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April 28, 1988

Mr. Ronald L. Ballard, Chief
Technical Review Branch
Division of High-Level Waste Management
U.S. Nuclear Regulatory Commission
Mail Stop 1 WFN-4-H-3
Washington, D.C. 20555

Re: Draft Generic Technical Position on "Guidance for Determination of Anticipated Processes and Events and Unanticipated Processes and Events" (53 Fed. Reg. 6040)

Dear Mr. Ballard:

On February 29, 1988, the Nuclear Regulatory Commission (NRC) published in the Federal Register a notice of availability of a draft Generic Technical Position (GTP) regarding "Guidance for Determination of Anticipated Processes and Events and Unanticipated Processes and Events." The Edison Electric Institute (EEI) and the Utility Nuclear Waste Management Group (UNWMG) are pleased to comment on the draft Generic Technical Position.

EEI is the association of the nation's investor-owned electric utilities. UNWMG is a group of forty-five electric utilities that provides active oversight of the implementation of the federal statutes concerning radioactive waste management. EEI/UNWMG's comments are summarized in this letter and discussed in greater detail in the enclosure to this letter.

EEI/UNWMG believes that the NRC should provide appropriate guidance for evaluating processes and events that could occur after closure of a high-level radioactive waste repository so that they can be categorized as either "anticipated processes and events" (AP&Es), or "unanticipated processes and events" (UP&Es). Unfortunately, the draft GTP falls short of the mark. The fundamental defect in the approach presented in the draft GTP is its failure to provide adequately for the application of probabilities in identifying AP&Es and UP&Es. Finally, the draft GTP ignores the guidance provided to implementing agencies (i.e., the NRC) by the EPA in originally promulgating its high-level waste disposal standards. Accordingly, EEI/UNWMG believes that the guidance presented in the draft GTP should not be adopted.

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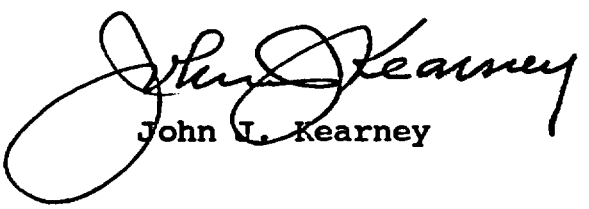
We appreciate the opportunity to provide comments on the subject draft GTP, and we encourage the NRC to provide timely, meaningful guidance to the Department of Energy with respect to repository regulatory requirements.

We would be pleased to discuss our comments with you should you so desire. If you have any questions, please feel free to call Nancy Montgomery, EEI/UNWMG Program Manager for High-Level Waste, at (202)778-6513.

Sincerely yours,



John J. Kearney

JJK/nmm
Enclosure

Enclosure

EDISON ELECTRIC INSTITUTE
AND
UTILITY NUCLEAR WASTE MANAGEMENT GROUP

Comments on Draft Generic Technical Position on "Guidance for Determination of Anticipated Processes and Events and Unanticipated Processes and Events" (53 Fed. Reg. 6040)

EEI/UNWMG believes that the NRC should provide appropriate guidance for evaluating processes and events that could occur after closure of a high-level radioactive waste repository so that they can be categorized as either "anticipated processes and events" (AP&Es), or "unanticipated processes and events" (UP&Es). Unfortunately, the draft GTP falls short of the mark. The basic significance of determining and differentiating between AP&Es and UP&Es is related to post-closure repository closure requirements imposed by federal regulations. In particular, for AP&Es, the engineered barrier system must meet the numerical design requirements set forth in 10 CFR Part 60.113. Further, to conform with applicable environmental standards expected to be set forth by the Environmental Protection Agency (EPA) in 40 CFR Part 191 (and implemented by 10 CFR Part 60.112), consideration must be given to both AP&Es and UP&Es to assure that the likelihood of exceeding the environmental standard limitations under such circumstances is sufficiently low.

The basic method presented in the draft GTP for identifying AP&Es and UP&Es involves determining what processes and events have occurred within the geologic setting of interest during the Quaternary Period (extending backward in time approximately 1.8 million years from the present). Processes and events falling within this grouping are categorized as AP&Es. Processes and events that have not occurred during the Quaternary Period would normally not be considered sufficiently credible to warrant consideration at all. However, after examining the geologic records, processes and events falling between the "reasonably likely" (AP&Es), and those not sufficiently credible to warrant any consideration, would be categorized as UP&Es. Such processes and events are:

(1) those that have occurred in the region of the geologic setting, and could reasonably be transposed to other areas within the geologic setting.

(2) those processes and events that are not known to have occurred in the geologic setting, during the Quaternary Period, but that have a cycle that could credibly result in a recurrence during the period of performance;

(3) those processes and events for which there is little scientific basis for ruling out an occurrence; and

(4) those processes and events that would directly result from another unanticipated process or event.

(Draft GTP, pp. 12-13.)

The fundamental defect in the approach presented in the draft GTP is its failure to provide adequately for the application of probabilities in identifying AP&Es and UP&Es. The concept of probability is intrinsic to the notion of what is "anticipated," and what is "unanticipated." Further, the definitions of AP&Es and UP&Es in 10 CFR Part 60.2 are both premised on what is "reasonably likely" (i.e., probable), and what is not.

In addition, from a technical standpoint, there is little if any justification for arbitrarily focusing on the occurrence or non-occurrence of processes and events within a particular Period of geologic time as a fundamental step in determining what is to be considered anticipated and unanticipated. It might be demonstrated, for example, that certain processes and events that occurred during the Quaternary were associated with phenomena that no longer operate in the geologic setting of interest. Clearly, it would make little sense to now classify such processes and events as anticipated or, for that matter, unanticipated.

Finally, the draft GTP ignores the guidance provided to implementing agencies by the EPA in originally promulgating its high-level waste disposal standards. (See 50 Fed. Reg. 38,066 to 38,088 (1985).) In particular, Appendix B to those standards, as contained in 40 CFR Part 191, specifically provides:

> The agency assumes that... performance assessments need not consider categories of events or processes that are estimated to have less than one chance in 10,000 of occurring over 10,000 years. Furthermore, the performance assessments need not evaluate in detail the releases from all events and processes estimated to have a greater likelihood of occurrence. Some of these events and processes may be omitted from the performance assessments if there is a reasonable expectation that the remaining probability distribution of cumulative releases would not be significantly changed by such omissions.

(Emphasis added.) By failing to reflect this guidance -- and, in effect, rejecting it -- application of the analysis described in the draft GTP for identifying AP&Es and UP&Es could actually operate to distort the requirements prescribed in the EPA standards.