



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION IV  
1600 E. LAMAR BLVD  
ARLINGTON, TX 76011-4511

March 2, 2018

MEMORANDUM TO: Docket File 070-00925

THROUGH: Ray L. Kellar, P.E., Chief/RA/  
Fuel Cycle and Decommissioning Branch  
Division of Nuclear Materials Safety

FROM: Martha R. Poston, Health Physicist/RA/  
Fuel Cycle and Decommissioning Branch  
Division of Nuclear Materials Safety

SUBJECT: CIMARRON SITE VISIT, CRESENT, OKLAHOMA

On September 19, 2017, staff from the U.S. Nuclear Regulatory Commission (NRC) Region IV office, attended a meeting with Cimarron Environmental Response Trust, at their corporate office located in Oklahoma City, OK. The purpose was to discuss changes to their decommissioning plan. On September 20, 2017, Region IV staff toured the Cimarron site to observe its current status, including compliance with license conditions. Enclosed with this memorandum is the NRC's trip report for this site visit.

In summary, site representatives continued to maintain the site in accordance with license requirements. No significant regulatory issues or safety concerns were identified during this visit.

Docket: 070-00925  
License: SNM-928

Enclosure: NRC Trip Report

U.S. NUCLEAR REGULATORY COMMISSION  
REGION IV

Docket: 070-00925

License: SNM-925

Licensee: Cimarron Environmental Response Trust

Facility: Cimarron/Kerr-McGee Uranium Plant  
Logan County  
Crescent, Oklahoma

Dates: September 19 - 20, 2017

Inspector: Martha R. Poston, Health Physicist  
Fuel Cycle and Decommissioning Branch  
Division of Nuclear Materials Safety

Approved by: Ray L. Kellar, P.E. Chief  
Fuel Cycle and Decommissioning Branch  
Division of Nuclear Materials Safety

Attachment: Pictures taken at Cimarron site

Enclosure

## **NRC Trip Report**

### **1 Background**

The Cimarron site was used to fabricate enriched uranium and mixed oxide fuels for nuclear reactors from 1965-1975. On site, there were several buildings, collection ponds, sanitary lagoons, storage area and burial areas. Originally, the site was owned and operated by Kerr-McGee Corporation the site was later operated by Cimarron Corporation, a fully owned subsidiary of Kerr McGee. In 2005, ownership of Cimarron Corporation was fully transferred to Tronox Incorporated, who filed for bankruptcy in 2009. In 2011, Cimarron Environmental Response Trust assumed responsibility for the Cimarron site, including completion of the decommissioning activities. The Cimarron site is approximately 340 hectares (840 acres) along the southern bank of the Cimarron River about 1 kilometer (0.5 miles) north of the intersection of Oklahoma State Highways 33 and 74, and approximately 40 kilometers (25 miles) north of Oklahoma City.

Decommissioning efforts were initiated in 1976. Characterization activities and decommissioning were first conducted for the mixed oxide fuel fabrication (MOFF) building and associated areas, which include evaporation ponds, emergency ponds, sanitary lagoons, underground tanks, a septic tank and a fenced area around the MOFF building. In 1990, the Cimarron Corporation submitted a final survey of the MOFF building and associated areas to the NRC and requested termination of the MOFF license. The NRC had a final confirmatory survey conducted and terminated the MOFF license, consistent with the regulations in place in 1993. However, the land and the MOFF building were not released for unrestricted use because they were within the bounds of the uranium fuel fabrication license.

Characterization activities and decommissioning plans were develop and approved by the NRC for facilities associated with the uranium fuel fabrication license. The site was divided into three areas that included affected areas and unaffected areas. Less than 20 percent of the site was impacted by nuclear operations. These areas were further divided into subareas. The Cimarron Corporation submitted a final status survey report for each subarea when decommissioning activities were complete for that area. Following the NRC review and acceptance, subareas were released for unrestricted use and removed from the uranium fuel fabrication license. By early 2000's the majority of the site had been released for unrestricted use.

Uranium concentrations in groundwater were in excess of release criteria for some subareas – Burial Area #1, Western Alluvial Area, and Western Upland Area. Plans were developed to lower the uranium concentrations through groundwater remediation. Progress in this area was delayed when Tronox filed for bankruptcy in 2009. Cimarron Environmental Response Trust took responsibility for the site in 2011. A preliminary remediation plan was submitted in 2015. The licensee has proposed additional changed to this remediation plan. The purpose of this site visit was to discuss the proposed changes to this remediation plan.

## **2 Site Status**

On September 19 and 20, 2017, the NRC staff met with Burns & McDonnell staff managing the Cimarron Environmental Response Trust at their downtown Oklahoma City location and visited the Cimarron site in Logan County, Oklahoma. The visit served several purposes:

- Discussion of proposed changes to the soil/groundwater decommissioning plan
- Observation of recent activities on site as the trust prepares for remediation

Attendees at the meeting and site visit were:

Ken Kalman, Project Manager, NRC HQ

Christine Pineda, Senior Project Manager, NRC HQ

Lifeng Guo, Hydrogeologist, NRC HQ

Robert Nelson, Health Physicist, NRC HQ

Marti Poston, Health Physicist, NRC Region IV

Jeff Lux, Project Manager, Burns & McDonnell

Bill Halliburton, Principal, Environmental Global Practice, Burns & McDonnell

Paul Davis, Environmental Programs Specialist, Oklahoma DEQ

On September 19 the NRC team participated in a meeting at the downtown offices of Burns & McDowell located at 615 North Hudson, Suite 200, Oklahoma City, OK 73102. During this meeting the licensee provided information associated with their proposed changes to the decommissioning plan. Changes included, but were not limited to: 1) elimination of the nitrates only treatment stream; 2) elimination of the radionuclides only treatment stream; 3) redesign of the treatment building layout to allow for larger access ways to facilitate tank replacement/change out, and; 4) construction of office spaces in the treatment facility. The slides and documentation presented during the meeting were provided to the Project Manager. The revisions to the decommissioning plan will be provided to the NRC Headquarters for review and approval.

On September 20, the NRC toured the site with the licensee. The site tour included the proposed locations for the treatment facility, the UP1 Pilot Test site, the UP2 pilot test site, and the BA1 pilot testing area. The BA1 pilot testing area was being cleared of brush and trees and prepared at the time of the site tour. The other areas had stakes indicating the lines of the trenches and midpoints but had not undergone any construction and/or preparation.

## **3 Conclusions**

The licensee appeared to be maintaining the site in accordance with license requirements. The NRC staff did not identify any significant safety issues during the site tour.





Figure 1: Entering BA#1 area



Figure 2: BA#1 standing at midpoint (GETR-BA1-01A) looking northwest





Figure 3: Proposed treatment plant location



Figure 4: Proposed midpoint well for UP2 area trenches



Figure 5: Proposed midpoint well for UP1 trenches

070-00925 CIMARRON SITE VISIT, CRESENT, OKLAHOMA – DATED MARCH 2, 2017

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