

**U.S. NUCLEAR REGULATORY COMMISSION
KERR-MCGEE CIMARRON CORPORATION, Crescent, OK
DOCKET: 70-0925
SAFETY EVALUATION REPORT:
AMENDMENT 19 OF CIMARRON CORPORATION'S LICENSE (SNM-928) REGARDING
LICENSE CONDITIONS 22, 23, AND 27e (TAC #L60527)**

BACKGROUND

By letter dated August 19, 2003, the licensee, Cimarron Corporation, requested an amendment to License Conditions 22, 23, and 27e of License SNM-928. Pursuant to discussion with U.S. Nuclear Regulatory Commission (NRC) staff, Cimarron supplemented this request by letter dated December 11, 2003, and telephone conversation of February 20, 2004. The actions being requested are to (1) delete License Condition 22, as the specific requirements of this condition have been completed; (2) revise License Condition 23, as some of the specific requirements have been completed; and (3) revise License Condition 27e to clarify the intent of this condition and to enable certain changes to radiation protection program procedures under the authority of Cimarron's Corporate Radiation Safety Officer (RSO).

DISCUSSION

License Condition 22

This condition authorizes the licensee to breach the berms and close the two East and West Sanitary lagoons in Subarea L and backfill the former burial ground in Subarea F. In its letter of August 19, 2003, the licensee requested that this condition be deleted as the requirements of this license condition had been completed.

Cimarron backfilled the two sanitary lagoons in 1993. An NRC confirmatory survey of Subarea L was documented in NRC Inspection Report 70-925/99-02. This survey confirmed that: (1) all soil samples had uranium concentrations below the 30 picocurie per gram (pCi/g) limit for unrestricted release as specified in Option 1 of the Branch Technical Position (BTP), "Disposal or Onsite Storage of Thorium or Uranium Wastes from Past Operations" and (2) radiation exposure levels were less than 10 microrem per hour (uR/hr) above background levels. Furthermore, no health or safety hazards were identified.

In 1991, NRC's contractor, the Oak Ridge Institute for Science and Education (ORISE) performed a confirmatory survey of the burial ground in Subarea F and reported to NRC that the area had been decommissioned in accordance with the BTP Option 1 criteria. NRC released this area for backfill on December 30, 1992, and Cimarron backfilled the burial ground in 1993. Subsequent site visits by NRC staff have confirmed that the burial ground was backfilled in accordance with License Conditions 22a, b, d, and e.

License Condition 22c required the licensee to "provide to the Oklahoma State Department of Health (OSDH) whatever information is required to satisfy state requirements on the presence/absence of potentially toxic substances or any other nonradioactive constituents of the fill and cover soil." Pursuant to License Condition 22c, a March 30, 1992, letter from OSDH noted that, "the selection of an undeveloped area of the Crescent site greatly simplifies *its* task of determining the presence/absence of potentially toxic substances or any other

nonradioactive constituents of the fill and cover soil.” However, the OSDH letter then identified the need for further information regarding the sampling and analyses of the backfill material. Cimarron provided this information in letters to OSDH dated April 8, 1993 and June 1, 1993.

There was no documentation from Oklahoma Department of Environmental Quality (ODEQ) noting whether the State requirements had been satisfied. However, at the request of NRC staff, on February 11, 2005, ODEQ sent NRC staff an e-mail stating that ODEQ had reviewed its files for the site pertaining to License Condition 22c and determined that the sample results for the soil material proposed for backfill did not contain any potentially toxic substances or nonradioactive constituents of concern. Based on ODEQ’s e-mail, the NRC staff concluded that Cimarron met the requirements of License Condition 22c. NRC staff discussed the proposed deletion of License Condition 22 with ODEQ staff during several telephone conferences in February 2005, and ODEQ raised no objections regarding this matter.

NRC staff concludes that all work addressed in License Condition 22 has been completed and all the requirements of this condition have been met. Therefore, this condition can be deleted from the license without any adverse impact on health, safety, or the environment.

License Condition 23

License Condition 23 authorizes the licensee to dispose of low-enriched uranium contaminated soil in the BTP Option 2 range (up to 100 pCi/g for soluble uranium and up to 250 pCi/g for insoluble uranium) in an on-site burial cell located in Subarea N.

In its letter of August 19, 2003, the licensee noted that all requirements of this license condition have been completed except for the action described in the last two sentences contained in License Condition 23d. Those sentences state, “The licensee shall periodically monitor the disposal area for subsidence, erosion, and status of the vegetative cover for at least 5 years, and promptly repair any problems noted. Any additional measures necessary to prevent recurrence of determined problems shall be undertaken.” With the exception of the two sentences in 23d, the licensee stated that there is no further need for the remainder of this condition and requested that License Condition 23 be amended accordingly.

On June 24-27, 2002, NRC staff conducted a confirmatory survey of the burial cell in Subarea N and documented its findings in NRC Inspection Report 70-925/02-01. Confirmatory measurements included exposure rate measurements, direct measurements of total alpha and beta contamination, groundwater and soil samples. All measurements were below the release criteria of License Condition 27 of Cimarron’s license (SNM-928) and the BTP Option 1 limit. Material emplaced in the Option 2 on-site burial cell was less than half the concentration limit for that material. No health or safety hazards were identified. Other site visits by NRC staff have confirmed that the on site disposal cell was constructed, closed and marked in accordance with License Conditions 23a, b, c, d, and e.

License Condition 23e also required notification to be placed on the land title to declare that uranium-contaminated soil has been buried on the site and to record the volume, average uranium concentration, and exact location of the buried soil. On September 19, 2002, Cimarron filed an addendum to the deed to provide the required notice of the contaminated soil buried in the cell.

The April 19, 1994, On-Site Disposal Plan, which is referenced in License Condition 10 of Cimarron's license (SNM-928), stated that Cimarron will prepare a narrative report that will include,

“ a summation of the volume of Option 2 material disposed, the types and quantities of radionuclides contained in the on-site disposal cell, the time period over which the disposal occurred, the physical characteristics of the disposed Option 2 material and disposal cell identification. This report and all associated records of on-site disposal of Option 2 material shall be maintained until 3 years after termination of the license.”

NRC staff confirmed that the reporting requirement was fulfilled in Cimarron's "BTP Option 2 On-site Disposal Cell Report," dated December 2001.

Consequently, the NRC staff has determined that the licensee has met all of the requirements of License Condition 23 except for the last two sentences of License Condition 23d. The NRC staff concludes that this condition can be revised with no adverse impact on health and safety or the environment. The last two sentences of License Condition 23d will now appear as License Condition 23a. The NRC staff has determined that the licensee has met all the requirements of License Condition 23e for marking the corners of the disposal cell and for noting the existence of the disposal cell on the deed. However, to ensure that the markers are maintained, the staff will revise License Condition 23e accordingly and rename it License Condition 23b.

License Condition 23f, which requires the licensee to achieve occupational doses and doses to members of the public that are as low as reasonably achieved (ALARA) will be retained as License Condition 23c.

License Condition 27e

License Condition 27e authorizes Cimarron to make certain changes to the DP or RPP and associated procedures without prior NRC approval provided that those changes meet the specific criteria stated in License Condition 27e.

During a June 2002 inspection, an NRC inspector noted that the ALARA Committee was not approving certain procedures which are subordinate to Cimarron's Radiation Protection Plan (RPP), such as procedures for calibrating equipment or the procedure for analyzing air samples. Cimarron staff explained that the ALARA Committee provides administrative oversight and reviews documents to ensure that decommissioning plans and operations are conducted in accordance with ALARA policy. Changes to procedures such as calibrating equipment or analyzing samples are reviewed by the Radiation Safety Officer (RSO), as noted in the Procedure Review, Approval and Control section of Cimarron's RPP. Other NRC staff, who were on-site during the inspection, supported Cimarron's explanation. Following this discussion, NRC and Cimarron staff agreed that this license condition should be clarified to avoid misinterpretation in the future.

By letter of August 19, 2003, and as supplemented by letter of December 11, 2003, Cimarron requested that License Condition 27e be revised to clarify that only changes to the facility or process, tests, and experiments presented in the RPP or the Decommissioning Plan (DP) shall be reviewed by the ALARA Committee. In addition, the licensee requested that this license

condition be revised to clarify that changes to the associated radiation protection procedures only require review by the RSO. The RSO's authority to review and approve changes to the such procedures is documented in the Procedure Review, Approval and Control section of Cimarron's RPP.

By letter of August 19, 2003, as supplemented by letter of December 11, 2003, Cimarron requested that the following changes be made to License Condition 27e:

27e. The licensee is authorized to make certain changes to the NRC-approved Decommissioning Plan (DP) and Radiation Protection Plan (RPP), ~~and associated procedures~~ without NRC's approval, if these changes are consistent with the ALARA principle and the decommissioning process. All changes shall be approved by the Cimarron ALARA Committee, subject to the following:

1. The licensee may, without prior NRC approval, and subject to the requirements specified in Parts 2 and 3 of this condition:

- a. Make changes in the facility or process, as presented in the NRC-approved DP and RPP;
- b. Make changes ~~in the procedures presented~~ in the NRC-approved DP, RPP, or applicable license conditions; and
- c. Conduct tests or experiments not present in the NRC-approved DP or applicable license conditions.

In addition, License Condition 27e.4 would be added to ensure that all radiation protection program procedures or revisions to these procedures are reviewed and approved by the Radiation Safety Officer.

NRC staff agreed with the proposed revision to License Condition 27e, except for the revision to License Condition 27e.1.b. If so revised, License Condition 27e.1.b would enable Cimarron to make changes to applicable license conditions without NRC approval. Only NRC can make changes to the license conditions. Pursuant to a March 16, 2005 telephone conversation, NRC staff and the licensee agreed to delete License Condition 27e.1.b to clarify the distinction between the authority of the ALARA Committee and the RSO. License Condition 27e.1.c will now replace License Condition 27e.1.b. The RSO's authority to review changes in procedures will be addressed by the addition of License Condition 27e.4.

Based on its review, the NRC staff has concluded that the requested amendments to License condition 27e will enhance the clarity of this license condition and will have no adverse impact on health, safety or the environment.

CONCLUSION

The NRC staff has determined that the license amendment discussed in this SER is in accordance with Cimarron's approved DP and meet regulatory requirements. Therefore, the staff concludes that there is reasonable assurance that the proposed action will not adversely impact upon the health and safety of the public or the environment.