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February 18, 2005

Don Metzler
Moab Federal Project Director
U.S. Department of Energy (DOE)
2597 B ¾ Road
Grand Junction, Colorado 81503

Re: Draft Environmental Impact Statement, Remediation of the Moab Uranium Mill Tailings, Grand and San Juan Counties, Utah, CEQ # 040520

Dear Mr. Metzler:

The Environmental Protection Agency (EPA) offers the following comments regarding potential environmental impacts associated with the long-term management of the Moab uranium mill tailings and associated vicinity properties and clean-up of the contaminated ground water at the site. Since 2001, EPA has participated as a cooperating agency, along with other federal, state, and local governments to analyze the alternatives for remediation of these uranium mill tailings. DOE has provided a technical analysis in the Draft EIS and afforded an opportunity for public comment and review of five different alternatives: one on-site remediation alternative; three off-site remediation alternatives; and a no action alternative. Later this year, DOE will select a preferred alternative as the final remedy and ground water clean-up plan that will be further analyzed in the Final EIS and Record of Decision. We offer the following comments based on our technical analysis of the Draft EIS and related documents.

EPA conducted this review under the National Environmental Policy Act (NEPA) and in accordance with our responsibilities pursuant to §309 of the Clean Air Act (CAA), 42 U.S.C. §§ 7401 et seq., regarding our independent review of other federal agency actions. Certain environmental standards established by EPA apply including limiting radon emissions from the tailings pile under the CAA §112, National Emission Standards for Hazardous Air Pollutants (NESHAPS) at 40 CFR Part 61 Subpart T, and requirements for uranium mill tailings remediation and ground water clean-up under the Uranium Mill Tailings and Remediation Control Act (UMTRCA), 42 U.S.C. §§ 7901 et seq. at 40 CFR Part 192.

EPA's environmental ratings: Because DOE has not selected a preferred alternative, EPA rated the potential environmental impacts and sufficiency of the information regarding the four action alternatives analyzed in the Draft EIS.

On-site Alternative	Klondike Flats Alternative Site	Crescent Junction Alternative Site	White Mesa Mill Alternative Site	No Action Alternative
EU-2	EC-2	EC-2	EO-2	not rated

The following is an explanation of the environmental ratings above.

EU (Environmentally Unsatisfactory) The basis for our Environmental Unsatisfactory rating for the On-site Alternative is the potential for prolonged environmental and public health risk that could result from the continued release of toxic contaminants to ground and surface waters because of potential failure of the proposed remedy. The on-site remedy does not include a liner beneath the disposal pile, thus allowing river flooding to continually reintroduce contaminants in to the river. Under such circumstances, the on-site remedy would not satisfy the requirements of 40 CFR 192 and the groundwater protection mandates of the State of Utah. In addition, the river could migrate towards the pile, and the salt-bed underlying the pile could dissolve, over the life of the remedy. Such natural actions would greatly compromise the integrity of the remedy.

EO (Environmental Objections) The basis for our environmental objection for the White Mesa Mill site is that DOE's conceptual plan for tailings disposal will likely be inconsistent with Utah's ground water protection standards. This concern could be corrected by project modifications.

EC (Environmental Concerns) EPA has identified environmental impacts that should be avoided for the Klondike Flats Site and the Crescent Junction Site in order to fully protect the environment. Corrective measures may require additional mitigation measures that can reduce the environmental impact.

Category 2 (Insufficient Information) EPA finds that the draft EIS does not contain sufficient information to fully assess environmental impacts that should be avoided in order to fully protect the environment. The identified additional information, data, analyses, or discussion should be included in the Final EIS.

On-site Alternative: The Moab site lies adjacent to the Colorado River, the principal surface water resource for the area, which has been classified by the State of Utah as protected for warm-water game fish and other aquatic life. The River continues to be adversely affected by site-related contamination, mostly because of groundwater discharge. Contaminants from the tailings pile include uranium and ammonia, which during low river flow conditions exceed water quality standards. For example, ammonia concentrations in the River in the vicinity of the tailings pile exceed 300 mg/L, resulting in conditions that are, at times, toxic to native and endangered fish. The on-site remedy would result in

continuing exceedances of water quality criteria over the long term. Indeed, the DOE estimates that after remediation and ground water clean-up, ammonia will remain in toxic concentrations to aquatic life for 80 years.

Presently, river flooding periodically saturates the toe of the pile and continually reintroduces contaminants into the ground water and the river. Moreover, although the draft EIS presents information that supports the notion that river migration may be away from the pile to the south and east, DOE also accepts that the direction of river migration remains uncertain in the long term. Consequently, it is very unlikely that the proposed on-site remedy will be able to provide sufficient long-term pile stability due to the potential for the Colorado River to migrate north and west towards the pile. Additionally, the eventual dissolution of the salt-beds underlying the disposal site will result in prolonged saturation of the toe of the pile. Moreover, the dissolution of the salt-beds will result in subsidence in the vicinity of the disposal site, which will compromise the integrity of the cap, which would lead to radon release and increased rate of water infiltration through the pile.

Based on the above, the on-site alternative, in the long-term will not be able to satisfy the requirements of 40 CFR 192 or the State of Utah's groundwater protection requirements. Consequently, EPA strongly recommends that this alternative be eliminated from consideration because it cannot meet the established purpose and need for the project.

Klondike Flats Site: This remedy would require relocating the Moab tailings 18 miles north to land managed by the Bureau of Land Management (BLM). Klondike Flats is remote and there are no perennial streams or other surface water features in or near this area; therefore, there are no significant aquatic ecological resources or wetlands that would be affected. Truck or rail transport to this site would not require the transport of tailings through a community. The Klondike Flats location has suitable depth to groundwater protected by the impermeable Mancos Shale. Constructing the optional slurry line to transport the Moab tailings would reduce the highway safety concerns, but does not eliminate them, because a substantial portion of the tailings may prove to be unsuitable for slurry transport. This could require significantly more truck transport for the slurry line not considered by DOE. Transport by slurry requires dewatering the material upon arrival at the site to achieve optimal moisture content. This is a concern because if dewatering fails to achieve optimal moisture, there is a risk of increasing leachate volumes and extending the transient leaching time through the disposal cell. It should be noted that rail transport has the lowest accident rate potential. The site has some environmental concerns due to conflicts with recreational vehicles and will require transporting cover material from another location on BLM lands. Because the conceptual cover as designed may result in rain water infiltration due to clay desiccation, selecting a cover design based on a soil-water balance will further reduce infiltration.

Crescent Junction Site: This remedy would relocate the Moab tailings 30 miles north to land managed by BLM. The site covers several square miles of desert terrain and no perennial streams are present. However, ephemeral streams may carry high flow during heavy rains. Because no perennial steams or other surface water bodies are present, aquatic ecological resources and wetlands would not be adversely affected by activities at this site. The Crescent Junction location has suitable depth to groundwater protected by the impermeable Mancos Shale. Truck transport and slurry transport have similar environmental concerns to those we identified for the Klondike site. Rail transport requires a longer haul than the Klondike site, but this does not increase cost significantly since the expense of rail haul is primarily associated with loading and unloading material. Rail transport to Crescent Junction can use the existing separate grade crossings. This site has an environmental advantage compared to other sites, because suitable cover material can be obtained at the proposed cell location resulting in less land disturbance. As noted above for the Klondike Flats site, DOE's proposed disposal cell cover may allow leachate movement; therefore EPA suggests selecting a cover design based on a soil-water balance that will further reduce infiltration.

White Mesa Mill Site: This remedy would co-locate the Moab tailings 85 miles south to privately-owned lands at the uranium mill managed by the International Uranium (USA) Corporation (IUC). Other than the tailings disposal ponds, no perennial surface water is present at this site. Wetlands at the site are restricted to very small areas. In addition, there is also a concern with the adequacy of ground water protection from disposal of uranium mill wastes at this site. IUC is in the process of installing a double cell liner in order to meet Utah's Ground Water Protection Program requirements. Changes to the design of the proposed disposal cells are needed to adequately protect ground water in the Burro Canyon formation, which is the uppermost aquifer. DOE acknowledges that this could potentially contaminate surface springs within several thousand years. Such contaminants could contain uranium, other radioactive constituents, and mill-sourced pollutants. This site may require significant improvements to the proposed waste cell design in order to assure compliance with the ground water protection requirements for the State of Utah.

Transportation concerns and long-term risks to ground water of this remedy, as proposed and designed, could be significant unless additional design measures are implemented. Truck transport along narrow US-191 presents a high risk of vehicular accidents and would significantly increase noise in the communities of Moab, Monticello, and Blanding. Slurry transport has similar environmental concerns to those we identified for the Klondike site and would also disrupt wetlands by crossing the Scott Matheson wetlands preserve and impact numerous Anasazi-culture or older archeological sites.

DOE also needs to consider that locating these tailings at the White Mesa Mill site adversely affects ten or more Native American traditional cultural properties. The Ute Mountain Ute Tribe, which represents the White Mesa community four miles

south of the mill, does not support selection of the White Mesa Mill site, due in part, to the predicted impact to these traditional cultural properties.

No Action Alternative: Under the No Action Alternative, no contaminated materials would be remediated or removed from the Moab site. EPA is not rating the No Action Alternative, because the Agency does not believe this is a feasible alternative considering the stated purpose and need and applicable environmental laws and regulations. If DOE identifies the No Action Alternative as a preferred alternative, EPA will fully analyze and rate the alternative at that time.

Thank you for the opportunity to review and comment on DOE's alternatives to remediate the Moab uranium mill tailings pile, one of a few remaining uranium mill tailings piles located within a river floodplain. In conclusion, we suggest DOE fully consider the benefits of either the Klondike Flats site or the Crescent Junction site using rail transport in order to provide a secure geologic setting that offers the best opportunity for long-term public health and environmental protection.

Based on the rating for the On-site Alternative, we may refer this matter to the President's Council on Environmental Quality unless a satisfactory agreement can be reached. We would like to formally consult with DOE regarding the two alternatives that EPA rated as "Environmentally Unsatisfactory" and "Environmental Objections." Please contact me at (303) 312-6308 to begin our consultation process. Your staff may wish to contact Weston Wilson at extension 6562 regarding NEPA procedures, Robert Duraski at extension 6728 regarding 40 CFR 192 and the NESHAPS standards, Paul Mushovic at extension 6662 regarding remediation engineering and material transport, and Helen Dawson at extension 7841 regarding ground water clean-up.

Sincerely,

Original signed by:

/s/ Robert E. Roberts
Regional Administrator

Enclosure

cc: David Wood, National Park Service, Moab, Utah
Margaret Wyatt, Bureau of Land Management, Moab, Utah
Henry Maddox, Fish and Wildlife Service, Salt Lake City, Utah
Myron Fliegel, Nuclear Regulatory Commission, Washington, D.C.
Ken Jacobson, Corps of Engineers, Grand Junction, Colorado
Bill Sinclair, Utah DEQ, Salt Lake City, Utah
Selwyn Whiteskunk, Chairman, Ute Mountain Ute Tribe, Towaoc, Colorado
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