

APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV

NRC Inspection Report: 40-08027/86-10

License: SUB-1010

Docket: 40-08027

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

Facility Name: Sequoyah Fuels Facility (SSF)

Inspection At: Gore, Oklahoma

Inspection Conducted: September 15-19, 1986

Inspector: CL Cain 10/2/86  
C. L. Cain, Senior Radiation Specialist Date

Approved: CL Cain For 10/3/86  
R. J. Everett, Chief, Nuclear Materials Safety Section Date

Inspection Summary

Inspection Conducted September 15-19, 1986 (Report 40-08027/86-10)

Areas Inspected: Special, announced inspection of the corrective actions instituted in regard to two open items identified in NRC Inspection Report 40-08027/86-07; review of the circumstances surrounding a licensee employee's false report of laboratory analytical data; and review of continuing prestartup testing of digestion, solvent extraction, evaporation, and boil down circuitry.

Results: Within the three areas inspected, no violations or deviations were identified. The two open items identified above were closed.

DETAILS1. Persons Contacted

\*W. L. Utnage, Facility General Manager  
J. V. Marler, Manager, Operations  
S. R. Fryer, Manager, Facility Engineering  
R. A. Parker, Manager, Facility Maintenance  
S. P. Knight, Manager, Administration and Services  
D. R. Knoke, Manager, Laboratory  
D. R. Swaney, Manager, Quality Assurance  
L. A. Tharp, Area Manager, Uranium Hexafluoride Production  
M. R. Chilton, Area Manager, Depleted Uranium Tetrafluoride Production  
D. I. Martin, Manager, Industrial Relations  
C. A. Grosclaude, Manager, Health Physics and Industrial Hygiene  
L. M. Reid, Area Superintendent, Uranium Trioxide Production  
L. E. McCoy, Area Superintendent, Uranium Hexafluoride Production  
J. R. Jamison, Shift Supervisor

The NRC inspector also contacted several plant workers.

\*Present at exit briefing

2. Licensee Action on Previous Inspection Findings

(Closed) Open Item (40-08027/86-07/01): This item was established to track incomplete facility modifications in the product cylinder filling bays and a steam chest. The following modifications were reviewed and noted to be complete:

- o Heat trace insulation had been installed on process piping in the cylinder filling room.
- o The scales and associated displays had been calibrated by the vendor as was evidenced by calibration labels on each of the four display panels. The NRC inspector noted that the "net/gross" toggle switches properly functioned to deduct the tare weight of an empty cylinder from the displayed gross weight. The tare weight, minus the product heel weight, was first inputted by use of the installed thumb wheels.
- o Pressure gauges and transmitters had been installed for both fill headers, and the control console now included digital readouts for product pressure in each of the two fill lines.
- o Heat traced pigtail leads had been installed at both fill headers.
- o The licensee demonstrated the operation of the four fill bay scale printers installed in the accountability scale room. The inspector noted proper operation.

- o The inspector noted that electrical resistance type heaters were available for use in the fill bays to facilitate product flow through product cylinder valves including the 2S sample cylinders.
- o Sample trees had been installed in each of the two fill bays to allow sampling of up to three traps during a single cylinder filling.
- o Hardware modifications to the southeast steam chest had been completed to allow monitoring of steam conductivity and cylinder pressure during cylinder heating. A remote control cylinder valve closing device, similar to the ones installed in the filling bays, had also been installed. The conductivity sensor is designed to close the cylinder valve and shut off the steam flow to the chest in the event of high conductivity caused by system leakage such as could occur at the cylinder valve/pigtail junction. The pressure sensor shuts off the steam only. Both sensors also activate a local visible/audible alarm and an alarm in the control room. Controls for the system were located on a control panel on the south end of the steam chest.

(Closed) Open Item (40-08027/86-07/02): This item was established as a result of inaccuracies found in Operating Procedure N-280-1, Revision 8, "Uranium Hexafluoride Product Handling and Shipping" and incomplete worker training in regard to this procedure. The inspector noted that rectifying changes had been made in Revision 9 of the procedure dated July 24, 1986. Revision 9 authorizes cylinder sampling either during filling or in the accountability scale room after filling. Licensee personnel also described the system that would be used to assure that sensors in the filling bays would be subject to a periodic operability check. The NRC inspector also reviewed records of worker training in regard to the procedure. This training was completed by 11 technicians during the last week of July 1986 and included a dry run and a written exam. The inspector interviewed two of these technicians, and they demonstrated understanding of fill bay operations.

### 3. Falsification of Laboratory Records

During the week prior to the inspection, the licensee had reported to NRC that a laboratory technician was found to have reported analytical results for samples which were never analyzed. The NRC inspector reviewed this matter during the inspection.

The incident was uncovered by another employee who noted that computer printouts from an x-ray fluorescence spectrometer recorded analyses of calibration standards but not sample results. The licensee explained that a proper printout for each shift would include first the results of counting the calibration standards followed by the sample data. The sample data are then required to be recorded by hand onto a final data report form. The report form for the shift in question included data for 8 samples even though none were listed on the computer printout.

The licensee stated that the worker had been an employee at the facility for approximately 8 years and had worked in the laboratory for 5 years. He was not among the usual day shift laboratory staff but had been assigned to work on the night and weekend shifts. The worker was interrogated by plant management on August 15, 1986, and suspended without pay on August 16. The licensee stated that the employee would neither confirm nor deny the incident. The employee was officially terminated on September 12, 1986. The NRC inspector did not interview the worker who was no longer on site when the inspection began on September 15.

The laboratory manager stated that a review of printouts for previous weeks dating back to mid-July 1986 identified one other shift for which data had been apparently falsified by the same technician. The NRC inspector reviewed the data that had been falsified on the two identified occasions. All of the samples were water samples which were to have been analyzed for uranium. They consisted of eight samples obtained on Sunday, August 10, 1986, and three samples obtained on Saturday, July 19, 1986. Samples obtained from the same locations had been analyzed on the preceding and succeeding shifts. The results of these latter analyses were equal to or less than 0.01 g/l uranium. (This is equivalent to  $6.8E-6$  uCi/ml. The unrestricted area maximum permissible concentration is  $3E-5$  uCi/ml).

Three of the eleven samples were obtained from the combination effluent stream discharged to the river; however, these were grab samples for the purpose of immediately identifying a problem and not for regulatory compliance purposes. The licensee uses a continuous sampler to obtain a composite for analysis on day shift for regulatory compliance purposes. This latter sample is analyzed for uranium with a standard laboratory fluorimeter which is more accurate than the x-ray spectrometer. The grab sample is the means of obtaining pH data reportable to the EPA, but pH is also monitored by a strip chart recorder in the control room. The recorded indicated no anomalous data for the intervals in question.

Three samples were obtained from a ditch north of the emergency catch basin where rain water runoff collects from the site. Two samples were obtained from the discharge of the centrifuge used in the uranium recovery system used to process the water from the emergency catch basin. The last three samples were obtained from the HF scrubber within the plant. None of the above samples were required by regulatory agencies.

The laboratory manager stated that an investigation had been conducted to determine if any other sample data had been falsified. No further evidence could be found. Some of the other analytical equipment supplies a printout of the raw data like the x-ray spectrometer, but much of the equipment requires the technician to read the result directly from a display and record it on the data sheet. Printouts were available for other analyses, such as those for nitrates, performed by the technician during the shifts in question. These analyses were more complicated than the x-ray spectrometer analyses and always yield results greater than a

minimum detection limit. The licensee surmised that the technician had refused to run only those samples which he expected to be below the detection limit.

The laboratory manager described several measures to be implemented to better assure the quality assurance of data. Data sheets are now required to be signed by the analyst, and soon equipment will be installed which will imprint the date, hour, and minute that the data sheet is completed. For those analytical devices that can accommodate them, printers are to be installed. This will include instruments used to measure pH and ammonia. Some analyses will continue to be performed manually, however. These will include those for turbidity, conductivity, and total solids. The licensee will also utilize a system of blind spiked samples for quality assurance purposes. The NRC inspector reviewed the written laboratory analytical procedures and judged them to be appropriate.

In summary, there was no evidence that regulatory required samples had been compromised. Routine samples taken at the same locations before and after the shifts in question showed no anomalous results. The licensee has taken corrective action to prevent recurrence.

No violations or deviations were identified.

#### 4. Plant Pre-start Testing

The licensee continued operation of the solvent extraction and evaporation circuits during the week of the NRC inspection. Maintenance was being performed on the valves and pipes associated with the boil down tanks, the major work dealing with a leaking steam coil in one of the tanks. The licensee also performed a successful nitrogen pressure test on the hydrofluorination reactors.

As a result of the licensee laying off 104 hourly paid workers on Friday, September 19, 1986, all plant operations were halted effective September 20. The solvent extraction and evaporation circuits were shut down during the morning of September 19, but maintenance continued on the boil down tanks. The licensee stated that boiler maintenance was planned for the weekend.

#### 5. Exit Briefing

The NRC inspector met with the facility general manager on September 19, 1986, and summarized the findings of the inspection. No violations or deviations were identified.