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Richard H. Campbell
 Project Manager
 UMTRAP Project Officer
 U.S. Department of Energy
 Albuquerque Operations Office
 P.O. Box 5400
 Albuquerque, New Mexico 87115

Dear Mr. Campbell:

This letter is in response to your June 23, 1982, request for NRC's review of the final Remedial Action Concept Paper (RACP) for the uranium mill tailings site at Salt Lake City, Utah. NRC generally supports the approach being proposed for the Draft Environmental Impact Statement: that is, to evaluate in equivalent detail the options involving in situ stabilization and offsite disposal. Enclosure 1 contains detailed comments concerning the guiding principles which will govern the alternatives evaluation and technical and policy assumptions that the remedial action concept paper indicates are being made which may influence the ultimate selection of the proposed remedial action option.

If you have any questions concerning these comments, please contact Kathleen Hamill of my staff.

Sincerely,

Original Signed by:
 R. A. Scarano

Ross A. Scarano, Chief
 Uranium Recovery Licensing Branch
 Division of Waste Management

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ATTACHMENT I
NRC STAFF COMMENTS ON
JUNE 1982 DOE VITRO RACP

1. pg. 3 (Sec. 4.1): The Table 1 summary of EPA's interim remedial action cleanup standards indicates that remedial action would be required if Ra-226 concentrations on open lands were greater than 5 pCi/gm. This implies that remedial action would be necessary if measurements indicated that the total concentration was greater than 5 pCi/gm. In view of the specific language of the EPA standard, which references concentrations "attributable to residual radioactive material from any designated processing site," NRC interprets the interim EPA standard of 5 pCi/gm to be above background concentrations.
2. pg. 6 (Sec. 4.3): This section indicates that among the factors which must be considered in the evaluation process used for determining the preferred option is meeting the requirements of the NRC regulations. As previously indicated, NRC's review will be limited to assuring that the proposed DOE action will meet the EPA standards as they are finally promulgated. The fact that the NRC regulations do not apply to Title I activities is accurately reflected in the discussion contained in Section 4.2. Therefore, the reference to meeting the NRC regulations in Section 4.3 is inconsistent and inappropriate.
3. pg 7 (Sec. 4.3): The discussion of environmental factors to be considered in the evaluation of alternative options mentions the effects on potable ground water. The proposed EPA standard defines an underground source of drinking water to be an aquifer in which the groundwater contains less than 10,000 milligrams/liter total dissolved solids. Thus, it appears that EPA intended that water of a quality appropriate for other uses, such as agricultural uses, also be considered and protected. Various state water quality standards, such as Wyoming (which establishes 500 mg/l TDS for domestic use and 5000 mg/l TDS for livestock use) and New Mexico (which establishes a value of 1000 mg/l TDS for both domestic and agricultural use), provide evidence supporting this interpretation by establishing limits for use categories other than domestic drinking water well within the 10,000 mg/l value. Therefore, NRC staff considers use of the term "potable" ground water may too narrowly restrict the scope of the evaluation of potential impacts on groundwater.
4. pgs. 7-8 (Sec. 5): Discussion of Option 2, in situ stabilization, indicates that tailings and contaminated material would be consolidated and stabilized above grade on a 69-acre portion of the Vitro site. Some explanation of the basis for determining the ultimate size (69 acres) of the disposal area would be appropriate. Discussion of the in situ stabilization option notes the potential need to place a clay liner beneath the tailings in order to isolate the material from further contact with groundwater. Although the likelihood of such measures being required is in no way characterized, the cost estimate for this option assumes that a liner will be required. In

view of the fact that climatological conditions result in a net evaporation rate at the Salt Lake City site and that no tailings have been disposed of at the facility for over fifteen years (15 yrs.), it is expected that most, if not all, seepage resulting from solutions contained in the tailings has already occurred. Thus, the potential for continued, long term groundwater contamination at the Vitro site can be principally attributed to the presence of an unconfined, near surface aquifer which occasionally resaturates and leaches contaminants from the lower portion of the tailings. Justification for any assumptions concerning the necessity for a liner should be presented, particularly given the high percentage of costs associated with actual site work which would be attributed to such a liner. Finally, in describing the stabilization measures which would be required to protect against wind and water erosion the RACP notes that "a layer of crushed rocks or natural stones could be placed on the slopes of the mounds...." It is not entirely clear what the phrase "crushed rock" is intended to imply; however, such a phrase can have very precise meanings. It might be inappropriate to use such descriptive terminology at this early conceptual stage.

5. pg. 9 (Sec. 5): In the discussion of Option 3, offsite disposal, it is indicated that the State of Utah nominated the three alternate disposal sites in Tooele County and that these three sites were evaluated and ranked in terms of desirable characteristics by the Department of Energy. In view of the fact that all three of these sites are located a considerable distance from Salt Lake City, and given the fact that costs associated with transportation of the tailings to an offsite location can be a major portion of the total disposal costs for an offsite option, a more complete discussion of how the alternate sites were selected and if any additional sites were considered seems in order.
6. pg. 11 (Sec. 5): The discussion of final reclamation of the offsite tailings disposal system indicates that placement of the cover would not be initiated until all of the trenches were filled. This implies stockpiling and double handling of all excavated materials. Phased reclamation involving covering tailings with soils excavated from the next trench should be considered as it possibly may be a more cost effective approach.
7. pg. 13 (Sec. 6): The evaluation of Option 3 states that "transfer of all Vitro wastes to a disposal site on the First Alternate Area would be favored by all the physical and technical factors." In a concept paper such as this, where specific site characteristics are not described, such a firm determination is considered inappropriate.
8. pg. 13 (Sec. 6): The statement that it is doubtful that the large difference in cost (Option 3 costing nearly 3 times as much as Option 2) can be justified by geotechnical and environmental benefits is considered very premature in this type of conceptual document. Judgements of this nature should in no way be based on the preliminary evaluations contained in the RACP.

9. pg. 14 (Sec. 7): Although it may be obvious, the discussion of important considerations in deciding upon the proposed course of action should clearly indicate that the guiding principle will be whether alternative options meet the final EPA standard.
10. pg. 14 (Sec. 8): Information related to preliminary cost estimates, if it is to be included in the concept paper in support of qualitative judgements (such as referred to in comment #8), should be accompanied by at least a general discussion of the assumptions made in developing such estimates. For example, apparently the \$30 million estimate for in situ stabilization assumes that the tailings will be lifted up and a liner will be emplaced beneath them. The need for taking such a step is uncertain at this point. Another item related to costs which should be clarified in the concept paper if option costs are to be compared is: what portion of the total estimates are attributable to cleanup of vicinity properties?
11. pg. 15 (Sec. 9.3): It is stated that the Technical Assistance Contractor (TAC) will be responsible for conducting maintenance activities at disposal sites following completion of remedial action. Further, it is indicated that 30% of the estimated costs are attributable to engineering, environmental analysis and maintenance and surveillance activities. In view of the fact that the level of ongoing site control will likely vary in relation to the disposal option selected, it is unclear what maintenance activities are currently envisioned.
12. Figure 4. Remedial Action Schedule. It is not clear from the bar chart that the remedial action plan will follow publication of the final environmental impact statement. This should be clarified.