



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

April 2, 1992

MEMORANDUM FOR: Dade W. Moeller, Chairman  
Advisory Committee on Nuclear Waste

FROM: James M. Taylor  
Executive Director  
for Operations

SUBJECT: ADVISORY COMMITTEE ON NUCLEAR WASTE RECOMMENDATIONS ON U.S.  
NUCLEAR REGULATORY COMMISSION STAFF TECHNICAL POSITION ON  
"THE IDENTIFICATION OF FAULT DISPLACEMENT AND SEISMIC HAZARDS  
AT A GEOLOGIC REPOSITORY"

In a letter dated January 24, 1992, the Advisory Committee on Nuclear Waste (ACNW) submitted a number of programmatic recommendations and specific technical comments, after Division of High-Level Waste Management (HLWM) staff interactions with the ACNW, on a final draft of the staff technical position (STP) on "The Identification of Fault Displacement and Seismic Hazards at a Geologic Repository." These interactions were conducted with a working group of the ACNW, on December 17, 1991, and with the full ACNW Committee, on December 18, 1991. The ACNW's programmatic recommendations and specific technical comments not only related to the staff's final draft STP, but also concerned HLWM's overall seismo-tectonics guidance program.

The staff has reviewed both the ACNW's programmatic recommendations and its specific comments on the technical contents of the STP. As part of the publication of the STP in final form, the HLWM staff is preparing a comment-response package, as an appendix to the STP, in which the ACNW's specific technical comments will be addressed. The STP itself has been designated as NUREG-1451 and it is currently scheduled for transmittal to the Regulatory Publications Branch, for publication, in April 1992. Overall, the staff generally agrees with the ACNW's specific technical comments and has found them helpful.

The ACNW's overall programmatic recommendation in its January 24, 1992, letter to the staff was to accelerate development of the remaining STPs comprising the HLWM seismo-tectonics guidance program ahead of the schedules described during the staff's December 1991 ACNW briefing. As noted during the briefing, these schedules were arrived at in consideration of the resource balance between HLWM's proactive and reactive programs, and the lead-time needed to acquire the technical bases necessary to support development of the STPs, themselves. For some of the STPs, there remains a significant amount of front-end technical work and staff coordination, using the Systematic Regulatory Analysis (SRA) of 10 CFR Part 60, before the proposed technical positions can be crafted. Accordingly, the development schedules described previously to the ACNW reflect the staff's best effort, at this time, given the availability of key staff and other program commitments and competing priorities.

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In the interim, the staff has other vehicles available to it for providing seismo-tectonics guidance to the U.S. Department of Energy (DOE). For example, the staff provides guidance to DOE through its reviews of and comments on semi-annual Site Characterization Progress Reports and Study Plans. These reports and plans describe, respectively, the status and results of DOE's investigations of faulting, seismic and volcanic phenomena, and investigations to understand these phenomena.

The ACNW recommended to the staff that there was a need for an early statement in the form of an STP, followed by rulemaking, on the acceptability of geologic repository sites with so-called "susceptible" faults present within the controlled area. The staff intends to prepare an STP elaborating on this position and plans to issue a draft for ACNW comment this fiscal year.

The basic elements of the staff's position were presented to the ACNW during the December 17-18, 1991, interactions. In the context of the geologic repository program, the staff noted that the occurrence of fault displacement by no means implies that a candidate site is unsuitable as a potential repository. The staff noted its position that any proposed geologic repository designed to accommodate fault displacement must demonstrate reasonable assurance of meeting 10 CFR Part 60 siting and design criteria and performance objectives, and that if DOE intends to design for faulting, DOE should seek early resolution of fault-related design and performance issues.

Also, the staff notes that we are in agreement that Appendix A to 10 CFR Part 100 does not apply to a high-level waste repository. Moreover, the surface waste-handling facilities designed under 10 CFR Part 60 need not be designed to the same geologic criteria as those covered under 10 CFR Part 72, which incorporates by reference Appendix A to 10 CFR Part 100, "Geologic Siting and Design Criteria for Nuclear Power Plants." When preparing 10 CFR Part 72, the staff recognized that the seismic design requirements for independent spent fuel storage facilities (ISFSIs) could be simpler than those for nuclear power plants. However, the staff recognized that ISFSIs would, in most cases, be collocated with nuclear power plants, with a site already analyzed thoroughly. Therefore, the staff chose to reference Appendix A to 10 CFR Part 100 in 10 CFR Part 72 as both a conservative approach and a matter of convenience because the Appendix A siting and design criteria were the only such regulatory criteria available at the time.

Finally, with respect to the ACNW's recommendation to proceed with a rulemaking on this subject, the staff will include this topic with the other uncertainties previously identified by the SRA. However, the staff has not identified a need for rulemakings in the seismo-tectonics area in any of its last three strategy papers (e.g., SECY-88-285, SECY-90-207, or SECY-91-225) and does not anticipate a change in this position.

Original Signed By:  
James M. Taylor  
James M. Taylor  
Executive Director  
for Operations

cc: The Chairman  
Commissioner Rogers  
Commissioner Curtiss  
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