

May 21, 2004

Mr. Jeff Lux, Manager
Planning and Regulatory Compliance
Cimarron Corporation
P.O. Box 315
Crescent, OK 73028

SUBJECT: SUMMARY OF MAY 4, 2004, MEETING REGARDING GROUNDWATER
REMEDATION AT THE CIMARRON FACILITY IN CRESCENT, OKLAHOMA

Dear Mr. Lux:

Enclosed is a summary of the subject meeting. If you have any questions regarding this letter, please contact me at (301) 415-6664 or by e-mail at klk@nrc.gov.

Sincerely,

/RA/

Kenneth L. Kalman
Project Manager
Materials Decommissioning Section
Division of Waste Management
and Environmental Protection
Office of Nuclear Material Safety
and Safeguards

Enclosure:
Summary of 5/4/04 Meeting

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

cc: Cimarron distribution list

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ML041400299

*See previous concurrence

OFC:	DECD		DECD		DECD	
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**SUMMARY OF MAY 4, 2004 NRC/CIMARRON MEETING
REGARDING GROUNDWATER REMEDIATION AT THE CIMARRON FACILITY**

Attendees

NRC

Daniel Gillen, DWMEP
Stephanie Bush-Goddard, DWMEP
Ken Kalman, DWMEP
Mark Thaggard, DWMEP
Jon Peckenpaugh, DWMEP
John Bradbury, DWMEP
Marjorie Rothschild, OGC
Tom Nicholson, RES
Jacob Phillip, RES

Cimarron

Mike Logan
Jeff Lux
Karen Morgan
Richard Waters
Steve Marshall
Harry Newman

Oklahoma Department of Environmental Quality

Jerry Matthews,
David Cates
Ray Roberts
Mark Conley

Summary

On May 4, 2004, the U.S. Nuclear Regulatory Commission (NRC) staff met with representatives of Cimarron Corporation at NRC Headquarters, in Rockville, MD, to discuss Cimarron's plans for groundwater remediation at the Cimarron site. Staff from the Oklahoma Department of Environmental Quality also participated in the meeting via telephone. Cimarron staff had requested this meeting to discuss technical issues related to remediation of the uranium (U) plume, regulatory issues concerning relicensing of contaminated areas, and regulatory issues concerning technetium-99 (Tc-99).

Technical issues related to remediation of the Uranium Plume

Cimarron staff noted that several wells exceed the release limits for U and Tc-99, but only the wells around Burial Area 1 significantly exceed the limit. Cimarron staff discussed data and trends in U concentrations at these wells. During this discussion, NRC staff pointed out that additional work from the hydrological and geochemical standpoint may be necessary to better characterize and model the contaminated groundwater. The NRC staff also noted that modeling would be useful to help determine whether bioremediation or natural attenuation

would be more effective. As either method is likely to necessitate long term monitoring, the NRC staff noted that the time interval between monitoring events may be reduced to less than quarterly while Cimarron is working to bring groundwater concentrations down to release criteria, but quarterly monitoring would be necessary when Cimarron is ready to demonstrate compliance with the release criteria.

Regulatory issues concerning relicensing of contaminated areas

For more than a year, Cimarron has been considering the use of bioremediation to reduce U concentrations in the groundwater within and adjacent to Burial Area 1. Cimarron staff has decided that it may be more cost effective to pursue natural attenuation, the method that was originally contemplated in Cimarron's Decommissioning Plan (DP).

Previous discussions and correspondence with Cimarron have resulted in the issue of relicensing the area around the U plume because licensable material is now in an area that had been released for unrestricted use. Cimarron staff noted that in addition to the U plume from Burial Area 1, there were other areas on site where groundwater exceeds the release criteria, although not as significantly. This prompted Cimarron staff to ask whether these areas would also have to be pulled back into license. Cimarron also asked whether relicensing was necessary as Cimarron plans to maintain control of the property and that the license will not be terminated until Cimarron has met its release criteria. NRC staff replied that it would be amenable to Cimarron proposing controls over the areas of concern instead of relicensing, but that it would be up to Cimarron to decide if it wanted to pursue that option.

Cimarron staff also asked whether Site Decommissioning Management Plan (SDMP) or License Termination Rule (LTR) criteria would be applicable to the areas yet to be remediated. The NRC staff replied that it had considered applying LTR criteria to areas that may be brought back into license and determined that SDMP criteria would be applicable regardless of whether Cimarron uses bioremediation or natural attenuation. The NRC staff also noted that Cimarron's DP had been approved on the assumption that natural attenuation would be used to meet the release limits. If a different technology was used, under 10 CFR 70.38(g)(1), it is likely that a new DP would have to be submitted.

Regulatory issues concerning Tc-99

Cimarron staff presented a chronology of events since the presence of Tc-99 was first reported to NRC in October 1996. Cimarron staff noted, by letter of December 2, 1996, that NRC staff originally told Cimarron to request a license amendment for the possession of Tc-99. However, after further discussion, by letter of April 22, 1997, NRC staff told Cimarron that Tc-99 need not be listed on Cimarron's license as "decommissioning of licensed facilities includes the removal or stabilization of all radionuclides, even if they are not listed on the license." During this meeting, NRC staff maintained its position that Tc-99 does not have to be listed on the license but, it does have to be removed or stabilized to meet the 4 mrem/yr dose criteria incorporated by reference in the SDMP action plan.

The next issue discussed was the basis for 3,790 pCi/L Tc-99 groundwater release criteria. NRC staff has cited this criteria in previous license correspondence with Cimarron. When Cimarron first reported the presence of Tc-99, the SDMP Action Plan referred NRC staff to the U.S. Environmental Protection Agency (EPA) interim guidance. Under this guidance, the Tc-99

limit is 4 mrem per year. Using the International Commission on Radiological Protection (ICRP) 26/30 methodology (Federal Guidance Report 11), the NRC staff equated 4 mrem to a concentration of 3790 pCi/l. NRC staff has since been using that as the "NRC derived concentration" in correspondence with Cimarron. Using ICRP 2, EPA's MCL for Tc-99 is 900 pCi/l. During this meeting NRC staff stated that it will continue to use the NRC derived concentration of 3790 pCi/l as the release criteria for the Cimarron site.

During the meeting Cimarron staff noted that Tc-99 concentrations in Well 1312 have been exceeding 4,000 pCi/l. Cimarron staff agreed to provide NRC staff with data from its March 2004, sampling for the NRC staff to consider as part of its review of the groundwater assessment report that Cimarron submitted in December 2003.

Other issues

In addition to the aforementioned discussion, Cimarron also agreed to submit geologic cross sections of the area around Well 1206. NRC staff agreed that by Monday, May 10, 2004, it would inform Cimarron if there were wells that it was particularly interested in Cimarron sampling during the routine sampling scheduled for the week of May 25, 2004.