June 17, 2010

Mr. Christopher Clayton
U.S. Department of Energy
Office of Legacy Management
1000 Independence Avenue, SW
Washington, DC 20585

SUBJECT: URANIUM CONCENTRATIONS IN MONITORING WELL T(M) AT THE BLUEWATER, NEW MEXICO, DISPOSAL SITE

Dear Mr. Clayton:

This letter is in response to the Department of Energy's (DOE's) May 26, 2010, letter to the U.S. Nuclear Regulatory Commission (NRC) regarding uranium concentrations in monitoring well T(M) at the Bluewater, New Mexico, disposal site. NRC appreciates DOE's notification that uranium concentrations in the alluvium point-of-compliance (POC) well T(M) have been trending upward and may exceed the Alternate Concentration Limit (ACL) of 0.44 mg/l uranium in the near future.

Your letter states that based on data from Homestake Mining Company (HMC) and the New Mexico Environment Department (NMED), DOE suspects that HMC's pumping of HMC-951 is negatively impacting the groundwater system at the Bluewater site. Although NRC shares your concern regarding increasing uranium levels in alluvial POC well T(M), the staff does not believe the data attached to your letter is sufficient to justify your conclusion regarding the impact from HMC's pumping of HMC-951. The staff believes the following additional data is needed to support DOE's conclusion:

- figures depicting the change in the hydraulic gradient of the Alluvial aquifer since the pumping of HMC-951 began in 2001;
- evidence that the groundwater decline seen at the Bluewater site is not due to regional groundwater declines;
- data that conclusively proves that wells pumping at the HMC site within the San Andres aquifer are hydraulically connected to the Alluvial aquifer at Bluewater; and
- estimated rates of contaminant movement with and without pumping from the HMC wells. Since the POC wells are downgradient, uranium concentrations will increase with or without the pumping.

Based on a DOE report dated May 19, 2010, entitled, “Groundwater Investigations at the Ambrosia Lake and Bluewater, New Mexico, Disposal Sites,” it appears that DOE plans to collect some of the above data as part of the 5-year plan for the Grants Mineral Belt. The NRC staff is willing to meet with DOE to discuss analyses of currently available data and/or future data needs to determine the source of increasing uranium concentration in Bluewater POC well T(M).

If you have any questions regarding this letter or would like to schedule a meeting, please contact me at 301-415-6607, or by email at john.buckley@nrc.gov.

Sincerely,

/RA/

John Buckley, Senior Project Manager
Decommissioning and Uranium Recovery
Licensing Directorate
Division of Waste Management and
Environmental Protection
Office of the Federal and State Materials
and Environmental Management Programs

Docket No.: 40-8902

cc: Mr. Richard Bush, DOE

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