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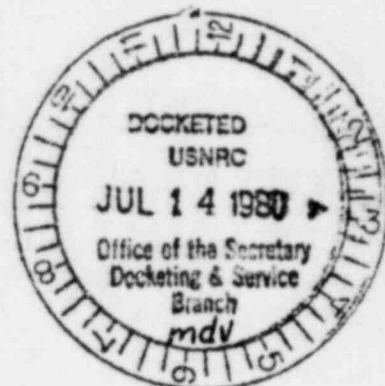
EXXON NUCLEAR COMPANY, Inc.

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RAY K. ROBINSON
Vice President

DOCKET NUMBER **PR-60** (15)
PROPOSED RULE
(45 FR 31393)

11 July 1980



Secretary of the Commission
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Attention: Docketing & Service Branch

Subject: Comments on 10 CFR 60 "Technical Criteria for
Regulating Geologic Disposal High-Level
Radioactive Waste" (Federal Register 5-13-80)

Dear Sir:

Exxon Nuclear Company has reviewed the referenced proposed criteria and we are pleased to submit our comments. We are concerned that the bases and rationale documents supporting the proposed criteria are not available at this time and thus preclude our evaluation of the public health and safety bases for the proposed guidelines. Our comments on this Advanced Notice of Proposed Rulemaking contemplate a future opportunity to review in further detail the proposed criteria subsequent to the release of the rationale documents. We anticipate we may desire to comment in further detail on the proposed criteria at a later time.

Comments

The approach taken by the NRC does not appear to be consistent with the "systems approach" recommended by the IRG and as noted as an objective of the NRC: "the Commission staff believes that it is reasonable to couple a prudently and cautiously selected geologic setting (natural barriers) with a set of engineered barriers capable of performing or assisting the performance . . . (containment and isolation)." We believe that the NRC should establish appropriate criteria and standards for the performance of the overall system, rather than defining specific performance values for individual components. The systems designer (DOE) should have the flexibility, for example, to permit optimum trade-offs between the waste form, the container design, and the overpack as long as the overall system meets those criteria that insure public health and safety.

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AFFILIATE OF EXXON CORPORATION

While the rationale are not available for an independent evaluation of the quantitative criteria, we believe that several of the criteria represent extremely conservative numbers that cannot be justified as desirable on a cost/benefit basis, or justified by any sort of a comparative risk analysis.

We suggest that the NRC provide appropriate comparative systems risk analyses to show that there is a rational basis for all specific quantitative criteria.

There are certainly some desirable features in the philosophy regarding "Human Intrusions," i.e., site suitability criteria which would lead toward uninteresting sites having little or no resources. These criteria would appear to preclude the disposal of any significant quantity of spent fuel, since a large repository filled with spent fuel would contain an energy source equivalent to a major oil field, i.e., greater than the North Slope. As energy resources become increasingly more limited in the next several decades, and if advanced reactors operating on other than a throwaway cycle are deployed in large numbers, such a resource would be very attractive and could lead to purposeful human intrusion.

Following are several considerations which we believe need to be more fully addressed:

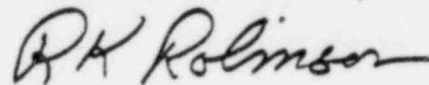
- No discussion is presented about the bases for a decision to permanently enclose the waste. While it may be premature to develop these bases or criteria in detail, we believe that a general outline of the decision bases should be developed.
- Criteria or considerations regarding the age of the waste prior to the burial are not presented or discussed.
- We believe that waste form is a very important parameter, as is waste type. This does not appear to be considered. For example, the release rates noted in 60.111, C.3.c., as may be required for wastes contained in spent fuel could be considerably different than that required for solidified wastes after fuel reprocessing.
- Although it is true that the geologic disposal of HLW per se is an entirely new enterprise, we believe it is misleading to omit the mention at this point of the wealth of relevant geologic, engineering and hydrologic data which are available.

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Finally, we would like to briefly address the questions raised on page 31398: 1) it is difficult to comment on the list of considerations until the rationale documents have been made available. One issue that appears to have not been considered is the extent to which disposal of reprocessed high level wastes would alter the approach to defining criteria; 2) it is inappropriate for us to comment on the scope of the rule without reviewing the rationale documents; 3) as indicated in our above comments, we feel that the NRC's EIS and technical criteria should concentrate on the systems approach and its relevance to protecting the public health and safety in a manner comparable to other nuclear activities which the NRC regulates; and 4) the environmental impacts of criteria constructed with the principles noted cannot realistically be assessed without an evaluation of the rationale upon which they are based.

Very truly yours,

EXXON NUCLEAR COMPANY, INC.



RK Robinson
Vice President, Projects

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