

September 18, 2000

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

SUBJECT: RESPONSE TO NUCLEAR REGULATORY COMMISSION'S  
COMMENTS ON "CIMARRON PROGRESS REPORT REGARDING  
BURIAL AREA #1 GROUNDWATER EVALUATION"  
DATED JUNE 19, 2000

Dear Mr. Larsen:

The Nuclear Regulatory Commission (NRC) staff has reviewed your "Response to NRC Comments on Cimarron Progress Report Regarding Burial Area #1 Groundwater Evaluation" dated June 19, 2000. Although your response addressed most of our comments, there are still some points that require additional clarification:

1. Page 2 and 3, Comment 1b response: The existing and planned monitoring wells for characterization of the plume should also be used as permanent monitoring wells during and after remediation. Maintaining wells in the same location will better enable us to determine changes over time such as seasonal and annual changes. Will your plume characterization procedures be able to delineate vertical variations of the plume within the shallow or alluvial aquifer?
2. Page 3, Comment 2a response: Your response is unclear about the top and bottom of the screens for the 1985 monitoring wells. Are the top and bottom screen elevations in the 1989 Grant report correct? Table 1 (page 3) of this response document do not have the screened elevations for these wells.
3. Page 5 and 6, Comment 2f response: You noted that you had plugged and abandoned wells TMW-3, 10, 11, and 12. We recommend against abandoning any other wells at this stage of characterization of the site. Multiple wells sampled at various vertical depths can provide additional information on both the vertical and horizontal distribution of the uranium plume. Multiple well data may appear confusing, but with more time-related information (e.g., uranium concentrations in the ground water, water levels for each monitoring well, surface water flooding calibrated to river stage, and recharge to the ground water), what appears to be arbitrary changes in uranium ground-water concentrations may show patterns. Even though this may appear to be a small area, the apparent complexity of the ground-water systems may require a fairly dense pattern of monitoring wells, some at clusters that are screened at different vertical zones. Also, if the wells are properly installed, the impact of river flooding on the different water bearing units (alluvial and sandstone water bearing units) would be minimized. Please provide information on the frequency, depth, and length of time that the Cimarron River floods this area.

J. Larsen

4. Page 7, Comment 3a response: We have concerns regarding your statement that there is no groundwater recharge during years of average precipitation. We believe that different methodologies for calculating recharge would yield recharge values for years of average precipitation. For example, using the United States Geological Survey Water Investigations Report 85-4236, "Effects of Climate, Vegetation, and Soils on Consumptive Water Use and Ground-Water Recharge to the Central Midwest Regional Aquifer System, Mid-Continent United States," our preliminary evaluation of this area indicates that the annual recharge would be approximately 3.0 inches.

Also, the data that you referenced for the On-site Disposal Cell represents an upland site, whereas the adjacent impacted area that we are currently looking at is both an upland and flood plain site.

If you have any questions regarding this letter requesting additional clarification, please contact Ken Kalman at (301) 415-6664.

Sincerely,

**/RA/**

Larry W. Camper, Chief  
Decommissioning Branch  
Division of Waste Management  
Office of Nuclear Material Safety  
and Safeguards

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

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Cimarron Corporation Distribution List      Letter dated 09/18/00

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License No. SNM-928

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Oklahoma City, OK 73117-1212

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Also, the data that you referenced for the On-site Disposal Cell represents an upland site, whereas the adjacent impacted area that we are currently looking at is both an upland and flood plain site.

If you have any questions regarding this letter requesting additional clarification, please contact Ken Kalman at (301) 415-6664.

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