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40-4492/EFH/87/07/09/0

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Docket File 40-4492 PDR/DCS DBangart, RIV MFliegel, WMLL EHawkins WDEQ (2) JHaes, RCPD, WY LLW Branch, WMLU URFO r/f

JUL 1 4 1987

URF0:EFH Docket No. 40-4492 04004492460E

American Nuclear Corporation ATTN: Mr. Niles Andrus Vice President - Operations 314 West Midwest Casper, Wyoming 82602

Dear Mr. Andrus:

As a follow-up to our letter to you of June 30, 1987, and subsequent telephone conversations, I am enclosing an expanded version of our request for information regarding your proposed plan's ability to meet the requirements of 10 CFR Part 40, Appendix A. The purpose of transmitting this version of the request is to attempt to provide you with as much detail as possible of the information we need to determine if your proposed plan will meet all the requirements. At the present time, we are only requesting this information on those parts of your plan that would be impacted by the placement of tailings from the Riverton UMTRA Project. However, the ability of the entire proposed plan to meet the requirements must be addressed in the near future.

Because of the very tight deadlines associated with the disposition of the Riverton UMTRA Project tailings, please respond as soon as possible to our June 30, 1987 letter. If you have any questions, please call at (303) 236-2805.

Sincerely,

RDS for

Edward F. Hawkins, Chief Licensing Branch 1 Uranium Recovery Field Office Region IV

Enclosure: As stated

PDR

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ENCLOSURE

An evaluation of your proposed plan's ability to meet the requirements of 10 CFR Part 40, Appendix A, must be presented. Specifically, you must demonstrate that your plans for the proposed cover design will meet both Criterion 4 and Criterion 6 of Appendix A.

Criterion 4 of Appendix A contains specific requirements. Each of these specific requirements can be considered as contributing to (but does not assure) meeting the general performance standard in Criterion 6. Although Criterion 4 contains flexibility, site-specific alternatives to the Criterion 4 requirements may be proposed by applicants and licensees. In demonstrating whether proposed alternatives are equivalent to the extent practicable to the standards in Criterion 4, applicants can include consideration of the collective ability of the proposed alternatives to meet Criterion 6 as part of the supporting rationale.

The requirements of Criterion 6 are that the waste disposal area will be closed "... in accordance with a design which provides reasonable assurance of control of radiological hazards to (i) be effective for 1000 years to the extent reasonably achievable, and, in any case, for at least 200 years..." The staff considers that radiological hazards are controlled over the design life if the design provides reasonable assurance that the radon emission rate will remain below 20 picocuries per square meter per second and if the tailings will remain covered so that dispersal by natural means will not occur and that they will not be accessible for misuse by humans. Reasonable assurance requires consideration of normal processes of deterioration as well as infrequent but severe events that might affect design life. Note that Criteria 1 and 12 of Appendix A require that the final disposition of tailings or waste should be such that ongoing maintenance is not necessary to preserve isolation.

Therefore, you must either show reasonable assurance of a 1000 year design life of your proposed design or show that a cover design with a 1000 year life is not reasonably achievable. In the latter case you must show that the design life of the proposed cover is as close to 1000 years as is reasonably achievable in addition to showing that it has a design life of at least 200 years.

The demonstration to show that a 1000 year design life is not reasonably achievable must include a rationale (or basis) and evidence, e.g., a cost analysis relative to the effective design life. The demonstration should span the range of potentially available options for both designs and specific requirements. Although options for overall designs should be considered primarily in terms of their design life, their ability to meet the specific Criterion 4 requirements must also be considered. Considering Criterion 4, we note several areas where your proposed design does not appear to be in full compliance.

- Criterion 4(a) requires a self-sustaining vegetative cover or rock cover to reduce erosion to negligible levels. Your proposed plan indicates that the top of the pile is to be revegetated. You will need to substantiate that the cover will be self-sustaining and that the erosion potential is negligible.
- If top covers are very thick (on the order of 10 meters or greater), Criterion 4(d) states that rock covering may be unnecessary. Since the depth of cover on the top of the proposed pile is only 6 feet, it does not appear that your design meets this requirement.
- 3. Criterion 4(d) requires that the erosion potential of the surrounding terrain be evaluated to assure that there are not ongoing or potential processes which could lead to instability. It appears that the diversion channel south of the impoundment could potentially result in erosion of the downstream toe of the pile, as it is only 70 feet from the pile.

For Criterion 6, you have not submitted any information to demonstrate the effective design life of your proposed plan. This demonstration should provide reasonable assurance that the design life is 1000 years to the extent reasonably achievable. Accordingly, please submit the required information as soon as possible so that we can complete our review of your request.

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