

APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV

NRC Inspection Report: 40-08027/87-05

License: SUB-1010

Docket: 40-08027

Licensee: Sequoyah Fuels Corporation (SFC)  
Kerr-McGee Center  
Oklahoma City, Oklahoma 73125

Facility Name: Sequoyah Uranium Hexafluoride Conversion Facility

Inspection At: Gore, Oklahoma

Inspection Conducted: April 6-10, 1987

Inspector:

Wesley L. Holley  
W. L. Holley, Radiation Specialist  
Nuclear Materials Safety Section

5/19/87  
Date

Approved:

R. J. Everett  
R. J. Everett, Chief, Nuclear Materials  
Safety Section

5/20/87  
Date

Inspection Summary

Inspection Conducted April 6-10, 1987 (Report 40-08027/87-05)

Areas Inspected: Special, unannounced inspection of licensee activities following the November 14, 1986, NRC authorization for full facility restart. The inspection period was a continuation of the NRC's facility coverage initiated November 3, 1986. The inspection consisted of a review of ongoing process activities, startup preparations, startup activities in the  $UO_3$  and  $UF_6$  production areas, operator training, procedure review, and reviews of Independent Overview Team (IOT) activities.

Results: Within the areas inspected, no violations or deviations were identified. One unresolved item is discussed in paragraph 4.e.

B706110154 B70605  
PDR ADOCK 04008027  
C PDR

## DETAILS

### 1. Persons Contacted

\*W. L. Utmage, Facility General Manager  
J. V. Marler, Manager, Operations  
S. P. Knight, Manager, Administration and Services  
L. R. Lacey, Manager, Safety, Industrial Hygiene, and Health Physics  
D. R. Swaney, Manager, Quality Assurance  
L. A. Tharp, UO<sub>2</sub> Area Manager  
G. R. Jackson, UF<sub>6</sub> Area Manager  
G. P. Salalosky, Manager, Industrial Hygiene and Health Physics  
G. Barton, Manager, Procedures and Training  
S. R. Fryer, Jr., Manager, Facility Engineering  
D. R. Knoke, Manager, Laboratory  
R. A. Parker, Manager, Facility Maintenance  
J. G. Stampelos, IOT Assistant Program Manager

The NRC inspector also met with other licensee supervisors, operators, and technicians as well as IOT team members on shift coverage.

\*Present at the exit briefing.

### 2. Scope of Special Inspection

On November 3, 1986, the NRC began 24-hour facility coverage to coincide with IOT coverage and plant restart preparations. The inspection coverage leading up to the date of full restart authorization was reported in NRC Inspection Report 40-08027/86-15. On November 14, 1986, the NRC authorized full facility restart. From this date to the end of the inspection period on February 27, 1987, the NRC maintained 7-day per week, 24-hour inspection coverage consisting of at least one NRC inspector on each 8-hour shift. Coverage was not provided during the holiday period of December 25-28, 1986, when process activities at the facility were shut down. Since February 27, 1987, the NRC has had intermittent inspection coverage of an 8-hour shift for 7 and 5-day weeks at various times. This inspection was a 5-day inspection.

The primary purpose of the special inspections was to observe process and maintenance activities, implementation of operations procedures, and the performance of hardware installed during recent plant modifications. Secondary inspection goals were to assess the adequacy of procedures, to review the performance of the IOT, and to monitor routine health physics activities.

### 3. Facility Process and Maintenance Activities

All major plant process systems were in operation during the inspection period. Various equipment problems continued to occur. For this

inspection period, some of the equipment problems consisted of: sampling plant bin plugging, reduction/hydrofluorination (A line gear box maintenance, B line 3rd stage agitator gear box repair, and B line filter change); and a leakage in a denitrator line. As usual, some of the problems were associated with piping or valve leaks and flow restrictions causing clogging/plugging. Maintenance activities were observed to be accomplished according to the respective provisions of work orders, hazardous work permits, and electrical work permits.

The NRC inspector toured the plant on various shifts during the inspection to observe process and maintenance activities. The majority of the maintenance activities were performed on the day shift and were concentrated on equipment which adversely affected the process operation.

During the inspection, the licensee was in the process of changing out the transformers in the electrical transformer yard. Throughout the week there were short duration power outages in various areas of the plant as PCB cooled transformers were changed out for air cooled transformers. These transitions were performed properly without compromising safety in plant functions.

The NRC inspector was present when certain abnormal events took place with plant systems. Reviews of these occurrences are discussed in paragraph 4.

No violations or deviations were identified.

#### 4. NRC Inspector Observations

##### a. Off-gas Release

The NRC received a telephone call from the Oklahoma Radiation Control Program Director concerning a call from a neighbor of Sequoyah Fuels. The neighbor indicated that odors coming from Sequoyah Fuels could be detected on the neighbor's premises at 7:30 a.m. on Friday, April 3, 1987.

The NRC inspector determined that digester off-gases (nitrogen oxides) were released in the digester area prior to 8:00 a.m. and these off-gases possibly could have been smelled offsite. (Guards at the south entry/exit portal have smelled these gases on other occasions.) The licensee had a sintered yellowcake feed material that, when the hard coating was dissolved by acid feed, produced a large amount of gas, which overwhelmed the exhaust/scrubber system. There were no fluorines in such releases. The licensee has a state of Oklahoma Health Department Permit No. 7, which limits the nitrogen oxide visible emissions from the plant to 20 percent opacity. This release was not observed; therefore, the 20 percent opacity was not exceeded.



b. UF<sub>6</sub> Cylinder Inspection

Since the licensee has become aware of the UF<sub>6</sub> cylinder stiffening ring defect problem (reported in NRC Report 40-08027/87-01), the licensee has placed greater emphasis on UF<sub>6</sub> cylinder QA inspection before shipping these cylinders. The NRC inspector observed the licensee perform a very thorough visual inspection of five UF<sub>6</sub> cylinders before shipping. The NRC inspector confirmed the conclusion of the licensee that no apparent defects were present by inspecting the cylinders. Four of these five cylinders manufactured by W. H. Stewart may have stiffening rings made from nonspecification material.

c. Perimeter Lighting

It was reported in NRC Inspection Report 40-08027/87-04 that four of the perimeter lights were out. During this inspection, the NRC inspector again inspected the perimeter lights at night and found six lights out. The licensee planned to repair these lights during the week of April 12-18, 1987.

d. Radioactive Waste Management

The NRC inspector performed a small portion of a Radioactive Waste Management, Inspection Procedure 88035, inspection. Only the semi-annual effluent reports were inspected. No problems were identified.

e. Uranium Embargo Allegation (RIII-87-A-0068)

In response to an allegation identified by Region III, the inspector reviewed the licensee's recent import of yellowcake. 10 CFR 110.27 forbids the import of uranium of South African origin in any form as of December 31, 1986. The NRC inspector determined that a shipment of yellowcake left Durban, South Africa, on February 3, 1987, and arrived on the licensee's premises on March 27, 1987. This shipment was designated as Lot No. 8786. A licensee representative stated that the yellowcake in question is owned by a foreign company and Sequoyah Fuels had agreed to take possession and process the material until further directed by that company. Further review by the NRC is proceeding concerning this shipment of yellowcake and this matter is considered an unresolved item. (40-08027/8705)

f. Emergency Drills

During this inspection, several drills for fire, first aid, and communications were conducted by the licensee according to the scheduled frequency. The NRC inspector noted that the drills were conducted in accordance with licensee commitments, the contingency plan, and the contingency plan implementing procedures.

g. "Alert" Emergency Condition

On April 10, 1987, at 8:32 a.m., the licensee control room received a telephone call informing them that a bulldozer had accidentally ruptured the plant's main water line (16-inch diameter) from Tenkiller Lake. The plant's water pressure immediately went to zero. At 8:40 a.m., the licensee declared an Alert emergency condition. The licensee immediately terminated the operation of the plant in a safe expeditious manner and the Alert emergency condition was declared to be terminated at 10:00 a.m. There was no release of radioactive materials during the incident. Sufficient cooling water was available at all times for shutdown and also the supply of water for the fire fighting system was not in jeopardy. To be prepared for any contingency requiring more water than the 250,000 gallon reserve, the licensee obtained a 1120 gpm fire engine pumper from a neighboring town and connected it to a 300,000 gallon reservoir. Safety and fire fighting personnel were on standby throughout the incident and until the plant was in "cold shutdown." There were no offsite consequences associated with this incident.

h. NPDES Report

The licensee reported to the state of Oklahoma and EPA that the EPA NPDES pH limit had been exceeded at the combination stream outfall 001 position during the emergency condition mentioned previously in 4.g. The sample was determined to have a pH of 4.5, which was out of the allowed pH limit range of 6-9. During the accident, the water supply for dilution of the process streams was terminated before the process streams could be terminated. This made the acidity of the combination stream rise. The licensee sampled this stream as soon as personnel were available during the incident. Upon determination of the pH, a crew with sand bags was dispatched to dam up the stream and contain the stream until dilution water became available. Subsequently the pH was determined to be 8.0 before the stream was allowed to return to normal flow.

No violations or deviations were identified by the NRC inspector.

5. Independent Oversight Team Activities

The NRC inspector interfaced frequently during various shifts with IOT members. It was determined that IOT personnel and coverage continued to meet the requirements of the NRC Order dated October 2, 1986. The IOT members did not identify any violations of NRC requirements or significant safety concerns during this inspection.

6. Exit Briefing

The NRC inspector met with licensee representatives identified in paragraph 1, at the conclusion of the inspection on April 10, 1987. The NRC inspector summarized the scope and findings of the inspection presented in this report.