Document #706 Fields, Sarah M. Glen Canyon Group

Kym Bevan

From: Sarah M. Fields [sarahmfields@earthlink.net]
Sent: Friday, February 18, 2005 4:54 PM
To: moabcomments
Subject: Moab Mill DEIS Comments

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Dear Mr. Metzler,

Attached please find comments on the Remediation of the Moab Uranium Mill Tailings, Grand and San Juan Counties, Utah, DEIS, November 2004, from the Glen Canyon Group of the Sierra Club.

A paper copy, with the attachment will follow in the mail.

Sarah Fields

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Glen Canyon Group/Sierra Club
P.O. Box 622
Moab, Utah 84532

February 18, 2005
via e-mail and first class mail

Mr. Don Metzler
Moab Federal Project Director
U.S. Department of Energy
2597 B 3/4 Road
Grand Junction, CO 81503
moabcomments@gjo.doe.gov

Re: Remediation of the Moab Uranium Mill Tailings, Grand and San Juan Counties, Utah, Draft Environmental Impact Statement, DOE/EIS-0355D, November 2004. 67 Fed. Reg. 70256 (December 3, 2004) and 69 Fed. Reg. 65426 (November 12, 2004).

Dear Mr. Metzler:

The Glen Canyon Group of the Sierra Club (GCG) appreciates this opportunity to comment on the November 2004 *Remediation of the Moab Uranium Mill Tailings, Grand and San Juan Counties, Utah, Draft Environmental Impact Statement* (DEIS), DOE/EIS-0355D. The GCG represents several hundred members of the Sierra Club in southeastern Utah. Members of the GCG have been involved in the decision making processes related to the former Atlas Uranium Mill (Moab Mill Project) since 1987. The GCG made extensive scoping comments in the Environmental Impact Statement (EIS) process that lead to the publication of the DEIS. The GCG incorporates, by reference, the comments submitted on behalf of the Utah Chapter of the Sierra Club, by Jean Binyon.

A. Preferred Reclamation Alternative

1. It is our position that the Moab Mill's tailings pile be moved by the existing railroad to an Off-Site Disposal Alternative in the Mancos shale deposits north of Moab. We believe that the Crescent Junction Alternative would be more protective of the environment and the health and safety of the public over both the short and long term than the Klondike Flats Alternative.

2. The Cap-In-Place Alternative is unacceptable because the Department of Energy (DOE) would not be able to provide reasonable assurance that the site would be reclaimed in such as manner that it would be protective of the environment and the health and safety of the public over the even the minimal reclamation standard time frame (200 to 1000 years) let alone over the thousands of years that the tailings would remain hazardous and the DOE would have total responsibility for the integrity of the site.

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3. The Moab site is an inherently unstable site, with an unknown history and an unknown future. The more the site is studied, particularly by an independent person or entity, the more questions arise related to the long-term suitability of the site. The subsurface of the site has never been adequately characterized by a full and independent study. The DOE needs to conduct a study that is solely dedicated to determining the past history of Colorado River meander under the site, the factors related to subsidence, the geological structures under the site, and the relationship of these features of the site to the Colorado River and movement of contaminants. Without such studies, the DOE has no basis for any assurances regarding the stability and suitability of the Moab site. If the DOE is unable or unwilling to assign such a study to a qualified outside entity, such as the U.S. Geological Survey (USGS), then it has no scientific basis for leaving the tailings in place.

The current uncertainties, which are accumulating, call into question past DOE and Nuclear Regulatory Commission (NRC) assumptions regarding site suitability. I would refer the DOE to the recent studies by Dr. John Dohrenwend regarding Colorado River meander, the studies by Dr. Kip Solomon, and the recent study by the USGS, *Scientific Investigations Report 2005 –5022 Initial-Phase Investigation of Multi-Dimensional Streamflow Simulations in the Colorado River, Moab Valley, Grand County, Utah*, February 2004, U.S. Department of the Interior, USGS.

4. The White Mesa Alternative is also an unsuitable option. It is the most costly, the most technically complex, would have unacceptable impacts on low-income and Native American communities, would have unacceptable adverse impacts on cultural resources of the Native American communities that would be impossible to mitigate, would destroy at least a dozen significant archeological sites at the International Uranium (USA) Corporation (IUSA) Uranium Mill, and is too close to a human population. There is the potential for contamination of a major water resource aquifer underneath the site. Such contamination would destroy the aquifer as a significant water resource for the surrounding community.

B. General Comments

1. The DOE failed to prepare the DEIS "in accordance with the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321 et seq.), the Council on Environmental Quality (CEQ) regulations that implement the procedural provisions of NEPA (40 CFR Parts 1500-1508), and the DOE procedures implementing NEPA (10 CFR Part 1021)" as claimed by the DOE. See 67 Fed. Reg. 70256 (December 3, 2004).

The CEQ NEPA regulations set forth many agency requirements for a DEIS. As will shown below, in numerous instances, the DEIS failed to meet the directive to "provide full and fair discussion of significant environmental impacts." See 40 C.F.R. § 1502.1 (Purpose). DOE's NEPA implementing regulations state that, "it is DOE's policy to follow the letter and spirit of NEPA" and "comply fully with the CEQ Regulations." The DOE also adopted the DEQ regulations into their own regulations. See10 C.F.R. § 1021.101 (Policy) and § 1021.103 (Adoption of CEQ NEPA regulations).

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2. The DEIS does not meet the requirements of 40 C.F.R. § 1502.24, (Methodology and scientific accuracy), which states:

> Agencies shall insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements. They shall identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement. An agency may place discussion of methodology in an appendix.

The DIES failed to properly cite references. References are very general or missing entirely. There is no cites to specific pages, paragraphs, sections, figures, tables, maps, etc. Often there is no reference at all for assertions, data, and conclusions contained in the DEIS. Contrary to CEQ regulations, there are no "explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement." The DEIS often references the 2003 Site Observational Work Plan (SOWP), never providing a page or volume number. These references to this massive, complex, 3-volume document do not suffice as "explicit references."

C. Comments on Specific Sections

1. Interim Cover

The DEIS, Section 1.2.1, states that Atlas Corporation's "decommissioning of the mill began in 1988, and an interim cover was placed on the tailings pile between 1989 and 1995." This statement regarding the presence of an interim cover on the impoundment is reiterated elsewhere in the DEIS. The statement is not followed by any other discussion of the fate of that "interim cover." Thus, the reader would get the mistaken impression that there was, indeed, an "interim cover" on the impoundment.

The placement on an "interim cover" on the impoundment was required by a condition of Atlas Corporation's license (License Condition 55, License No. SUA-917, Docket No. 40-3453), which established site reclamation milestones for Atlas's Moab Uranium Mill. That requirement was based on a Memorandum of Understanding between the Environmental Protection Agency (EPA), the Nuclear Regulatory Commission (NRC), and affected NRC Agreement States. See 56 Fed. Reg. 55432-55435, October 25, 1991.

The interim cover placed on the impoundment by Atlas did not prevent contaminants from rising to the surface of the impoundment. According to Atlas:

> The capillary rise in unconsolidated silts that are as fine as Atlas' slimes can be as much as seven feet, of more - Groundwater Hydrology, by David Keith Todd, table 2.4 on page 35.
>
> ***
>
> Evaporation of the upward-seeping [tailings] solutions from near-surface[3] saturated slimes has continued until three to six inch thick salt

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> crusts formed over the slimes by the summer of 1995, thus contributing to the progressive stabilization of the central slimes tailings area.

See Transmittal of Atlas Corporation's As-Built Construction Report for the Completion of the Interim Cover, from Richard Blubaugh, Atlas Corporation, to Dan Gillen, NRC (October 16, 1996).

Subsequently, in 1999 PricewaterhouseCoopers (PWC) took over as trustee and licensee for the site. Contractors for PWC reworked the surface of the tailings impoundment, and contaminated materials from the site were placed on the impoundment. According to PWC's proposed dewatering program:

> 1. The existing surface of the tailings, within the limits of the ["exposed"] saturated slimes would be minimally regraded and a thin working layer would be placed as required for equipment access. The working layer is anticipated to be approximately 3.5 feet thick, and would be constructed primarily with coarse tailings (sand) from the surface of the [tailings] facility. Areas of the saturated slimes that are to be excavated to form the final subgrade surface are excluded from this step. [Page 1.]
>
> ***
>
> 6. Recontouring and grading of the remainder of the subgrade with [contaminated] fill material (e.g., up to the interim cap elevation, prior to the clay final cap) will proceed inward from the outer edges of the tailings surface. Material needed for this fill will be moved from the mill area of the Site where early characterization indicates presence of the highest levels of wind-blown tailings and other contaminants. . . . [Page 2.]

See letter from Keith Eastin, PWC, to Philip Ting, NRC, regarding "Docket No. 40-3453, License No. SUA-917, Atlas Moab Uranium Mill tailings Facility - Dewatering Design" (August 25, 2000).

On September 12, 2000, NRC Staff approved PWC's dewatering plan. The September 12 stated that the "design details of the dewatering plan were submitted by letter dated August 1, 2000, and supplemented by submittals dated August 3, 2000, August 4, 2000, and August 25, 2000. See letter from Philip Ting, NRC, to Keith Eastin, PWC, (September 12, 2000).

Atlas's "slimes" became PWC's "exposed" slimes. Atlas's "3 to 6 inch salt crust was proposed to be reconstituted as PWC's "soil cover [advanced] across remaining [exposed] slimes area."

On November 14, 2000, an NRC geotechnical engineer observed earthwork operations being conducted on the Moab Reclamation Trust tailings pile. The NRC viewed daily construction records and work plans for repairing the tailings pile. The construction operations included the regrading of outslopes, excavation of course tailings, and excavation/hauling of slime tailings. According to the daily summaries, construction

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operations began on September 14, 2000, and included excavation and hauling slimes, and excavation of course tailings. With permission from the NRC, the licensee began regrading the outslopes of the tailings pile on October 23, 2000. Most of a the construction activity was routine, with the following exceptions:

> On October 9th, a mud wave was generated as tailings were spread over the lowest area in the center of the site." [Pages 3-4.]
>
> The contractor indicated that about 70 percent (estimated 17, 000) of the [dewatering] wicks had been installed as of November 14, 2000. . . . A small amount of saturated tailings slime was brought to the surface at each wick installation. [Page 4.]

See letter from D. Blair Spitzberg, Chief, Fuel Cycle and Decommissioning Branch, Region IV, NRC, Arlington, Texas, to Jim Langley, Manger, Financial Advisory Services, PWC, regarding NRC Inspection Report 40-3453/00-01 (and enclosures thereto) (February 6, 2001), Executive Summary.

During and after the PWC reworking and placement of contaminated materials on the impoundment there began a period of extensive off-site wind-blown contamination from the site. PWC eventually just stopped work and did not provide the NRC with the as-built drawings of the work that they had completed on the impoundment.

The DOE should provide the public with a complete picture of all the work done related to the disturbance of the top and slopes of the original interim cover.

The DEIS must provide complete and accurate information on the status of the cover at the site and not give the public and decision-makers the distinctly false impression that a fully operable "interim cover" is in place.

2. Disposal Cell Failure from Natural Phenomena, Section 4.1.17 of the DEIS.

2.1. The apparent purpose of this section of the DEIS is to make it appear that the impacts from a disposal failure would be minimal and acceptable. This section trivializes, distorts, minimizes, or completely ignores the impacts on the environment of a catastrophic disposal cell failure.

NEPA demands that there be a full and fair discussion, or assessment, of the significant environmental impacts of a disposal cell failure due to impacts of natural phenomena from geological forces or from the Colorado River. As will be shown below, this section of the DEIS fails to provide such a discussion. See 40 C.F.R. § 1501.1, "Purpose."

Also, see further discussion of the requirements of NEPA, below.

2. 2. DEIS (page 4-50): *Although the probability of a significant release would be very small over the design life of the on-site disposal cell, this type of failure was assumed to occur in order to evaluate the potential consequences (risks).*

Comment: The DOE errs in only considering the potential of severe flooding "over the design of the on-site disposal cell" and the impacts of a catastrophic during that

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time frame. There is no time limit on the consideration of reasonably expected environmental impacts that must be considered in an NEPA document.

The DIES totally ignores the fact that the DOE will have responsibility for the impoundment, essentially, forever. The DEIS fails to address the probability for a "significant release" during the length of time that the federal government will have responsibility for the site and responsibility for the clean-up of any contamination or tailings released from the site.

It is arbitrary for the DOE to assess the potential impact to the impoundment for only 200-1000 years. There is no legal basis for the DOE putting a time limit on consideration of potential environmental impacts that would result from leaving the Moab Mill tailings in place.

It was the intent of Congress that "uranium mill tailings disposal sites should in all cases be controlled and regulated by States and the Commission, to the maximum extent allowed by the state of the art, to insure that the public and the environment will be protected from the hazards of the tailings for as long as they remain a hazard." House Report No. 95-1480—Part I, p. 17-18.

2.3. DEIS (page 4-50): *Several processes could affect the integrity of the disposal cell at the Moab site:*

•River Migration•••• The Colorado River could migrate into the disposal cell over an extended period of time. Because this river migration would be assumed to occur over many years, a failure of long-term management of the pile would also have to occur for tailings releases to be significant.

Comment: The DEIS does not explain what the basis is for the assumption that river migration would occur over a period of years. In a flood event, the river could migrate rapidly, creating a new channel. The DEIS fails to consider the possibility of a catastrophic flood after a period of channel migration towards the impoundment.

Prudence demands that the DOE not rely on "long-term management of the pile" for assurances that the impoundment would not be compromised by natural forces. As stated in House Report accompanying the passage of the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA), "The committee believes that uranium mill tailings should be treated by the custodian in accordance with the substantial hazard they will present until long after our existing institutions can be expected to last in their present forms." House Report No. 95-1480—Part I, p. 17.

2.4. DEIS (pages 4-51 to 4-56) analyses the environmental impacts of catastrophic event: *Risks to humans would be based on some type of activity that would bring people in contact with contamination. In this case, the contamination currently in the tailings pile was assumed to be dispersed downstream during an event such as a flood, and it was assumed that people would come in contact with this contamination in the water or sediments.*

Comment: The impact scenarios that the DEIS discusses are totally out of touch with the reality of the use of the river as a major national recreational resource, the presence of public lands, and the desert environment. The DIES postulates a home built

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near the Colorado River. There are few places within the river basin below Moab where such a scenario could possibly take place.

The DEIS fails to mention or address the fact that the Colorado River shortly downstream from Moab flows, without a break, through 1) Canyonlands National Park, 2) Glen Canyon National Recreation Area, 3) Grand Staircase-Escalante National Monument, and 4) the Navajo Indian Nation. The confluence of the Colorado and Green Rivers occurs within Canyonlands National Park. Most of the other lands next to the river are also in the public domain. The DEIS arbitrarily excludes consideration of impacts to the Colorado River below Glen Canyon Dam down into Mexico.

The DEIS fails to include a land use and land ownership map from Moab to the Gulf of California.

The risks discussed have absolutely no relationship to the actual use by humans of the Colorado River between Moab and the Glen Canyon Dam at Page, Arizona, and beyond. The DEIS ignores the fact that the Colorado River is the 5th largest river in the United States and is the major source of drinking water, agriculture water, and recreation in the Southwest. The river provides numerous economic, social, aesthetic, and scientific resources for millions of people. Why is this not mentioned or analyzed in the DEIS?

The DEIS fails to take into consideration the recreational boating, both personal and commercial, on the Colorado. It does not identify the amount of that use, the number of trips that recreational guides take. There is no assessment of the impacts on the river-boating community by contamination from either gradual or single event scenarios, or a combination of both.

2.5. DEIS (page 4-51): *Other activities such as camping in a contaminated area would yield lower risks because exposure to contamination would occur for a limited number of days per year.*

Comment: There is no basis for this statement. DEIS shows that there is a complete lack of data regarding the number of days any commercial recreational worker would camp on the river. The DEIS does not contain any data regarding the use of the river as a source of drinking and wash water by the river boating community, including commercial guides. There is no assessment of the amount of time boaters and guides wade in the river, are splashed by river water, are dunked by boating accidents, and would otherwise be exposed to contaminated water, contaminated sediments, and contaminated particulates.

2.6. DEIS (page 4-51): *First, it was assumed that someone would build a house on contaminated sediments released from the tailings pile at a location downstream of the pile (residential scenario). This scenario assumes a home would be built in a contaminated area and the contaminated water (in this case, contaminated surface water) would be used as the primary drinking water source for many years (in reality, the contaminant concentrations in water would only last on the order of days*

Comment: There is no substantiation of the assumption that "the contaminant concentrations in water would only last on the order of days." The DEIS fails to assess a circumstance where there is a continual release of contaminants into the river from the

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tailings, contaminated groundwater, contaminated sediments, and contaminated soils outside of the impoundment.

2.7. DEIS (page 4-51)*: . . . . therefore, the exposures to contaminated water under a residential scenario are unrealistically high but provide an upper bound to the potential risks). The most significant risks would occur from ingestion of contaminated drinking water and exposure to the radon in air originating from radium-226.*

Comment: There is no mention of ingestion of contamination from dust via ingestion or breathing. This significant exposure pathway is not considered here. The DEIS fails to acknowledge that contaminated areas would dry out, especially in the dry climate, and contaminated materials would then be dispersed by wind, of which there is plenty.

The DEIS fails to provide an accurate and realistic scenario regarding the potential impact to humans from contamination in and near the river corridor.

2.8. DEIS (page 4-51) *The camping scenario assumes two overnight camping events per year in contaminated areas and the accidental ingestion of contaminated surface water and sediments.*

Comment: There is nothing here to show that a study has been done of the overnight camping habits of commercial river personnel or other members of the public who camp, wade, and boat on the Colorado. There is no discussion of purposeful ingestion of contaminated surface water by campers and boaters. River water is often settled and used and consumed by boaters on the river.

2.9. In sum, the DEIS fails to provide an accurate assessment of the potential of humans to be exposed to contaminants downstream from the Portal below the site to Lake Powell.

2.10. DEIS (page 4-52): Table *4-16 presents the estimated maximum level of contaminants in water and sediment that would still be protective of human (and ecological) health. The basis for these levels is provided in Appendix D.*

Comment: The DEIS does not provide a statutory and regulatory basis for applying what the DEIS believes is the "Maximum Exposure Level of Contaminants Protective of Human Health and Ecological Resources."

The DEIS fails to provide specific information regarding the applicable state of federal regulations that would apply to the tailings and contamination from the tailings that are released from the site by a natural event. Should the tailings enter the river, they will still be "residual radioactive material," and subject to the authority of UMTRCA and EPA and possibly other state and federal regulations.

UMTRCA defines "residual radioactive material":

(7) The term "residual radioactive material" means -

(A) waste (which the Secretary determines to be radioactive) in the form of tailings resulting from the processing of ores for the extraction of uranium and other valuable constituents of the ores; and

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(B) other waste (which the Secretary determines to be radioactive) at a processing site which relate to such processing, including any residual stock of unprocessed ores or low-grade materials. [42 U.S.C. Sec. 7911. Definitions, at (7).]

Any discussion of the maxim levels of contaminants must be accompanied by a clear, complete discussion of ALL the Federal and State regulations that would come into play if the tailings were left in place and if the tailings and contaminated materials from the site enter the Colorado River during a natural event. The DEIS should also discuss which Federal and State statutes, regulations, and policies, that would be violated by the release of tailings and contamination from the tailings into the Colorado River. See discussion at 2.16 below.

2.11. DEIS (page 4-52): *For the purpose of analysis, a large disposal cell failure (20 to 80 percent of the tailings eroded) was assumed to occur over a short duration (10 hours). Although such a large event would be unlikely, the analysis is useful in projecting potential environmental consequences of a worst-case scenario. The Colorado River was assumed to be at high flood stage during the tailings release. Concentrations of uranium, ammonia as nitrogen, and radium-226, the most prevalent contaminants, were estimated for the failure scenarios.*

Comment: The DEIS must develop a broader, more inclusive, estimation of the release of contaminants from the impoundment. The DEIS fails to provide a scientific rationale for putting such limitations on any assessment of the impacts of a large disposal failure. There is no data to support the assumption that the release of tailings into the river would occur over a single10-hour period.

2.12. DEIS (page 4-53): *Sediment released during a catastrophic event would deposit in the river bottom or along banks or become part of the suspended load. Fine-grained portions of the sediment would remain in suspension and rapidly transport downstream. Where the river overflowed its banks, fine-grained sediment would be deposited by settling in standing water.*

Comment: Here the DEIS only evaluates the contamination and sediments that travel downstream, away from Moab site and away from the Moab Valley. This leaves out a whole area that would be impacted by the release of tailings and contaminants during a flood.

The maps contained in the recent USGS report by Terry A. Kenney (cited above) show that during flood events river water would inundate the Scott M. Matheson Wetlands Preserve (Wetlands) and parts of Moab Valley. A similar flood scenario is also postulated in the DEIS.

The DEIS fails to access the environmental impacts resulting from dispersion of contaminated water and sediments in the Wetlands or Moab Valley. This clearly contradicts the DOE's assumptions set forth elsewhere in the DEIS.

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2.13. DEIS (page 4-53): *The concentrations of contamination in backwater areas would depend on (1) the proportion of fine-grained tailings to clean suspended load, (2) concentration in the suspended tailings, and (3) the mass deposited over a given area. During periods of low flow, fine-grained sediment would be deposited; during high flow, these deposits would be remobilized and transported farther downstream. The sediment would be dispersed and mixed with clean sediment during transport, causing a continual decrease in contaminant load. Based on detailed studies of deposition of radioactive sediment in the Colorado River Basin, it would be expected that very small amounts of contamination would accumulate in the main river channel (HEW 1963).*

Comment: This paragraph references a June 1963 U.S. Department of Health, Education, and Welfare report, entitled "Radiological Content of Colorado River Basin Bottom, August 1960 – August 1961." The DEIS fails to address how and why this 40-year old study is in any way related to the discussion at hand. The study itself does not discuss the amount and types of contaminants that entered the Colorado River from uranium mills. They only refer to "uranium mill wastes." The study ends with a discussion of "Future Work Desired," which includes the statement, "Another aspect which deserves special consideration is a study of the distribution of dissolved radium in river water, radium in transported (or suspended) sediment, bottom sediment material and aquatic biota." It also states, "Such a study would yield additional information on the fate of radium in the water environment."

Obviously, the HEW study was not meant to be a definitive study of radium in a river environment. In the past 40 years there should be numerous studies related to the fate of radium in a water environment. The DEIS fails to make use of such studies.

2.14. DEIS (page 4-53): *The most significant mill-related contaminant in the sediment would be radium-226 because of its low tendency to partition (dissolve) in water and its abundance in the tailings (HEW 1963).*

Comment: The 1963 HEW report discusses some of the complexities related to the dissolution of radium in water. The report states that dissolution is related to the chemistry of the radium bearing material, the chemistry of the leaching liquid (i.e., river water), the amount radium in relation to the volume of the leaching liquid, agitation, a cycle of dissolution and precipitation, and time. The DEIS simplifies a very complex process. The assumption that there will be minimal dissolution of radium-226 from the impoundment is unsubstantiated.

2.15. DEIS (page 4-54 to 4-56): Here, the DEIS discusses and addresses the potential adverse impacts on the environment after a catastrophic cell failure.

Comment: The DEIS acknowledges some of the many unknowns, uncertainties, and the fact that there would be long-term and short-term adverse consequences to the environment due to a catastrophic release of the tailings into the river. There is an acknowledgement that "specific impacts to endangered species are difficult to access."

The DIES presents no scientific bases for the various assumptions and "likely" scenarios related to environmental impacts of a failure of the impoundment. No study has been done that the DEIS can refer to or rely on for information regarding the

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significant short-term, long-term, direct, and indirect consequences of one or more releases of tailings into the Colorado River.

This section completely fails to acknowledge the fact that Moab and Grand County economy is a recreational tourist-based economy. Much of the recreation is associated with boating on the Colorado River. Any failure of the impoundment would have a severe negative economic impact on the local and regional community. Boating on the river downstream from the impoundment would be closed for an unknown period of time. That is, use of the Colorado River, as a navigable waterway would not be possible (impeded). The river-boating economy could be completely destroyed.

There is no mention of the impacts on the major downstream agricultural, drinking water, and recreational uses of the Colorado. There is no realistic discussion of a catastrophic tailings pile failure as a National Disaster.

The adverse impacts to the Wetlands and Moab Valley by a catastrophic failure of the tailings are completely ignored. Right now, DEIS answers to questions related to the environmental impacts of "Disposal Cell Failure from Natural Phenomena" are by-guess-and-by-golly.

These significant impacts demand a detailed and comprehensive study.

2.16. DEIS (page 4-55): *If mitigated, long-term failure would not likely result in negative impacts to aquatic biota. This type of release, which is possible at all UMTRCA Title I sites, can be mitigated. DOE's newly created (2003) Office of Legacy Management is responsible for monitoring and mitigating this type of release.*

Comment: Here the DEIS does acknowledge the DOE's responsibility for mitigation of impact from a release of tailings into the river environment. However, there is no actual assessment of the types of mitigation required, the clean-up standards to be applied, costs, the possibility that mitigative measures would not be possible or would be ineffective, etc.

The DEIS states that this type of release "is possible at all UMTRCA Title I sites." No data is given to support this false, misleading, inaccurate statement.

Mill tailings at other similar Title I sites have been removed from the floodplain of their respective rivers. Some of the Title I sites were not even located on a river in the first place. It is impossible for the tailings at other Title I sites to be released into the Colorado River or one of it's tributaries by a catastrophic flood or river meander. The Colorado River is the 5th largest river in the United States. There is no other comparable Title I situation.

3. Requirements of NEPA and CEQ Regulations

CEQ regulations that were promulgated in response NEPA are found at 40 C.F.R. §§ 1500-1508. These regulations set forth the requirements for draft EISs. Below is a discussion of how DEIS Section 4.1.17 meets, or fails to meet, some of the CEQ and NEPA requirements.

3.1. CEQ regulation that implement the procedural provisions of NEPA demands that the requirements of other environmental laws and policies that are applicable to the

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deposition of tailings and contaminated materials from the tailings into the Colorado River be addressed in the DEIS. See 40 C.F.R. § 1501.2, "Implementation."

CEQ regulation also demands that the agency address "whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment." See 40 C.F.R. § 1508.27(b)(10).

This section of the DEIS does not provide such a discussion. The DEIS does not address the federal and state statures and regulations are pertinent to the environmental impacts of a failure of the Moab Mill tailings impoundment. The DEIS does not address the possibility of the violation of other Federal, State, or local laws or regulations due to the presence of the tailings on the floodplain of a navigable water or the release of the tailings into such water, which includes nearby wetlands.

Some of applicable Federal and State regulations and statutes that should be addressed in any assessment of impacts from "Disposal Cell Failure from Natural Phenomena" are:

a. The Rivers and Harbors Act of 1899, Section 13, 1899 Rivers and Harbors Act (42 U.S.C. Title 33, Chapter 9, Section 407), which prohibits 1) the discharge of refuse matter of any kind or description whatever from the shore or mill into any navigable water and prohibits 2) material of any kind to be deposited on the bank of any navigable water where it shall be liable to be washed into such navigable water by storms or floods, or otherwise, whereby navigation shall or may be impeded or obstructed.

b. Utah State Clean Water Act Implementing Regulations (UAC. R317-2-13). The State of Utah is authorized to protect the Colorado River as a raw water source and for recreation, boating, wading, game fish, aquatic life, and agricultural use.

c. Endangered Species Act of 1973 (PL 93-205, 87 Stat 884, 7 USC 136, as amended)

d. Federal Water Pollution Control Act (Clean Water Act of 1972) (PL 92-500, PL 100-433, 86 Stat 816, USC 9 sec. 1251 et seq., as amended, 33 USC sec. 1251-1356, and 1987 Federal Water Quality Act)

e. Emergency Planning and Community Right-to-Know Act (PL 99-499 Title III of SARA Sec. 300-330, 100 Stat 1725, 42 USC 1101)

f. Federal Tort Claims Act (PL chapter 753 Title IV, 60 Stat 842, 28 USC 1346b, 2671-80)

g. Federal Water Pollution Control Act (Clean Water Act of 1972) (PL 92-500, PL 100-433, 86 Stat 816, USC 9 sec. 1251 et seq., as amended, 33 USC sec. 1251-1356, and 1987 Federal Water Quality Act)

h. National Park Service Organic Act of 1916 (PL Chapter 408, 39 Stat 535 et seq., 16 USC 1)

i. Historic Sites, Buildings and Antiquities Act of 1935 (PL Chapter 593, 49 Stat 666, 16 USC 461 et seq.)

j. Protection of Wetlands (E.O. 11990, 1977 42 FR 26961, 3 CFR 121 (Supp 177), 42 USC 4321)

k. Indian Sacred Sites* (E.O. 13007, 61 FR 26771)

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3.2. CEQ regulation requires that the DEIS shall include discussions of "direct effects and their significance" and "indirect effects and their significance." As shown above, this section did not provide a full discussion of the direct and indirect effects and their significance related to a failure of the impoundment. Too many of the effects were minimized or completely ignored . See 40 C.F.R § 1502.16 (Environmental consequences) (a) and (b).

3.3. CEQ regulation requires that the DEIS address the possible conflicts between leaving the tailings in place, with the potential of adverse impact from an impoundment failure, and the "objectives of Federal, regional, State, and local (and in the case of a reservation, Indian tribe) land use plans, policies and controls for the area concerned." The DEIS failed to mention, let alone address, pertinent objectives of Federal, State, local, tribal, and regional "land use plans, policies and controls for the area concerned." This is especially pertinent because the land that would be impacted by a failure of the impoundment at Moab, in land that belongs to Federal and Tribal governments. See 40 C.F.R § 1502.16 (c).

3.4. CEQ regulation requires that the DEIS consider "urban quality" and "historic and cultural resources" in the evaluation of the environmental consequences. The DEIS failed to identify and address the impacts to the urban Grand County community environmental and quality of life in the event of a disposal cell failure. The DEIS failed to address impacts on the historic and cultural resources on the Colorado River downstream from the Moab site that could be impacted by disposal cell failure. There are numerous cultural resources in the vicinity of the river downstream. These are neither identified nor addressed. See 40 C.F.R § 1502.16(g).

3.5. CEQ regulation requires that the DEIS address the means to mitigate adverse environmental impacts. This assumes that the adverse impacts are completely and accurately identified. This has not been done in this section. The DEIS does not state the extent of DOE responsibility for the contamination from the release of tailings from the site into the river. There is no discussion of exactly what could be done to clean up the contaminated river and wetland environment in the event of the dispersal of tailings and contamination in the Moab Valley and downstream. The DEIS does not state how the DOE would rectify the impact from a tailings impoundment failure by repairing, rehabilitating, or restoring the affected environment. See 40 C.F.R § 1502.16(h).

3.6. CEQ regulation requires that "agencies shall insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements." It requires that agencies "identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement." In this section the DOE did not meet this requirement. The various assumptions, hypotheses, and conclusions are not footnoted and there are numerous inaccurate, incomplete, and unsubstantiated statements. See 40 C.F.R. § 1502.24 (Methodology and scientific accuracy).

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3.7. CEQ regulation also says that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. There is no such an analysis in the DEIS related to a tailings impoundment failure. There is no recognition that such a failure would constitute "National Disaster." See 40 C.F.R. § 1508.27(a).

3.8. "Significantly as used in NEPA requires considerations of both context and intensity." See 40 C.F.R. § 1508.27(b)(1) to (10). Intensity means the severity of impact. NEPA requires that the following should be considered in evaluating intensity:

(a) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

(b) The degree to which the effects on the quality of the human environment are likely to be highly controversial.

(c) The degree to which the possible effects on the human environment is highly uncertain or involves unique or unknown risks.

(d) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

(e) Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

In the discussion of the impacts of a significant release of the tailings, the DEIS failed to be considered these aspects in evaluating intensity of the environmental consequences.

4. Regulatory Requirements

4.1. Section 7 (pages 7-1 to 7-9) of the DEIS sets forth various statutes, regulations, executive orders, and policy guidances that the DOE believes are applicable to the Moab Mill Project.

DEQ NEPA regulation at 40 C.F.R. § 1502.2(d) requires that "environmental impact statements shall state how alternatives considered in it and decisions based on it will or will not achieve the requirements of sections 101 and 102(1) of [NEPA] and other environmental laws and policies." See 40 C.F.R. § 1501.2, (Implementation). However, there is no section of the DEIS that addresses the applicability of NEPA and the other laws and policies to specific alternatives. Any discussion of regulatory requirements is scattered within the document and difficult to find.

NEPA also demands that the agency address "whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment." See 40 C.F.R. § 1508.27(b)(10). There is no such discussion in the DEIS.

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4.2. Section 7.1.7 (page 7-4) discusses the Clean Water Act. It states that "mill tailings are exempt from the definition of a pollutant," and implies that the Clean Water Act is not applicable to the tailings and any discharges from the tailings into ground and surface water, implying that the Moab Mill tailings are exempt from Clean Water Act regulations. The DEIS fails to provide a basis for this pollutant exemption.

The applicable EPA definition of "pollutant" under the Clean Water Act regulations is found at 40 C.F.R. § 122, entitled "EPA Administered Permit Programs: The National Pollutant Discharge Elimination System," Subpart A ("Definitions and General Program Requirements"). The DEIS references these EPA regulations, which are part of the EPA implementation of the Clean Water Act. Section 122.2, entitled "Definitions," states, in pertinent part:

> Sec. 122.2 Definitions.
>
> ***
>
> **Pollutant means** dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, **radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et seq.)**), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. It does not mean:
>
> ***
>
> **Note: Radioactive materials covered by the Atomic Energy Act are those encompassed in its definition of source, byproduct, or special nuclear materials. Examples of materials not covered include radium and accelerator-produced isotopes.** See Train v. Colorado Public Interest Research Group, Inc., 426 U.S. 1 (1976). [Emphasis added.]

First, the definition of pollutant says that it includes "radioactive materials (except those regulated under the Atomic Energy Act of 1954 (AEA), as amended (42 U.S.C. 2011 et seq.))." Next, the definition provides a note of clarification: "Radioactive materials covered by the Atomic Energy Act are those encompassed in its definition of source, byproduct, or special nuclear materials." It also states that materials not covered by the AEA "include radium."

According to the DEIS, the AEA requirements for the Moab Mill Tailings are found at 42 U.S.C., Chapter 88 ("Uranium Mill Tailings Radiation Control"), §§ 7901 et seq. These regulations apply to UMTRCA Title I inactive mill tailings sites, such as the Moab Mill Project site. These inactive sites are the responsibility of the DOE. Congress amended the AEA in October 2000 and designated the Moab Mill site as a Title I site under UMTRCA. See the Floyd D. Spence National Defense Authorization Act for Fiscal Year 2001 (Public Law No. 106-398). Because of that authorization act, the Moab Mill tailings are no longer regulated under 42 U.S.C. §§ 2021 et seq., which provides for (among other things) regulation of commercial uranium and thorium processing sites by the NRC and Agreement States.

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Under 42 U.S.C. Chapter 88, § 7911(7) the Moab tailings meet the definition of "residual radioactive material." Section 7911, states, in part:

> Sec. 7911. Definitions
> ***
> (7) The term "residual radioactive material" means -
> (A) waste (which the Secretary determines to be radioactive) in the form of tailings resulting from the processing of ores for the extraction of uranium and other valuable constituents of the ores; and
> (B) other waste (which the Secretary determines to be radioactive) at a processing site which relate to such processing, including any residual stock of unprocessed ores or low-grade materials.

Under the provisions of Title I, the Moab Mill tailings now fall within the definition of "residual radioactive material." They no longer fall under the definitions of source, byproduct, or special nuclear materials found in 42 U.S.C. Chapter 23. (It might be argued that the tailings contain "source material" and, thus, are exempt from the definition of "pollutant." However, that would only exempt the radioactive uranium portion of the tailings, not the other radioactive (e.g., radium-226), toxic, and hazardous constituents of the tailings and ground and surface water contamination from the tailings. The DOE has authority under Title I for "residual radioactive material," but not for "source material.")

There is no indication that the EPA has exempted "residual radioactive materials," or radioactive materials "regulated" under Sections 7901 et seq. of 42 U.S.C., from the regulatory definition of the term "pollutant."

The DEIS should clarify this matter of statutory authority under the Clean Water Act, with cites.

4.3. Section 7.1.8 (page 7-4) discusses the applicability of the Rivers and Harbors Act of 1899 (RHA). The only section discussed is Section 10. There is no mention of Section 13 of the RHA, sometimes known as the "Refuse Act" (42 U.S.C. Title 33, Chapter 9, Section 407). This is strange, because in the scoping process, I submitted an extensive comment regarding the applicability of this statute to the Moab Mill situation. Further, this issue is not listed in the DEIS under "Issues/Concerns Raised in the Scoping" (Section 1.5.2, pages 1-13 to1-20).

Section 13 of the RHA, entitled "*Deposit of refuse in navigable waters generally*," reads:

> **It shall not be lawful to** throw, discharge, or **deposit**, or cause, **suffer**, or procure to be thrown, discharged, or deposited either from or out of any ship, barge, or other floating craft of any kind, **or from the shore**, wharf, manufacturing establishment, **or mill of any kind, any refuse matter of any kind or description whatever** other than that flowing from streets and sewers and passing therefrom in a liquid state,

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into any navigable water of the United States, or into any tributary of any navigable water **from which the same shall float or be washed into such navigable water; and it shall not be lawful to deposit**, or cause, **suffer**, or procure to be deposited **material of any kind in any place on the bank of any navigable water**, or on the bank of any tributary of any navigable water, **where the same shall be liable to be washed into such navigable water**, either by ordinary or high tides, or **by storms or floods**, or otherwise, **whereby navigation shall or may be impeded or obstructed**: Provided,
***
That the Secretary of the Army, whenever in the judgment of the Chief of Engineers anchorage and navigation will not be injured thereby, may permit the deposit of any material above mentioned in navigable waters, within limits to be defined and under conditions to be prescribed by him, provided application is made to him prior to depositing such material; and whenever any permit is so granted the conditions thereof shall be strictly complied with, and any violation thereof shall be unlawful. [Emphasis added.]

The pertinent provisions of this statute read:

1) It shall not be lawful to discharge, or deposit, or cause, suffer, or procure to be deposited from the shore or mill of any kind any refuse matter of any kind or description whatever into any navigable water of the United States from which the same shall float or be washed into such navigable water; and

2) It shall not be lawful to deposit, or cause, suffer, or procure to be deposited material of any kind in any place on the bank of any navigable water where the same shall be liable to be washed into such navigable water by storms or floods, or otherwise, whereby navigation shall or may be impeded or obstructed.

With respect whether the Colorado River in the vicinity of the Moab Mill is a "navigable water," the U.S. Army Corps of Engineers informed the DOE that "the [Moab Mill] project site is also located within a declared navigable reach of the Colorado." See letter from Ken Jacobson, Chief, Colorado/Gunnison Basin Regulatory Office, Grand Junction, Colorado, U.S. Army Engineer District—Sacramento, Department of Army, to Joel Berwick, Grand Junction Office, DOE, August 14, 2003; Attachment 2 to "Migration Potential of the Colorado River Channel Adjacent to the Moab Project Site: Letter Report," MOA 19.1.2, November 2003, Rev. 2.

The DEIS should contain a full, authoritative discussion of the applicability of both Section 13 prohibitions to the Moab Mill site. This statute should be addressed pursuant to the requirements of 40 C.F.R. § 1502.2(d) and 40 C.F.R. § 1508.27(b)(10).

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4.4. Section 7.3.1 (page 7-8) Discusses the State of Utah Clean Water Act Implementing Regulations found in the *Utah Administrative Code* (U.A.C.) Section R317-2-13 (Water Quality Standards).

This very short section indicates that the Colorado River is protected by the State as a raw water source, for boating, wading, water skiing, warmwater game fish and necessary aquatic organisms in their food chain, and agricultural uses.

But, contrary to the requirements of 40 C.F.R. § 1502.2(d) and 40 C.F.R. § 1508.27(b)(10), the DEIS fails to "state how alternatives considered in it and decisions based on it will or will not achieve the requirements of" R317-2-13. Additionally, contrary to the requirements of 40 C.F.R. § 1508.27(b)(10), the DEIS fails to address whether the current situation or any of the proposed alternatives threaten a violation of R1317-2-13.

The DOE must implement these CEQ requirements in all respects.

4.5. The DEIS fails to list and address other requirements that would be violated or would in some way be applicable in the event of a catastrophic failure of the tailings impoundment. These would include the Emergency Planning and Community Right-to-Know Act (PL 99-499 Title III of SARA Sec. 300-330, 100 Stat 1725, 42 USC 1101), the Federal Tort Claims Act (PL chapter 753 Title IV, 60 Stat 842, 28 USC 1346b, 2671-80), and the National Park Service Organic Act of 1916 (PL Chapter 408, 39 Stat 535 et seq., 16 USC 1).

4.6. CEQ regulation at 40 C.F.R. § 1502.16(c) requires that the DEIS address "possible conflicts between the proposed action and the objectives of Federal, regional, State, and local (and in the case of a reservation, Indian tribe) land use plans, policies and controls for the area concerned." The DEIS discussion of Regulatory Requirements fails to identify and address specific objectives of Federal, regional, State, and local, tribal land use plans, policies and controls" for the impacted areas of concern. Further, there is no such discussion elsewhere in the DEIS.

4.7. Section 7.1.2 (pages 7-1 to 7-3) addresses the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA). Unfortunately, this section also includes the implementing EPA regulations, rather that providing a separate section for the discussion of 40 C.F.R. Part 192, Subparts A, B, and C. The DEIS mixes the provisions of Title I of UMTRCA with the applicable provisions of Part 192.

Neither the discussion of Title I nor the discussion of applicable subparts of 40 C.F.R. Part 192 state how alternatives considered in the DEIS and decisions based on the DEIS will or will not achieve the requirements of UMTRCA and Part 192. This is contrary to the expectation set forth in 40 C.F.R. § 1502.2(d).

4.8. In sum, the DEIS discussion of Regulatory Requirements, itself, fails to meet the regulatory requirements set forth in the applicable CEQ regulations implementing NEPA.

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Further, DOE NEPA regulations state that, "to the extent possible, DOE shall determine the applicability of other environmental requirements early in the planning process, in consultation with other agencies when necessary or appropriate, to ensure compliance and to avoid delays." See 10 C.F.R. § 1021.341 (Coordination with other environmental review requirements). As shown above, this directive was not fully implemented.

The CEQ regulations were promulgated for a reason. It was the intent of the NEPA and the CEQ that all significant circumstances affecting a major federal action be considered by the public and the agency. When an agency leaves pertinent information out of a DEIS, it limits the ability of the public and the agency to make sound environmental decisions. This is especially relevant in these circumstances, where there has been a massive failure of the regulatory oversight process since 1956. Fifty years of unsound Moab Mill decision making with respect the protection of the environment and the health and safety of the workers and the public is an unfortunate heritage. It is not a heritage to build on.

5. White Mesa Alternative

5.1. It was not until less than two weeks ago, at my request, that the DOE made one of the important documents related to the White Mesa proposal publicly available and placed it in the DOE reading files in Grand and San Juan Counties. The International Uranium (USA) Corporation (IUSA) report, *Preliminary Cost Estimate and Technical Report: Moab Tailings Project White Mesa Slurry Pipeline Option*. May 9, 2003, is a large document that, according to law, should have been made available to the public last May.

Although the DEIS discussion of the White Mesa Alternative is, in part, based on that submittal, it is not referenced in the DEIS. The failure of the DOE to make this record publicly available was a clear violation of the AEA (42 U.S.C. Chapter 88, § 7924(e); UMTRCA, Section 114(e), Documentation of information; public availability; trade secrets and other disclosure exempt information). Section 7924(e) states:

> The Commission, in cooperation with the Secretary, shall ensure that any relevant information, other than trade secrets and other proprietary information otherwise exempted from mandatory disclosure under any other provision of law, obtained from the conduct of each of the remedial actions authorized by this subchapter and the subsequent perpetual care of those residual radioactive materials is documented systematically, and made publicly available conveniently for use.

The Final EIS should include in its discussion of the White Mesa alternative the applicable references to the 2003 Preliminary Cost Estimate and Technical Report and other IUSA documents, with "explicit reference by footnote," as required by 40 C.F.R. § 1502.24.

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5.2. The DEIS sheds little light on the process that resulted in the White Mesa proposal appearing as a viable remedial action alternative.

5.3. It is unclear whether IUSA is acting as an applicant or as a potential future contractor to the DOE, and how, specifically, the IUSA proposal fits into the regulatory scheme of things under UMTRCA and other applicable DOE regulations related to applicants and contractors. This aspect of the IUSA proposal should be outlined in the DEIS, rather than hidden from the public.

5.4. The DEQ NEPA regulations include provisions that apply to "applicants," which IUSA appears to be. IUSA did submit a substantive proposal to the DOE and that proposal was accompanied by environmental information: *Description of the Affected Environment, White Mesa Mill, Blanding, Utah, for Transport by Slurry Pipeline and Disposal of the Moab Tailings*, May 2003.

40 C.F.R. § 1506.5 (Agency responsibility), states at (a):

> (a) Information. If an agency requires an applicant to submit environmental information for possible use by the agency in preparing an environmental impact statement, then the agency should assist the applicant by outlining the types of information required. The agency shall independently evaluate the information submitted and shall be responsible for its accuracy. If the agency chooses to use the information submitted by the applicant in the environmental impact statement, either directly or by reference, then the names of the persons responsible for the independent evaluation shall be included in the list of preparers (Sec. 1502.17). It is the intent of this paragraph that acceptable work not be redone, but that it be verified by the agency.

There is no specific reference to this requirement in the DEIS. The DOE did use the information submitted by IUSA in the DEIS and, however vaguely, did reference that document. However, there is no indication that the DOE independently evaluated and verified the information in that IUSA submittal. The DEIS does not indicate that the DOE is responsible for its accuracy. The DEIS does not list the preparers of the *Description of the Affected Environment* in the list of DEIS preparers in Section 8 of the DEIS.

The status of IUSA as an "applicant," the relationship of the IUSA environmental report to the DEIS, and the applicability of the requirements of 40 C.F.R. § 1506.5(a) should be clarified by the DOE.

5.5. Section 2 of the DEIS is supposed to contain a Description of Proposed Alternative Action. However, there is not a full description of any of the off-site disposal alternatives. The description of those alternatives is scattered throughout this section. Information regarding the White Mesa slurry pipeline alternative is presented on pages

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2-34, 2-46, 2-56, 2-59, 2-61 to 2-66, 2-78 to 2-83, and then some. It is very hard for a reviewer of the DEIS to get a complete, comprehensive picture of the totality of the White Mesa alternative or the two other off-site disposal alternatives.

The DEIS should be rearranged to include a descriptive section for each off-site alternative in Section 2. All this descriptive information for each alternative should be in one place. Section 2 is very confusing.

5.6. Section 1.4.2 (page 1-8) introduces the White Mesa proposal. It states that the Mill has the potential to process material from the Moab site." Neither here, nor in subsequent DEIS discussion of the possibility of the processing of slurry water or tailings, is there any mention of necessary findings by the Secretary of Energy that are required prior to the processing of any Moab materials at White Mesa. The specific provisions set forth in UMTRCA related to such processing are not included in the DEIS discussion. Here the applicable statute is found at 42 U.S.C. Sec. 7918(b), which states:

> (b) Mineral concentration evaluation; terms and conditions for mineral recovery; payment of Federal and State share of net profits; recovery costs; licenses
>
> Prior to undertaking any remedial action at a designated site pursuant to this subchapter, the Secretary shall request expressions of interest from private parties regarding the remilling of the residual radioactive materials and the site and, upon receipt of any expression of interest, **the Secretary shall evaluate among other things the mineral concentration of the residual radioactive materials at each designated processing site to determine whether, as a part of any remedial action program, recovery of such minerals is practicable.** The Secretary, with the concurrence of the Commission, may permit the recovery of such minerals, under such terms and conditions as he may prescribe to carry out the purposes of this subchapter. **No such recovery shall be permitted unless such recovery is consistent with remedial action. Any person permitted by the Secretary to recover such mineral shall pay to the Secretary a share of the net profits derived from such recovery, as determined by the Secretary.** Such share shall not exceed the total amount paid by the Secretary for carrying out remedial action at such designated site. After payment of such share to the United States under this subsection, such person shall pay to the State in which the residual radioactive materials are located a share of the net profits derived from such recovery, as determined by the Secretary. **The person recovering such minerals shall bear all costs of such recovery.** Any person carrying out mineral recovery activities under this paragraph shall be required to obtain any necessary license under the Atomic Energy Act of 1954 [42 U.S.C. 2011 et seq.] or under State law as permitted under section 274 of such Act [42 U.S.C. 2021]. [Emphasis added.]

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This statute related to recovery of minerals from "residual radioactive material" by a Title II licensee requires various findings by the Secretary of Energy.

There is no indication that the Secretary has made the required findings related the processing of Moab tailings or slurry water by IUSA. There is no indication that the Secretary has evaluated the mineral concentration of the residual radioactive materials at the Moab site, determined whether mineral recovery is practicable and consistent with remedial action, or has determined the share of the net profits that should to the Secretary.

The DEIS's failure to include this pertinent information is consistent with the DEIS's failure, described above, to include specific information regarding the implementation of applicable statute, as required.

These statutory requirements must be discussed in the DEIS.

5.7. Section 3.4.11 (pages 3-155 to 3-157) discusses Cultural Resources at the IUSA Mill.

The discussion of the adverse impacts to the cultural resources in Section 4.4.9 (pages 4-135 to 4-138) reference the 2003 *Class I Cultural Resource Inventory of the Proposed White Mesa Mill Site, White Mesa Mill Materials Borrow Area, and Two Associated Corridor Routes, Grand and San Juan Counties*, Utah, Abajo Archeology, Bluff, Utah. There is no mention in the DEIS that this document is not publicly available. Apparently, no attempt was made to make a copy that did not contain sensitive information available to the public. 40 C.F.R. § 1502.21 states, "No material may be incorporated by reference unless it is reasonably available for inspection by potentially interested persons within the time allowed for comment."

Section 3.4.11 states that the various sections of land on White Mesa, however there is no mention of Section 16, Township 38 South, Range 22 East. Since this section contains IUSA's proposed borrow area, I would think that that area would be included in the study.

The information in this discussion of cultural resources is minimal and in no manner informs the reader of the types of cultural sites that would be destroyed should the White Mesa alternative be approved. The DEIS should include pictures of the types or archeological sites that would be destroyed. Attached is a publication that includes pictures: White Mesa Archeological Sites: A Report, Sarah M. Fields, June 2004. This document is available at http://www.utah.sierraclub.org/. As the author of that document, I give the DOE permission to make use of any pictures or text from that document. Please! Download, cut, and paste.

The DEIS references a document, still in the works, by J. Fritz, *Potential Traditional Cultural Properties within Moab Project Study Areas: A Preliminary Ethnographic Overview*. Information from this study should be included in the final DEIS. Additionally, during the scoping process, much information was provided the DOE regarding the traditional uses of cultural resources in the vicinity of White Mesa. This information has not been included in the DEIS. It must be incorporated in the DEIS.

The DEIS fails to acknowledge that "mitigation measures" usually means the complete destruction of the archeological resources on the ground, after excavation.

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This DEIS discussion does not include any reference to the license condition in IUSA's license (License Condition 9.7, NRC Source Material License SUA-1358) related to the identification and mitigation of archeological sites. The terms of this license condition should be included in the DEIS, as required by CEQ NEPA regulations at 40 C.F.R. §1502.25(b).

5.8 It is clear that the numerous adverse impacts to significant, treasured, culturally meaningful resources on and in the vicinity of White Mesa, which cannot in any manner be mitigated, make consideration of the White Mesa option completely unacceptable.

Thank you for this opportunity to present comments.

Sincerely,

Sarah M. Fields

Sarah M. Fields
for the Glen Canyon Group
P.O. Box 143
Moab, Utah 84532

Enclosure: As stated