

70-925

CIMARRON CORPORATION

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S. JESS LARSEN
VICE PRESIDENT

August 28, 1996

Mr. Ken 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

Ref: Docket No. 70-925; License No. SNM-928
Cimarron Corporation
Description of DAP-4 Hot Spot Averaging Procedure

Dear Mr. Kalman:

Your August 15, 1996, letter approving of placement of DAP-4 into the on-site disposal cell requested that Cimarron Corporation submit a written description of the procedure used for evaluating a 5 x 5 meter grid for surface and subsurface sampling data. The description is also to include an evaluation of how the "Hot-Spot Averaging" methodology contained in NUREG/CR-5849 [i.e. (100/A)^{1/2} times the guideline value] is applied by Cimarron Corporation. The guideline value for the Option #2 stockpiles and the approved on-site disposal cell is 100 pCi/g.

Cimarron Corporation has previously submitted the following documents regarding the BTP Option #2 stockpiles (DAP's 1 through 3) and in-situ characterization of soils placed in pit #3 of the approved on-site disposal cell:

1. Letter dated November 15, 1994 regarding the performance of Hot-Spot averaging calculations and additional sampling in reference to BTP Option #2 Stockpiles DAP-1 & 2.
2. Revision 1 to the "On-Site Disposal Plan" submitted to the NRC in January, 1995.
3. April 25, 1996 letter from Mr. Jess Larsen to Mr. Ken Kalman regarding the on-site disposal cell, pit #3, and NRC response letter dated June 10, 1996 to Mr. Jess Larsen from Mr. Ken Kalman.

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Cimarron Corporation continues to utilize a 5 x 5 meter grid system for the final status survey of Option #2 stockpiles and in pit #3 of the approved on-site disposal cell. **This final status survey approach does NOT apply to the five former waste water ponds which were closed in 1978 with the approval of both the NRC and the State of Oklahoma.** A 5 x 5 meter grid system is being used for characterization of the DAP stockpile and pit #3, for both surface and subsurface surveys and sampling, in order to demonstrate compliance with the BTP Option #2 criteria. Samples are taken on 5 x 5 meter grid intersects on 0.5 meter depth intervals (i.e. 0.0-0.5 meters, 0.5-1.0 meter, etc) for the stockpiles. Samples will be taken on 5 x 5 meter grid intersects on 1 foot depth intervals (i.e. 0-1 feet, 1-2 feet, etc.) in pit #3 of the approved on-site disposal cell.

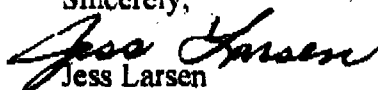
Therefore, when utilizing the $(100/A)^{1/2}$ times the guideline value formula for 5 x 5 meter grid systems, the "Hot-Spot" average concentration is calculated to be 200 pCi/g [i.e. $(100/25)^{1/2} \times 100$ pCi/g = 200 pCi/g total uranium]. When performing final status survey work on Option #2 stockpiles and in pit #3 of the approved on-site disposal cell, any sample results which exceed 200 pCi/g require additional characterization.

In the event that a grid size of less than 5 x 5 meters is utilized, the total area represented will decrease. This smaller area will then be utilized to determine compliance with the Hot-Spot Averaging formula $(100/A)^{1/2}$. For example, if a 4 x 4 meter grid is utilized, the total area represented would be 16 square meters and the corresponding Hot-Spot "limit" would be 250 pCi/g [i.e. $(100/16)^{1/2} \times 100$ pCi/g = 250 pCi/g]. However, in no case will the limit exceed a maximum of three times the guideline value or 300 pCi/g.

Again, I note that this approach is not and has not been applied to the five former waste water ponds closed in 1978.

Please feel free to contact me if there are any additional questions or concerns, or if we can be of any further assistance.

Sincerely,



Jess Larsen

Vice President

cc: J. C. Stauter

J. L. Kegin

K. A. Morgan

M. J. Lauderdale

R. A. Meserve - Covington & Burling

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