The licensee's discovery of additional contaminated equipment above the licensed limits in the unrestricted area is a violation of License Condition 9.1 (NCV 040-08027/1001-02). However, this violation is being treated as a Non-Cited Violation consistent with VI.A of the NRC Enforcement Policy. The licensee identified the violation, and the licensee took prompt corrective actions in response to the violation. Though the Condition Report has been closed, the NRC will continue to review of the licensee's corrective actions during future inspections.

c. Hazardous Work Permits

Section 3.2.1 of the license application outlines hazardous work permit requirements. Hazardous work permits are used to control non-routine work activities, particularly when these activities involve radioactive material or when a significant potential for personnel exposure exists. The inspector reviewed selected hazardous work permits and noted that the permits identified specific radiological hazards and personnel protective equipment requirements for the identified hazards and complied with applicable procedures.

d. Training of Workers

The inspectors reviewed training records to ensure that the licensee was implementing training programs in compliance with regulatory and license requirements.

During the last inspection it was noted that the last hazardous material transportation training was provided during February 2007. This hazardous material refresher training

satisfies U.S. Department of Transportation training requirements but is valid for only 3 years from date of completion. Hazard material transportation training was completed for one individual who was responsible for preparing shipments at the site. This individual completed training in April, 2010.

As noted in the previous inspection report, radiation safety annual training was provided on January 10, 2010. Procedure training for all the employees was conducted on January 28, 2010. In summary, the licensee implemented its training program in accordance with license requirements.

2.3 Conclusions

The licensee conducted its radiation protection program in accordance with the requirements of 10 CFR Part 20 and the license. Occupational exposures were below regulatory limits. An NCV was identified involving the licensee's discovery of contaminated equipment in the unrestricted area onsite, a violation of the license.

3 Maintenance and Surveillance Testing (88025)

3.1 Inspection Scope

The inspectors reviewed maintenance of radiation survey instruments to ensure compliance with license requirements and approved procedures.

3.2 Observations and Findings

Instrument Calibrations

License application Section 3.3.3 requires that radiation survey instrumentation be calibrated at least every 6 months. The inspectors reviewed selected survey results and confirmed that survey instruments used to perform these surveys had been calibrated within the required 6-month frequency.

3.3 Conclusion

The licensee maintained a sufficient number of calibrated survey meters for use at the facility.

4 Effluent Control and Environmental Protection (88045)

4.1 Inspection Scope

The inspectors reviewed the licensee's effluent, groundwater, and environmental monitoring programs to verify compliance with applicable regulatory and license requirements.

4.2 Observations and Findings

a. Effluent Monitoring Program

The liquid effluent monitoring program is described in Section 5.1 of the license

application. The licensee monitored two release points, the combined stream Outfall 001 and the storm water Outfall 008. The inspector observed the sampling equipment in service, and the equipment appeared to be operable at both locations.

b. Environmental Monitoring Program

As part of its environmental monitoring program, the licensee maintained four perimeter air sampling stations. Ambient air was continuously sampled at these four stations. The filter media was exchanged weekly and was analyzed for gross alpha concentrations. During the first quarter of 2010, the maximums for natural uranium, thorium-230 and radium-226 were less than 1 percent of allowable levels.

c. Ammonium Nitrate Fertilizer Distribution Program

Section 1.8 of the license application allows the licensee to use ammonium nitrate solution generated from onsite dewatering activities as fertilizer, subject to a number of limitations. The solution can only be used as fertilizer on crops grown for animal food or for seed production. The licensee is required by its license to submit an annual completion report to the NRC. The most recent report was submitted to the NRC on April 28, 2010. This report provided by the licensee discussed the results of 2009 growing season.

Similar to the previous years, the 2009 vegetation samples continued to contain elevated molybdenum concentrations. However, the vegetation (hay) could still be consumed by animals but with specific dietary restrictions imposed.

4.3 Conclusions

The effluent and environmental monitoring programs were implemented in accordance with license and regulatory requirements. The sample results reviewed by the inspector indicated that liquid and gaseous radioactive effluent releases were less than regulatory limits. The licensee continued to utilize an ammonium nitrate solution as a fertilizer on land used to produce hay. The licensee implemented the fertilizer distribution program in accordance with license application requirements.

5 Low Level Radioactive Waste Storage; Inspection of Transportation Activities (84900, 86740)

5.1 Inspection Scope

The inspector interviewed licensee representatives, toured the site, and reviewed applicable records to determine if the licensee had established and maintained an effective program for management and transportation of radioactive wastes.

5.2 Observations and Findings

The inspector conducted site tours, reviewed records, and interviewed licensee personnel to ensure that the licensee continued to manage wastes in accordance with Reclamation Plan and license requirements. At the time of the inspection, the licensee

was constructing Phase I of the reclamation plan. The Phase I footprint is expected to cover approximately 138,000 square feet of land surface.

As noted in the previous inspection report, in order to support the Phase I construction activity, the licensee temporarily revised the access control requirements for construction workers and their vehicles. The licensee developed a temporary operating procedure to change the access control requirements for the Phase I work area. The change was implemented during January 2010 after the temporary operating procedure was reviewed and approved by the licensee's plant review committee.

The boundary change allowed personnel and equipment to enter and exit the construction area without radiation protection staff having to conduct radiological survey scans of personnel, equipment, and vehicles. This change was implemented after the licensee had completed a radiological survey of the Phase I footprint and it was determined that the area meets the release criteria for cell construction.

The licensee, once it completed construction of the base of the Phase 1 cell, returned the Phase I construction area to a radiologically restricted area. The change was effective on June 1, 2010 and the change was emphasized in an all hands meeting prior to implementation of the change.

After the Phase I foundation construction was completed, the licensee began disposal of the calcium fluoride sludge from Fluoride Holding Basin 2 and the 1991-1992 production pile into the Phase I portion of the cell. These two sources of sludge total about 211,000 cubic feet in volume. These sludges contain some residual uranium, radium, and thorium. Prior to disposal in the onsite cell, the sludge is mixed with fly ash material to ensure that the sludge has the proper consistency for movement and disposal. During the onsite inspection, the licensee was continuing the sludge transfer work. The licensee appeared to be effectively controlling the preparations for this work activity.

The inspector conducted radiological surveys of locations in the restricted and unrestricted areas of the site during walkthroughs of these areas. The inspector conducted the surveys using a Ludlum Model 19 micro-R survey meter (NRC Meter 015540, calibration due date of 04/8/11). With background levels of approximately 10 micro-R/hr, levels in the restricted area ranged from a low of 20 micro-R/hr in the general area to levels approaching 500 micro-R/hr near the area where raffinate bags are stored. In the unrestricted locations visited, levels were essentially equal to background.

One hazardous material shipment was made in 2010. The shipment contained 9 Kg of natural uranium in solid oxide form. The receiver for the shipment was General Atomics in San Diego California. The inspector reviewed documentation for the shipment to include qualification of the individual certifying the shipment and determined that the shipment was in compliance with applicable regulations.

5.3 Conclusions

The licensee effectively implemented and maintained a program for monitoring and securing solid waste storage as required by the license.

6 Onsite Construction (88001)

6.1 Inspection Scope

The inspectors attempted to determine by direct observation if onsite construction activities were being accomplished in accordance with the NRC-approved Reclamation Plan, license conditions, and construction specifications.

6.2 Observations and Findings

License Condition 51 states that the licensee is authorized to implement the Reclamation Plan. The Reclamation Plan provides a description of how the onsite disposal cell will be constructed including design specifications for cell construction, technical specifications for cell materials, and requirements for quality assurance testing. At the time of this inspection, the licensee had completed construction of the base of the Phase I portion of the disposal cell. The inspector observed construction activities in progress. Selected daily logs were reviewed and found to be of appropriate detail to provide acceptable documentation of site activities. The inspector suggested that the licensee continue photographic documentation of cell construction activities. The use of photographs to document equipment surveys was also noted.

During the last inspection in March 2010, a geotechnical issue was raised during the inspection not related to cell construction. While touring the site, an earthen dam was observed that was constructed on site about 19 years ago as part of site drainage control. The dam appears to meet the definition of a dam that should be included in the National Dam Safety Program. NRC staff indicated they would discuss this issue with the NRC's dam safety program staff. To support the NRC review of the status of this dam, licensee staff indicated that they would verify the dimensions of the dam and would report these findings to the NRC project manager. Review of the status of this dam will be the subject of future inspections.

6.3 Conclusions

The licensee was constructing the onsite disposal cell in accordance with Reclamation Plan requirements.

7 Exit Meeting

The inspector reviewed the scope and findings of the inspection during an exit meeting that was conducted at the conclusion of the onsite inspection on June 30, 2010. During the inspection, the licensee did not identify any information reviewed by the inspectors as proprietary.

SUPPLEMENTAL INSPECTION INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

John Ellis, President
Rob Miller, Health Physicist, Consultant
Scott Munson, Environmental Manager
Billy Reid, Quality Assurance, Consultant

INSPECTION PROCEDURES USED

IP 83822	Radiation Protection
IP 87104	Decommissioning Inspection Procedure for Materials Licensee
IP 88005	Management Organization and Controls

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

040-08027/2010-02 NCV Discovery of contaminated equipment in unrestricted area

Closed

None

Discussed

None

LIST OF ACRONYMS

ALARA	As Low As Reasonably Achievable
CFR	Code of Federal Regulations
DAC-hours	derived air concentration-hours
IP	NRC Inspection Procedure
NCV	Non-Cited Violation
POC	point-of-compliance

ATTACHMENT