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Mr. David Cobrain  
New Mexico Environment Department  
*Hazardous Waste Bureau*  
*2905 Rodeo Park Dr. E, Bldg 1*  
*Santa Fe, NM 87505*

RE: Draft Technical Review Comments on the Risk Assessment for the Playa Lake (SWMU 103) Phase III RCRA Facility Investigation Report, Cannon Air Force Base, New Mexico  
Dated May 2011

Dear Mr. Cobrain:

Attached please find draft technical risk assessment review comments on the Playa Lake (SWMU 103) Phase III RCRA Facility Investigation Report, Cannon Air Force Base, New Mexico Dated May 2011.

The primary concern with the risk assessment was the exclusion of a screening assessment for human health risk. While the report indicated that comparisons were made, because site concentrations were less than screening levels, a formal analysis was not required. A comment has been drafted concerning this issue.

If you or any of your staff have questions, please contact me at (801) 451-2864 or via email at [paigewalton@msn.com](mailto:paigewalton@msn.com).

Thank you.,

Paige Walton  
AQS Senior Scientist and Program Manager

Enclosure

CC: Hope Monzeglio Petrie, NEMD (electronic)  
Joel Workman, AQS (electronic)

**DRAFT TECHNICAL REVIEW COMMENTS ON THE  
RISK ASSESSMENT FOR THE PLAYA LAKE (SWMU 103)  
PHASE III RCRA FACILITY INVESTIGATION REPORT  
CANNON AIR FORCE BASE NEW MEXICO  
MAY 2011**

1. Section 2.5 states that the presence of water in playas may allow deep percolation to the aquifer. As such the soil-to-groundwater pathway is a potentially complete pathway and must be evaluated in the risk assessment. Revise the report to include an evaluation of site data to soil-to-groundwater screening levels.
2. Section 4.5.1. The text indicates that if more than one noncarcinogen detection were observed in the Phase III RFI data, then the noncarcinogenic NMED SSL was divided by 10. It is not clear why this approach was applied in lieu of the methodology outlined in the NMED SSL Guidance. Further, it is not clear that the SSL data contained in the data summary tables employed this approach. For example, the SSLs for metals, which are based on noncarcinogenic effects, were not divided by a value of 10. Clarify where this revision of SSLs was applied.
3. Section 7.4. The sampling results were reportedly screened against the NMED residential SSLs, NMAC SWSLs, USEPA RSLs and TPH screening guidelines. The text states that since "all results and TEQs were below the screening levels a risk assessment was not warranted. Therefore, no unacceptable risks to human health exist at the Playa Lake (SWMU103)." The results of this screening were not provided in the report. Provide this analysis.

Further it does not appear that any consideration was given to cumulative effects. Per NMED Guidance a total site risk/hazard must be determined when there are multiple contaminants. Not considering the effect of additivity when screening multiple chemicals results in misuse of the SSLs. Risk/hazard must be calculated for each receptor, pathway, and cumulative exposure scenario.

4. Table 7-2. A toxicity equivalency factor (TEF) was not applied to determine an equivalent screening criterion for the dioxin congener (1,2,3,4,6,7,8,9-OCDD). In addition, the NMED SSL table does not provide a tap water screening value for TCDD. The appropriate TEF should have been applied to assess 1,2,3,4,6,7,8,9-OCDD. Revise accordingly.
5. Table 7-2. It should be noted that the Regional Screening Levels (RSLs) for tap water as listed in the table are based on a carcinogenic risk level of 1E-06. Note that NMED applies a target risk level of 1E-05. Ensure that when additive risks are calculated (as requested in these comments), the RSL tap water values are adjusted accordingly.
6. Table 7-2. It is noted that no ecological screening levels are provided for either the polychlorinated biphenyl (PCB) congeners or dioxin furans for water. However, screening levels are available for these. As an example, EPA Region 5

(<http://www.epa.gov/reg5rcra/ca/ESL.pdf>) has ecological screening levels that could be used along with appropriate TEFs. Revise accordingly.

7. Table 7-2. Both the RSL tables and the NMED SSL tables contain a tap water screening level for selenium. Why were these excluded from the table?
8. Table 7-2. No tap water ingestion screening levels were available for total and dissolved lead. As a check, the concentrations were compared to the Federal Maximum Contaminant Level (MCL) for lead (15 µg/L). The maximum detected concentrations for SWMU 103 were less than the MCL. No response to this comment is required.
9. Table 7-4. It is noted that no ecological screening levels are provided for either the PCB congeners or dioxin furans for sediment. However, screening levels are available for these. As an example, EPA Region 5 (<http://www.epa.gov/reg5rcra/ca/ESL.pdf>) has ecological screening levels for sediment that could be used along with appropriate TEFs. Revise accordingly.
10. Table 7-4. It is not clear why TEFs were not applied to determine an equivalent screening criterion for the dioxin/furan congeners. Revise accordingly.
11. Appendix D. Additive hazards were not estimated for ecological impacts. Evaluation of hazard quotients was done on an individual basis which does not account for additivity. Conservatively, as an initial screen, those chemicals that have an associated HQ of 0.3 are retained for additional analysis. Revise the risk assessment to include estimates of HQ's as part of the screening analysis. In addition, if any chemicals have an HQ of 0.3 or greater, additional analyses are warranted and additive risk must be assessed.
12. Appendix D, Table 1. Ecological screening levels are indicated as not being available for the PCB and dioxin/furan congeners. However, screening levels are available for these. As an example, EPA Region 5 (<http://www.epa.gov/reg5rcra/ca/ESL.pdf>) has ecological screening levels that could be used along with appropriate TEFs. Revise accordingly.
13. Appendix D, Table 10. The ecological HQ's are presented on this table, but there is no determination of hazard indices (HIs). Revise the table to include appropriate HIs and adjust HIs based on effects (e.g., reproductive) as appropriate.