

CIMARRON CORPORATION

P. O. BOX 25861 • OKLAHOMA CITY, OKLAHOMA 73125

S. JESS LARSEN
VICE PRESIDENT

May 6, 1997

Mr. Kenneth L. Kalman, Project Manager
Facilities Decommissioning Section
Low-Level Waste and Decommissioning Projects Branch
Division of Waste Management
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

**Re: Docket No. 70-925; License No. SNM-928
CIMARRON CORPORATION**

Dear Mr. Kalman:

Cimarron Corporation takes this opportunity to respond to the NRC Staff Comments dated February 25, 1997 regarding "Comments on the Cimarron Corporation's Response to NRC Staff Comments of July 11, 1996, on the Decommissioning Plan for the Former Nuclear Fuel Fabrication Facility."

#1. NRC Comment

The first two comments presented by the NRC staff concerned Waste Ponds #1 and #2. By letter of November 8, 1996, the NRC staff transmitted revised questions about the Waste Ponds to Cimarron. Cimarron has stated that it cannot respond to this question until it has received guidance on volumetric averaging. Under separate cover, the NRC staff has recently provided a "Method for Surveying and Averaging Concentrations of Thorium in Contaminated Subsurface Soil", that could be used to address uranium concentrations at the Cimarron site. Cimarron is requested to provide its response to the revised questions. This issue will remain open until the NRC staff has approved Cimarron's response.

RESPONSE:

As referenced above, the November 8, 1996 letter from NRC requested that Cimarron Corporation provide a written response to the following two questions in Enclosure 1 to this NRC letter:



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A SUBSIDIARY OF KERR-McGEE CORPORATION

1. "Which alternative will Cimarron pursue for decommissioning Waste Ponds 1 and 2? What is the technical basis for that choice?"
2. "If Waste Ponds 1 and 2 are to be decommissioned under the Option 1 criteria, which hot spot averaging approach will be used? What is the technical basis for that choice?"

As discussed during the meeting with NRC staff in Washington, D.C. on April 10, 1997, Cimarron Corporation intends to decommission and release Waste Ponds #1 and #2 in accordance with the BTP Option #1 criteria. The "Method for Surveying and Averaging Concentrations of Thorium in Contaminated Subsurface Soil", as provided by NRC to Cimarron Corporation on February 25, 1997, will be utilized as the technical basis for volumetric averaging (i.e. hot-spot averaging). NRC approved of Cimarron Corporation applying this methodology for enriched uranium at the Cimarron site.

#2. NRC Comment

The NRC staff's Comment #4 requested additional information regarding groundwater contamination and the State of Oklahoma's classification of the affected aquifer. Cimarron submitted a groundwater report on January 2, 1997, this is currently under staff review. Furthermore, during a January 14, 1997 meeting, the Oklahoma Department of Environmental Quality (ODEQ) stated that it was also reviewing Cimarron's groundwater report and would be able to provide a classification of the affected aquifer in mid February, 1997. This issue will remain open until the NRC staff receives the ODEQ classification and completes its independent review of the groundwater report.

RESPONSE:

During the conference call with NRC staff on April 22, 1997, Cimarron Corporation informed NRC that they are continuing to meet with ODEQ/OWRB staff to discuss the various groundwater issues (ODEQ/OWRB most recently visited the site on 4/18/97). ODEQ/OWRB staff continue to review the groundwater reports and impacts at the Cimarron site and have indicated to NRC that they will provide their analysis to them. In addition, Cimarron Corporation currently plans to submit its responses to the NRC staff comments on the Groundwater Report no later than 5/30/97. Additional data has been collected from five (5) new wells recently installed around Waste Ponds #1 & #2. This information will be supplied to both NRC and the ODEQ when available. Cimarron Corporation also notes that ODEQ/OWRB raised the possibility of Cimarron Corporation entering into a Consent Agreement whereby Cimarron Corporation and the State of Oklahoma will take all responsibility for addressing groundwater issues at the site. The State's proposal is being reviewed by Cimarron Corporation.

#3. NRC Comment

The NRC staff's Comment #6 asked Cimarron to justify why, for paved surfaces, it was averaging over 100 m² as opposed to the 1 m² area recommended in "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of license for Byproduct, Source, or Special Nuclear Material (August, 1987)." Based on Cimarron's response and ensuing discussions with Cimarron, the NRC staff has agreed to treat paved surfaces as open land areas where the activity is averaged over 100 m² and as surface contamination for survey exposure guidelines.

RESPONSE:

NRC concurrence was received via conference call on March 6, 1997. Therefore, no further response is required of Cimarron Corporation.

#4 NRC Comment

The NRC staff's Comment #16 asked Cimarron to; (1) justify or rewrite the weighted average formula presented in the Decommissioning Plan, and (2) describe the basis for the "maximum average allowable activity" equation on the bottom of page 2-6 and to explain how this equation is related to potential dose impacts.

Cimarron's response that there was a typographical error in the weighted average formula responded to the first question. However, based upon its review of Cimarron's response, the NRC staff notes that additional work will be needed to comply with NUREG/CR-5849. First, the licensee will need to; (1) calculate the average activity for each survey unit including the mean and standard deviation of all measurements within each survey unit; (2) calculate the upper confidence limit for the data set; (3) compare the upper confidence limit with the guideline value and determine the need for additional measurements or further cleanup; (4) ensure that the average concentration over any 100 m² area is less than the guideline, and (5) apply the formula $(100/A)^{1/2}$ for concentrations between 200 and 300 pCi/g. Deviations from the NUREG/CR-5849 guideline may be considered appropriate. However, justifications for such deviations must be provided. Therefore, the first issue raised in the staff's question is still open.

Cimarron's response to the second question was satisfactory. In this regard, Cimarron has decided to abandon the use of the equation for the "maximum average allowable activity". In addition, the licensee has committed to remediate elevated activities exceeding 3 times the release criteria as indicated in NUREG/CR-5849. Therefore, this issue is considered closed. However, as noted in Comment #1 above, the NRC staff has recently provided a "Method for

Surveying and Averaging Concentrations of Thorium in Contaminated Subsurface Soil" that could be used to address uranium concentrations at the Cimarron site. If Cimarron elects to use this approach, that should be noted in responding to this comment.

RESPONSE:

As discussed in the response to Comment #1 above, Cimarron Corporation intends to utilize the "Method for Surveying and Averaging Concentrations of Thorium in Contaminated Subsurface Soil", as provided by NRC to Cimarron Corporation on February 25, 1997, to address Waste Ponds #1 & #2. NRC approved of Cimarron Corporation applying this methodology for enriched uranium at the Cimarron site.

#5 NRC Comment

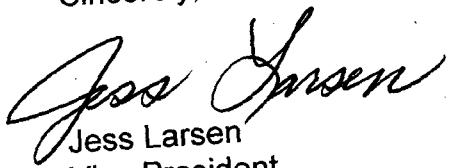
The Staff's Comment #18 asked Cimarron to provide additional information regarding characterization of the contaminated concrete in drainage and spillway areas. Cimarron's response was that additional surveys to further characterize the contaminated concrete in drainage and spillway areas are being performed. Cimarron noted that it will submit the complete characterization data, assumptions to be utilized to estimate the effective volumetric concentration levels, pathway analysis methods, and other pertinent assumptions will be submitted to the NRC in the final status survey reports for each of the specific Phase II Sub-Areas containing the contaminated concrete. Therefore, this issue will remain open until all of the NRC staff has reviewed and approved the final status survey reports for all of the Phase II Sub-Areas including those containing the contaminated concrete.

RESPONSE:

During a conference call with NRC staff on March 6, 1997, NRC staff indicated that they considered this comment closed and that no response was required. NRC staff stated that this was based upon the assumption that Cimarron Corporation would submit the applicable characterization and dose modeling information on the concrete located in the drainage areas in the Phase II Final Status Survey Report.

Please advise if there are further questions or any clarifications that we can make. We are intent on doing everything possible to expedite the NRC approval of the Decommissioning Plan, completing the necessary remediation of the Cimarron site and achieving license release.

Sincerely,

A handwritten signature in cursive script, appearing to read "Jess Larsen".

Jess Larsen
Vice President

cc: NRC Distribution List

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FAX TRANSMITTAL COVER SHEET
FAX NUMBER: 405-270-6039
KERR-McGEE CORPORATION
SAFETY & ENVIRONMENTAL AFFAIRS
McGee Tower 20th Floor

DATE : May 7, 1997

NUMBER OF PAGES
(INCLUDING COVER SHEET)

6

To : Ken Kalman

Company : U.S. Nuclear Regulatory Commission

Subject : Responses to NRC Comments on Decommissioning Plan

FAX. No. : 301-415-5398

FROM : Jess Larsen
Vice President
Telephone 405-270-2288

OF : Cimarron Corporation

MESSAGE:

Ken,

Please find attached a copy of the letter responding to NRC staff comments dated February 25, 1997, regarding prior comments and responses about the Cimarron Decommissioning Plan.

The original letter will come to you through normal channels, along with the Schedule for remaining decommissioning.

Regards,

Jess Larsen
Attachments

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