

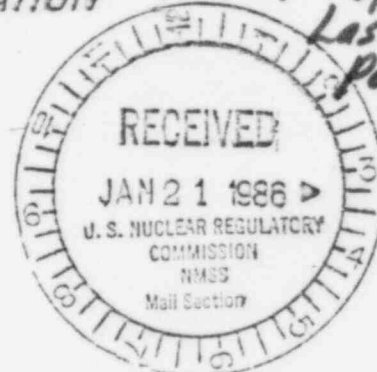
RETURN TO 396-SS

40-8027

PDR-W/O
Last
Page**KERR-MCGEE NUCLEAR CORPORATION**

KERR-MCGEE CENTER • OKLAHOMA CITY, OKLAHOMA 73125

December 19, 1979



Mr. Karl J. Seyfrit, Director
U.S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76012

Re: Docket 40-8027

Dear Mr. Seyfrit:

In accordance with 10 CFR 20.405 (a) (1), the Kerr-McGee Nuclear Corporation reports the accidental exposure of one employee to an airborne concentration of soluble uranium in excess of part 20 limits. The exposure occurred during the 40 hour work week of November 26 through November 30, 1979.

On Wednesday, November 28, 1979 at 11:15 a.m. Employee A opened a UF₆ pipeline valve to drain the No. 1 secondary cold trap into a 10 ton UF₆ cylinder. Almost immediately, a gasket failed in the pipeline flange about 8 feet away from the valve. Employee A promptly closed the valve stopping the UF₆ flow. A cloud of UO₂F₂·HF rapidly formed in Employee A's work area through which he evacuated. He was administered oxygen in the facility first aid room, and within 30 minutes was examined by a medical doctor. He received no chemical burns to the skin or eyes. He was further examined at a hospital for a two day period for lung damage and kidney damage. These tests were negative. Employee A returned to work on December 10, 1979 after a few days of rest at home.

Urine samples were collected from Employee A, on a timed basis after the exposure incident. Air samples of his work area were collected. Analysis of the samples showed that this employee had been exposed to 76 M.P.C. -hours which is a 40 hour average concentration of 1.9×10^{-10} $\mu\text{Ci/ml}$ (or 0.28 mg/M³ for natural uranium).

Effluent sampling and environmental sampling was appropriately conducted. No significant concentration reached the unrestricted area boundary and the uranium loss was well below that quantity requiring a report to the commission. Damage to equipment or facilities was minimal. No other employees were exposed beyond part 20 limits, however, all on-shift workers were requested to submit urine samples as a precautionary measure.

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Mr. Karl J. Seyfrid
December 19, 1979
Page Two

An investigation into the cause of the failed gasket was conducted. It was found that the pipeline in which the gasket is used was traced with electrical heating tapes to prevent the UF₆ from solidifying. Insulation had been placed over the heating tapes and the pipeline as well as the gasketed flange. The gasket material softened because of excessive heating. The gasket ruptured when the pressure of the UF₆ was exerted on the weakened gasket. Examination of similar pipelines heated by steam-tracing lines showed these gaskets to be unaffected.

Corrective action has been taken by eliminating the use of insulation when an electrical heat tape is used. Steam-tracing will be the preferred heating method.

Employee A is being furnished a copy of this letter in accordance with 10 CFR part 19 regulations. His name and identification are found on the attached Appendix A.

Sincerely yours

W.J. Shelley
W.J. Shelley

WJS:jh

Attachment

cc: Director of Inspection & Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Mr. Dale McHard
Radiation Protection Division
Oklahoma State Health Department