

Mr. Jess Larsen, Vice President
Cimarron Corporation
P.O. Box 25861
Oklahoma City, OK 73125

October 31, 1996

Dear Mr. Larsen:

The U.S. Nuclear Regulatory Commission staff has completed its review of the "Final Status Survey Plan for Phase II Areas for Cimarron Corporation's Former Nuclear Fuel Facility at Crescent, Oklahoma," dated July 1995. The staff's comments are enclosed. Cimarron is requested to submit a response to the enclosed comments. If you have any questions about these comments, please contact me at (301) 415-6664.

Sincerely,

[ORIGINAL SIGNED BY:]

Kenneth Kalman, Project Manager
Facilities Decommissioning Section
Low-Level Waste and Decommissioning
Projects Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

Docket No. 70-925
License No. SNM-928

Enclosure: As stated

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NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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Sincerely,

A handwritten signature in cursive script that reads "Kenneth Kalman".

Kenneth Kalman, Project Manager
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Comments on the Final Status Survey Plan for Phase II Areas of
Cimarron Corporation's Former Nuclear Fuel Fabrication Facility
Crescent, Oklahoma

1. Additional information is needed in several areas of the Final Status Survey Plan (FSSP). These areas include:

- (a) Surface Sampling for Open Land Affected Areas: Section 6.4.2 (pages 14-15) discussed soil sampling without referring to the number of samples within a 100 m² grid area. Section 8.5 (page 21) indicated that "soil sampling frequency will be specified in Cimarron Special Work Permit(s) and, where practicable, surface soil samples will be collected at a 5 meter interval." It is unclear if Cimarron will adopt a gridding/sampling protocol (for open lands affected areas) consistent with NUREG/CR-5849 (e.g., Figure 4-4), or will adopt a different sampling protocol. Therefore, additional information is needed to explain the surface sampling methodology within the 100 m² grid area.
- (b) Subsurface Gridding/Sampling for Open Land Affected Areas: Volumetric activity of soil was outlined in Section 6.4. Section 8.5 discussed surface soil sampling and locations. Will subsurface samples be collected? If subsurface samples are not proposed to be collected in some or all of the Phase II areas, please provide documentation to support the conclusion that the potential for subsurface contamination is low. The documentation should include a review of process knowledge, remediation survey results and characterization results, as applicable.
- (c) Hot-Spot Averaging Approach: Section 6.4.2 (page 14) indicated that "unaffected area hot-spot averaging will be performed for all locations, within 100 m² grid areas, which contain soil concentrations in excess of 30 pCi/g total uranium above background." It should be noted that NUREG/CR-5849 states that "identification of hot-spots for individual locations with activity levels in excess of 75% of the guideline values requires reclassification of the area as "affected". In addition, the plan should justify the hot-spot averaging approach for affected areas specifically when the sampling protocol within the 100 m² area is inconsistent with NUREG/CR-5849 (Figure 4-4). The FSSP should also discuss whether areas of elevated activity will be actually determined based on discrete sampling within the grid or will be assumed to have a constant value (e.g., 25 m² based on 5m x 5m grid sampling). If subsurface contamination is identified as a possibility in a given area, hot-spot averaging for subsurface media should also be discussed based on a well defined subsurface sampling protocol.

Enclosure

2. The FSSP (Section 8.0) discussed the characterization survey and soil sampling data without addressing the quality of data to be used in the final survey. Characterization data are acceptable for inclusion in the Final Status Survey (FSS) report. However, the quality of data (e.g., accuracy, precision, uncertainty, and minimum detectable limits) to be used in support of the FSS must be provided.
3. Section 6.3 (page 10) of the FSSP indicated that Warehouse Building #4 was never used to process radioactive materials. However, contamination was discovered (during additional surveys conducted in 1993) in several small areas, after the building was used for non-nuclear purposes. Please identify the source(s) of contamination on the floor of Warehouse Building #4. In addition, please define the extent of contamination.
4. The release limits for paved surfaces were discussed in Section 6.4.1 (pages 13-14) of the FSSP. It appears that the criteria (e.g., dpm/100 cm²) from NRC's "Guidelines For Decontamination of Facilities and Equipment Prior to Release For Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material," August 1987, will be used. It should be noted that NUREG/CR-5849 treats paved surfaces as open land areas. Please provide the basis for using a surface activity criterion (e.g., dpm/area) rather than a volumetric open land criterion (pCi/g) and selecting averaging over 100 m² area.
5. Please confirm that all drain lines have been excavated and will be surveyed as part of the FSS. Please describe the sampling methods used to delineate the boundaries of the affected areas along and below the drainage lines. Please provide the data to demonstrate that the boundaries of these affected areas have been adequately defined.
6. Section 6.3 (page 10) of the FSSP indicated that "two soil samples showed americium contents that were above background but below NRC's guidelines." However, in Section 6.1 (Identification of Contaminants), americium was not included among the contaminants. Please provide information regarding the concentration and source(s) of americium.
7. Were there any radioactive effluent discharges from the sanitary lagoons that could have affected surface/subsurface contamination in onsite or offsite areas?

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Letter dated 10/31/96

Docket No. 70-925
License No. SNM-928

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P.O. Box 25861
Oklahoma City, OK 73125

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Sincerely,

Kenneth Kalman, Project Manager
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