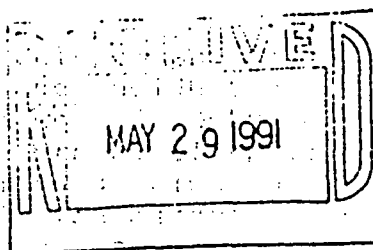


**SEQUOYAH FUELS**  
CORPORATION

May 24, 1991

Certified Mail  
Return Receipt RequestedMr. Robert D. Martin  
Regional Administrator  
Region IV  
U.S. NUCLEAR REGULATORY COMMISSION  
611 Ryan Plaza Drive, Suite 1000  
Arlington, Texas 76011RE: License No. SUB-1010; Docket No. 40-8027  
Incident of April 24, 1991  
10 CFR 20.405 Report

Dear Mr. Martin:

On April 24, 1991 Sequoyah Fuels Corporation (SFC) informed the NRC Region IV that the incident described herein had occurred; the NRC Operations Center Duty Officer was also notified. Early in the morning of April 24, 1991, an SFC employee discovered uncontained uranium on the fourth level of A-line hydrofluorination. The associated process was shut down until the situation could be assessed and corrective measures taken. It is believed that no significant quantities of material were released. A 10 CFR 20.403(b)(3) notification was made because of the potential for this section of the process to be down for repair for more than 24 hours.

The attached report is submitted pursuant to the requirements of 10 CFR 20.405(a)(1)(iv). Should you have any questions on this matter, please contact me at 918/489-3207.

Sincerely,

Lee R. Lacey  
Vice President  
Regulatory Affairs

LRL:nv

Attachment

xc: Keith E. Asmussen, General Atomics  
Charles J. Haughney, NRC - NMSS

SEQUOYAH FUELS CORPORATION

INCIDENT OF APRIL 24, 1991

(10 CFR 20.405)

1. Estimate of each individuals exposure:

The SFC health physics staff has evaluated the situation and determined that it did not contribute any exposure to personnel above normal operating conditions.

2. Levels of radiation and concentrations of radioactive materials involved:

In-situ radiation measurements were performed to characterize the areal extent of contamination. No direct surface measurements were made. The maximum removable reading on the roof was 5790 disintegrations per minute per one hundred square centimeters (dpm/100 cm<sup>2</sup>) alpha. The maximum removable reading on the fourth level of hydrofluorination was 3200 dpm/100 cm<sup>2</sup> alpha.

During decontamination activities both area air samples and breathing zone air samples were collected. An area air sample collected immediately upon recognition of the release recorded 10.4 MPC in the immediate vicinity of the release. The highest air sample result from a fixed station air sampler was 0.4 MPC on fourth level hydrofluorination. The maximum breathing zone air sample recorded 0.07 MPC-hours.

The fenceline air samples did not reveal the presence of airborne radioactivity above normal operating levels.

3. The cause of exposure, levels, or concentrations:

The cause of the leak is attributed to a crack around the upper half of the circumference of the weld where the screw inlet nozzle (UO<sub>2</sub> feed) enters the first stage A-line HF reactor shell. The crack was most likely caused by improper alignment of the UO<sub>2</sub> inlet screw conveyor and fatigue created by movement of the UO<sub>2</sub> seal bin (up and down on load cells) in relation to the stationary reactor.

4. Corrective steps taken or planned to prevent recurrence:

In order to provide for more adequate detection of these incidents, a system will be installed to detect leaks in the cooling ducts. The system will be designed to provide the capability to detect leaks into the system commensurate with the level of monitoring performed

elsewhere at SFC. Also, consideration will be given to amending the periodic preventative maintenance schedule to include alignment of the UO<sub>2</sub> inlet screw conveyor as necessary. Considering the similarity between this incident and the Unusual Event of April 3, 1991, SFC has placed a high priority on resolving the problem and implementing corrective actions.