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Mr. Eric Lardiere
Vice President and General Counsel
Whittaker Corporation
1955 N. Surveyor Drive
Simi Valley, CA 93063

Subject: Erosion at Whittaker Corporation's Greenville, PA Site

Dear Mr. Lardiere:

The purpose of this letter is to describe conditions adversely affecting site stability and to propose erosion mitigation and material containment countermeasures to be undertaken at Whittaker Corporation's Greenville, PA site that is currently regulated under license by the U.S. Nuclear Regulatory Commission (NRC).

Indications of recent erosion on the embankments of the waste and slag storage area have been identified by SCIENTECH, Inc. personnel and were reported to Whittaker and the NRC in Addendum 9, *Whittaker Site Quarterly Inspection, Second Quarter of 2001* to SCIENTECH Document No. 82A9104, *Soil Erosion Control Plan*. In response to this report, a site inspection was requested by the NRC to include the NRC Region I Site Project Manager, Mr. Steve Shaffer, NRC Headquarters stabilization and erosion specialist, Mr. Ted Johnson, and SCIENTECH's Site Project Manager and Radiation Safety Officer, Mr. Roy Racino. These personnel performed an on-site inspection between 8:30 and 10:30 AM on Tuesday, August 14, 2001.

The southeastern embankment of Section 3 and the eastern and southern embankments of Section 2 were inspected. Particular attention was focused on the recent gullies formed

on the slope to Monitoring Well (MW) #3 and the southern slope of Section 2, as well as the recently backfilled slope to MW#5.

Results of the inspection are summarized as follows:

- The large gully near MW#3 appeared to have resulted from a sudden sloughing of unconsolidated soil that was saturated from an intense, short duration rainstorm on June 21. The soil that washed downslope formed a pile on the river floodplain at the base of the slope. The pile buried a section of silt fencing that had been installed at the base of this slope subsequent to backfilling and grading activities on March 31, 2001. The impact of this erosion was considered by the inspection team to be not of immediate concern due to the distance from the base of the slope to the Whittaker property line and to the Shenango River, as well as the absence of radiological contamination in this area based on the most current site characterization data for this location. It was determined, however, that the formation of this gully presents a preferred pathway for future runoff and that soil in this area will continue to erode downslope. This raises a concern over the potential for future unmonitored off-site migration of fine soil sediments as a result of continued erosion into the saturated floodplain.
- The two gullies that have formed on the southern slope of Section 2 appear to have eroded as a result of heavy precipitation seeking the preferred pathway for runoff in this area. In addition, a third gully is starting to form between the westernmost gully and the western property fence line. The material on this slope consists primarily of cobbles of glassy slag and a sandy matrix. The two tailings piles appear to have settled on the flat land at the base of the slope and have not dispersed. As in the case with MW#3, there does not appear to be any significant immediate impact based on distances to the property line and the drainage stream, and the low radiological concentrations of the eroding material. It is apparent that future runoffs will continue to seek these preferred runoff pathways and it is anticipated that these gullies will continue to erode.
- The slope to MW#5 was inspected closely due to the unconsolidated nature of the slope from the March 2001 grading activities and its proximity to the river. This slope has not indicated recent erosion, probably due to the larger cobbles that comprise a large portion of the surface material.
- Other embankments that were observed do not exhibit signs of erosion or the off-site migration of potentially contaminated materials.

- Photographs of the MW#3 slope and the top crest of the Section 2 southern embankment were taken by SCIENTECH (Roy Racino) on 8/14/01 and forwarded to the NRC (Ted Johnson). Additional photographs of these areas were taken by SCIENTECH (Roy Racino) on 6/22/01 and included in Addendum 9 to Document 82A9104.

In response to the conditions described above, and in order to satisfy stated concerns of the NRC over the potential for future offsite migration of contaminated material, SCIENTECH proposes to perform the following corrective and preventative actions:

- Prevention of continued erosion near MW#3 – Replace the damaged silt fencing to continue to encircle the base of the slope and the new pile to contain future erosion. Place and stake bales of straw behind and against the silt fence to provide bracing and stability. Place a line of “sacrificial” silt fencing in the gully before the straw reinforced line for additional protection from runoff and erosion. Although MW#3 is not presently in the path of the erosion, place and stake several bales of straw upgradient from the well. Perform radiological analysis of the soil in the tailings pile and the gully to establish the risk of continued erosion on this slope.
- Prevention of potential offsite migration of material near MW#5 – Place and stake bales of straw at the base of the slope and upgradient from MW#5 to protect the silt fencing, property fencing, and the well from potential damage or breaching by rolling or eroding pieces of slag. Perform radiological analysis of the slag and soil on the slope to establish the risk of continued erosion on the slope.
- Prevention of continued erosion of preferred runoff pathways in Section 2 - Line the present gullies with 6-mil polyethylene sheeting to allow runoff to channel over the sheeting and into the floodplain without contacting or further eroding the material in the gullies. The edges of the sheeting will be secured by burying under the slag/sand to prevent water running under the sheeting. Bales of straw will be staked at the tops of the gullies, at the crest of the embankment, to further secure the top of the sheeting and prevent runoff under the sheeting. Place straw bales on the sheeting at the bottoms of the gullies to counter the effects of increased runoff velocity in the floodplain. Perform radiological analysis of the material in the tailings piles and the gullies to establish the risk of continued erosion on this slope.

- Erosion monitoring - Continue to monitor areas for signs of ongoing erosion or migration during future quarterly inspections. Results of these future inspections will be documented and tracked, in accordance with current site license conditions, in order to verify the effectiveness of implemented countermeasures and to determine if additional stabilization or preventative actions are necessary.

In order to provide a timely response to the current site conditions, SCIENTECH has tentatively scheduled these erosion corrective and preventative actions to be performed concurrently with the third quarter site inspection and well sampling activities. These third quarter activities are scheduled for September 5-7 of 2001. The total labor and material costs associated with these erosion mitigation measures are estimated to be approximately \$3,000.

Please contact me at (203) 796-5340, with any questions or comments on the above proposed activities.

Sincerely,



Roy Racino
Project Manager

cc: S. Shaffer, NRC
T. Johnson, NRC
R. Maiers, PADEP
R. Woods, PADEP
L. Penney, SCIENTECH