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Benad Jagannath
U.S. Nuclear Regulatory Commission
Division of Waste Management
Office of Nuclear Material,
Safety and Safe Guards
Washington, D.C. 20555

Re: Partial Review Comments of NRC "Draft Standard Review Plan for Geologic-Seismologic Reviews of UMTRA Documents"

Dear Mr. Jagannath:

We have reviewed your "Draft Standard Review Plan for Geologic-Seismologic Reviews of UMTRA Documents" dated 6/13/85. Specific comments are presented in the following:

Section 1.1.2.2.1, Page 3

We suggest adding the following excerpt from 40 CFR Part 192, Section III (3) 1 page 596 and 597.

> The proposed standard required a longevity of control of at least 1000 years. The final standard requires that control measures be carried out in a manner that provides reasonable assurance that they will last, to the extent reasonably achievable, up to 1000 years and in any case, for a minimum of 200 years. The widely varying characteristics of the inactive sites, the uncertainties involved in projecting performance of control measures over long periods of time, and the large costs involved in moving some tailings piles to provide a very high degree of assurance of longevity make this change appropriate. (We estimate up to 50 million dollars might be unnecessarily spent to move piles under the proposed requirement for a longevity of at least 1000 years.) The change does not signify that there are circumstances which the term of protection contemplated by the proposed standards is not appropriate. The change merely acknowledges that implementing agencies may in some cases have difficulty certifying that control measures that are appropriate can reasonably be expected to endure without degradation for 1000 years. Man's ability to predict the future is notoriously limited. That fact, which on the one hand warrants our making responsible societal efforts to limit risk to future generations, also warrants our refraining from actions undertaken merely in the name of necessarily artificial levels of statistical certainty. (emphasis added)

The above section clarifies the longevity that designs are expected to achieve. And the circumstances for designing for less than 1000 years, is when it would require moving of a pile. In the last sentence the paragraph serves to define the term" reasonable". By inserting this paragraph in the review standards, the framework is set for the level of effort and the conclusions which are drawn for use in design.

Section 1.2.1.6, Page 6

This section should specifically state that projections of future use of mineral resources are not required. Nor is consideration of disruption of the pile due to mineral exploitation activities warranted in light of UMTRCA Section 104 h. (See page 1 of your document).

Section 1.2.2.1, Page 6, last paragraph

It is suggested that the wording be changed to require only a description of stratigraphy on a regional scale. Requiring regional surface and subsurface geologic maps and cross sections are not considered appropriate and do not add significantly to an understanding of a site. However, it is suggested that such items be included for describing the site and its surrounding areas, where appropriate.

Section 1.2.2.2, Page 7

Rather than specifying a scale and contour interval this should be left up to the document author. Also the level of effort given in paragraph three should be placed in perspective with paragraph one. Certainly such a detailed study would not be required where the risk of geomorphic processes are very low.

Section 1.2.2.2.1.1 (2), Page 9

The identification and description of tectonic structures underlying the site should be limited to literature review and evidence of surface faulting on-site. Otherwise, expensive and sometimes questionable studies would be required to disprove faulting under a site. Rather this paragraph should limit identification of buried faults to those identified on geologic maps to extend within 3000 feet of the site. By using the "capable Fault", definition (10CFR100) extensive trenching would be required on sites covered with Holocene alluviums. This level of effort is unnecessary for this project which will limit identification of faults to those in literature or those that exhibit surface rupture.

Section 1.2.2.3.1.1.(3), Page 9

This section should state that the listing should be limited to a 120 mile radius around the site. This is considered the limit of the distance that any seismic event could have caused detectable on-site ground motion.

Section 1.2.2.3.1.2, Page 9ff

While we do not conduct our investigations in the manner outlined for review, some general comments on this section should be considered. First, it will be impossible for the NRC reviewer to evaluate seismicity as presented in an EA or EIS since these documents do not present a "projected maximum-practical design acceleration". Our designs in these documents are very conceptual in nature and we do not present quantitative analyses of the slopes. In addition, the procedure in step (2) is unclear.

Specific areas of disagreement concern the use of the 84th percentile value of acceleration. It is our opinion that this constitutes "necessarily artificial levels of statistical certainty" as previously mentioned. A 50th percentile value is appropriate.

It is apparent from the previously quoted section of 40 CFR Part 192 that the review would be structured to identify maximum MCE acceleration for the site. However, if this acceleration would cause embankment failure resulting in undue expense associated with moving the pile, a reduced acceleration, down to 200 year design life lower bound would be considered acceptable, as long as surface rupture at the site is not present.

Very truly yours,
JACOBS ENGINEERING GROUP INC.

Ronald E. Rager
Manager, Geotechnical Engineering

RER/ll

cc: JD'Antonio
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