July 29, 2008

Mr. Milton Head, President
Bluewater Valley Downstream Alliance
P.O. Box 2038
Milan, NM 87021

SUBJECT: RESPONSE TO BLUEWATER VALLEY DOWNSTREAM ALLIANCE LETTER, DATED APRIL 12, 2008

Dear Mr. Head:

This letter is in response to your letter to the U.S. Nuclear Regulatory Commission (NRC) dated April 12, 2008, regarding the Homestake Mining Company (HMC) Uranium Mill Superfund Site located in Cibola County, New Mexico. Your letter reiterates a number of concerns previously expressed in your October 13, 2007, letter, and identifies some new concerns. The NRC understands your frustration with the groundwater remediation efforts in the Milan, New Mexico area. As you have pointed out, groundwater remediation is still not complete after 31 years of activity. Although the remediation and reclamation process is admittedly slow, monitoring results indicate that concentrations of contaminants have generally decreased over time. This decrease in contaminant levels suggests that the ground water collection/injection system has been effective in reducing ground water contaminant concentrations in the underlying aquifers at the site.

We believe that our correspondence of December 19, 2007, addressed a number of concerns in your letter. Thus, this letter addresses your new concerns and informs you of the steps we are taking to evaluate and improve the reclamation activities at the HMC site. From your letter and conversations with you at the July 15, 2008, public meeting in Grants, New Mexico, we have identified your concerns to be as follows: (1) remediation at the HMC site is being hampered by regional contamination and sufficient monitoring wells have not been established in the area to determine background values and evaluate movement of contamination on to and off of the HMC site; (2) the HMC irrigation system is unregulated and will continue to contaminate the aquifers; and (3) the entire area north of Milan should be made a superfund site and land owners should be compensated and moved from the area.

NRC has regulatory responsibility for reclamation activities at the HMC site but has no regulatory authority over any of the land immediately surrounding the site. As a result, NRC can only regulate reclamation activities within the HMC site boundary. However, based in part on conversations with you at our January 2008 meeting, NRC has begun evaluating how off-site contamination is affecting reclamation efforts at HMC. NRC staff is conducting a comprehensive evaluation of the regional groundwater flow and well data to determine the source of contamination entering the HMC property from the north. As indicated in your letter, there are a number of potential sources of contamination in the area including naturally occurring radioactive material, past milling operations at the Bluewater site, and past mining and

milling operations in the Ambrosia Lake area. The results of the staff's analysis will be used in reviewing the revised Corrective Action Plan for the HMC site (ADAMS No. ML070240355). As part of our evaluation, the staff will determine whether the current groundwater monitoring plan is adequate to monitor the contamination plume entering and emanating from the HMC site. In addition, as discussed during the July 15, 2008, public meeting, the New Mexico Environment Department is conducting a well sampling program to better understand the source of regional groundwater contamination. If the results of these studies indicate that HMC remediation efforts will be unable to meet the established cleanup limits due to the influx of contamination from outside sources, NRC will recommend that other federal agencies assume regulatory control for the contaminated areas. NRC has no regulatory authority to designate an area as a superfund site or compensate land owners for damages.

With regard to the HMC irrigation system, 10 CFR 40.65 requirements specify that HMC provide NRC periodic effluent monitoring reports. The HMC 2006 Annual Monitoring Report/ Performance Review (ADAMS No. ML070940232) provides information on irrigation using onsite supply wells. The report indicates that three irrigation systems were operated in 2006 and that several hay cuttings were produced. Further, the report identifies the supply wells used and the uranium and selenium concentrations in the irrigation water. The report shows that the irrigation water has not exceeded the NRC standard for uranium, or the New Mexico Water Quality Control Commission standard for selenium.

HMC has conducted environmental monitoring for soil and hay for the irrigated plots and has provided NRC a draft report on its evaluation of irrigation with alluvial ground water for 2000 to 2006 (ADAMS No. ML082070083). The report indicates that the uranium and selenium soil concentrations are increasing, but do not exceed acceptable levels. The average selenium concentrations for hay in 2006 ranged from 0.75 to 1.40 milligram per kilogram (mg/kg). The National Research Council has established 2 mg/kg of selenium as the maximum tolerable concentration for cattle feed. HMC will continue to monitor the irrigation project for selenium levels.

The average uranium concentration measured in hay from 2000 to 2006 was 0.83 mg/kg with a standard deviation of 0.58 mg/kg. HMC used the guidance in NUREG/CR-5512 to estimate the uranium transfer from hay to beef cattle to people, and has estimated the radiation dose from beef consumption. The radiation dose from ingesting beef fed hay grown on the irrigated plots

is estimated to be 0.04 millirem per year (mrem/yr). This is a very small fraction of the NRC public dose limit of 100 mrem/yr.

If you have questions regarding this response, please contact John Buckley at (301) 415-6607 or john.buckley@nrc.gov.

Sincerely,

/RA/

Larry W. Camper, Director
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

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