

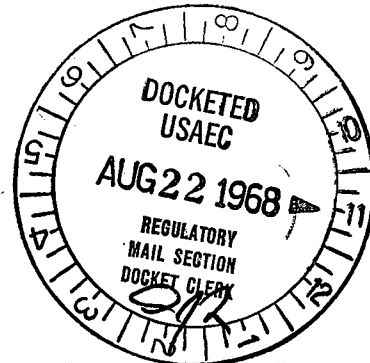
DOCKET NO. 70-925



**KERR-McGEE CORPORATION**

KERR-McGEE BUILDING • OKLAHOMA CITY, OKLAHOMA 73102

August 19, 1968



Mr. L. D. Low  
Director, Division of Compliance  
United States Atomic Energy Commission  
Washington, D. C. 20545

Reference: Special Nuclear Material License No. SNM-928,  
Docket No. 70-925.

Dear Mr. Low:

In accordance with the provisions of 10CFR20.405, as applicable to the reference license, Kerr-McGee Corporation reports on an accidental release of uranium hexafluoride at the Nuclear Division Cimarron Facility.

Notification of the incident was given to Mr. Boyce Grier, Director of Region III, AEC Division of Compliance, by telephone shortly after the incident and confirmed by telegraph. Also, the details of the incident have since been related by telephone to Messrs. G. P. Coryell, AEC Compliance Inspector, Region III, and William Kenna, District 2 Director, AEC Safeguards Office, Oak Ridge, Tennessee.

At about 6:40 p.m. on July 19, 1968, approximately 100.5 pounds of 1.65% enriched uranium hexafluoride as a gas was accidentally lost to the atmosphere at the Cimarron Facility. The incident consisted of a ground level release through a valve which was inadvertently left open during the startup operation of vaporizing the production feed material from a standard 12-inch cylinder. The low enriched uranium was to be fed to a process tank for conversion to ammonium diuranate. The situation was under complete control by 7:00 p.m. by closing the open valve in the newly installed manifold. Production activities for the remainder of the facility were essentially uninterrupted.

A cloud of uranyl fluoride formed while the  $UF_6$  was being released. This rapidly dispersed uncontrolled to the outside atmosphere in a northwesterly direction resulting in a release of airborne concentrations

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of radioactive material in excess of the limits of 10CFR20, Appendix B, Table II. It has been calculated that the concentration, averaged over a period of 24 hours, released to the unrestricted area may have been in the order of about  $4 \times 10^{-8}$  uCi/ml. Airborne uranium concentrations in the adjacent occupied areas of the  $UO_2$  process line averaged  $2.3 \times 10^{-12}$   $\mu$ Ci/ml for the 24-hour sampling period on July 19. The  $UO_2$  process area is separated from the vaporization area by an outside supporting wall of the building and the release occurred in the building extension to the south. The vaporizer area no doubt exceeded the maximum permissible concentration but the area is normally unoccupied and was not being sampled during the release.

Adequate environmental sampling and testing was conducted subsequent to the incident and included air sampling, surveys for surface contamination, soil and water analysis. The results have shown that the release of  $UF_6$  had a negligible effect on the environs of the Cimarron Facility.

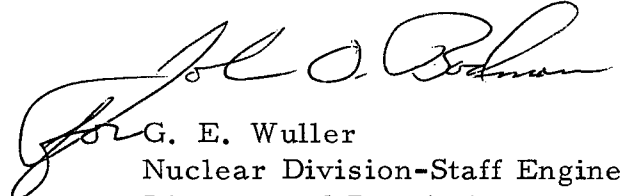
No property damage resulted from the incident. There was no overexposure of personnel. One supervisory employee was given medical treatment for minor skin burns around the exposed neck area which he received during a re-entry to the vaporization area to determine the source of the leak. Self-contained breathing equipment was worn during re-entry. Followup urinalysis were conducted and the results substantiate that no overexposure of personnel resulted from the release.

Plant operating procedures have been modified and maintenance check-off procedures have been put into effect to prevent a recurrence of the incident. No further investigation of the matter is planned.

Please advise should you require any additional information regarding this report.

Very truly yours,

KERR-McGEE CORPORATION

  
G. E. Wuller  
Nuclear Division-Staff Engineer  
License and Regulation

GEW:ml

cc: Mr. Boyce H. Grier, Director  
Region III, Division of Compliance  
U.S. Atomic Energy Commission

Mr. Dale McHard, Director  
Division of Occupational & Radiological Health  
Oklahoma State Department of Health