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**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10  
1200 Sixth Avenue  
Seattle, Washington 98101**

AUG 15 2001

Reply To  
Attn Of: ECL-113

Beverly Cook, Manager  
U.S. Department of Energy  
Idaho Operations Office  
850 Energy Drive  
Idaho Falls, Idaho 83401

Subject: Dispute Resolution, Operable Unit 7-10, Need for Stage I Coring

Dear Ms. Cook:

We are looking forward to the upcoming dispute resolution meeting. One of the key issues to be resolved is the extent of additional sampling needed. This letter is intended to summarize our perspective on this issue. It is based, in part on the August 1, 2001, briefing by your staff. The presentation provided us greater insight into why the Department of Energy, Idaho Operations Office (DOE-ID) has not fulfilled its commitment to complete required coring activities at either Pit 9 or at the other Rocky Flats Plant transuranic (TRU) waste pits and trenches.

Ms. Hain repeatedly assured us that DOE-ID believes it has sufficient information to know where the TRU and other contaminants of concern are buried in the SDA landfills. The reported basis for this belief is the results of probing and historical records review identifying actual waste placement locations. However, probes were identified as having a limited radius of detection of approximately 6" and no waste retrievals have been performed to determine the accuracy of the disposal records. Therefore, we cannot agree that the current level of characterization, which does not include coring activities, is sufficient to establish protective remedial action objectives and cleanup levels.

We also question DOE's assumption that TRU assay data on the stored TRU wastes from Rocky Flats can be used to predict the TRU loading per drum in the much earlier shipments, which were sent for disposal rather than storage, as was the case after 1970. In fact, Ms. Hain proposed that the TRU loadings were probably less, as Plutonium (Pu) was very valuable during this time due to the Cold War. Unfortunately, this statement is difficult to reconcile with information suggesting that over 1,000kg of Pu-239 was shipped to the INEEL SDA for disposal prior to 1970? Further, to state that the December 1999 Pit 9 probing data is not inconsistent with the statistical expectations from the post-1970 Stored Waste Examination Pilot Plant (SWEPP) data is somewhat presumptuous given that little, if any, assay data of pre-1970 TRU wastes is available.

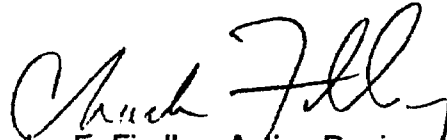
We note that there is also an apparent discrepancy in the expected number of drums that are within the 40ft x 40ft study area of Pit 9. It appears from the records that a volume of drums larger than the available volume was disposed at this location. Taking into account that spaces between these drums were filled with soil (i.e., interstitial soil), adds further to the volume discrepancy. Your staff attempted to explain this discrepancy by stating that the drums were crushed during placement. However, we have no information on the extent of crushing nor the physical condition of the buried drums. Obtaining core samples would help provide necessary information on the amount of interstitial soil present. This information would also indirectly improve on the accuracy of the disposal location information, which we believe is a critical data need for determining the distribution of TRU. Knowledge of the TRU distribution would facilitate our understanding of the potential for Pu migration to the underlying sole source aquifer and the potential for long-term criticality events occurring within Pit 9 and the other RFP landfills.

Further, obtaining physical samples to validate geophysical assumptions is a common and accepted practice in environmental investigations. Although modeling assists us in predicting the long-term fate and transport of contaminants, the assumptions used need to be quality assured with physical data. For example, DOE-ID has assumed an extremely high sorption coefficient for Pu (i.e., 5,100ml/g) in its modeling of fate and transport in the SDA. Based on the modeling results, DOE-ID appears to believe that Pu contamination of the underlying aquifer is not a concern. However, Pu adsorption, which could be as low as 5ml/g, is significantly affected by oxidation state, pH, clay content, presence of ligands and other phenomena, which are difficult to quantify via geophysical sampling. Further, Pu has already been detected in the groundwater beneath the SDA which, in itself, may invalidate the model assumptions used by DOE-ID.

Returning to the issue of the accuracy of disposal location records, we feel that this information is critical to developing a representative cost estimate for "hot spot" retrieval. Although DOE-ID may have high confidence in which landfill, specific waste shipments were disposed and may also have some confidence in the disposal locations to the nearest 100ft, this level of accuracy is totally insufficient for evaluating the costs of 'hot spot' removal where the wastes may actually be confined to a 10' x 30' area (e.g., 49 drum Graphite mold shipment in Pit 5). The volume difference is over 30-fold. Therefore, failure to determine the accuracy of the disposal location information can lead to unnecessary excavation costs and may improperly bias our evaluation of remedial alternatives if we determine that 'hot spot' retrieval is appropriate for Pit 9 and the other Rocky Flats TRU waste pits and trenches.

In summary, EPA continues to believe that physical sampling of the wastes, through coring or equivalent methods, in Pit 9 and other representative pits and trenches is necessary to corroborate historical information and probing results. In addition, physical samples provide an opportunity to directly measure waste and interstitial soil properties which can only be guessed at otherwise. We are hopeful that our Agencies will be able to resolve our differences and that the current direction that DOE-ID appears to be heading will change.

Sincerely,



Charles E. Findley, Acting Regional Administrator  
Region 10, Environmental Protection Agency

cc: Warren Bergholz, DOE-ID  
Steve Allred, IDEQ  
Orville Green, IDEQ  
Katie Hain, DOE-ID