POLICY ISSUE
(Information)

August 25, 1989 SECY-89-261

For: The Commissioners

From: James M. Taylor
Acting Executive Director for Operations

Subject: PROGRESS MADE BY U.S. DEPARTMENT OF ENERGY (DOE) AND THE INDUSTRY TO DEVELOP CASK DESIGNS TO ACHIEVE COMPATIBILITY FOR DRY STORAGE AND TRANSPORTATION PURPOSES

Purpose: To inform the Commission of progress made by DOE and the industry in addressing potential compatibility problems between dry spent fuel storage system designs and offsite transportation of spent fuel from such systems, without need to return fuel to reactor basins.

Summary: In its March 1, 1989, letter to DOE, which commented on DOE's "Final Version Dry Cask Storage Study" (DOE/RW-0220), the Commission indicated that it was pleased with DOE's positive response to the Commission's concern about the need to ensure compatibility of various steps in the storage, transportation, and disposal of spent fuel to enhance the safety and efficiency of fuel handling. The Commission encouraged DOE to actively pursue the commitment that it made in its final study to accomplish resolution of this matter, both through its own actions and in concert with industry.

Since issuance of the final study, DOE's Office of Civilian Radioactive Waste Management (OCRWM) has taken actions in response to the Commission's comments. As DOE committed, DOE/OCRWM has raised this matter with utilities in its Annual Capacity Report issue-resolution process. One part of DOE's transportation cask development initiative is to develop "Specialty Casks" to handle a variety of atypical fuel, hardware, components, etc. DOE has decided that, when this activity is begun, consideration of canistered fuel (as in the NUHOMS design proposed for use at Duke Power Company's Oconee Nuclear Station) will be included in setting requirements for "Specialty Casks." DOE/OCRWM is continuing its interactions with utilities and their representative organizations on this issue and related storage/transportation cask matters. The leading technical matter is allowance for burnup credit in criticality design.

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The industry is also seeking to address this issue directly by meeting with U.S. Nuclear Regulatory Commission (NRC) staff to discuss potential initiatives. In 1988 and early 1989, Nuclear Assurance Corporation met with Office of Nuclear Material Safety and Safeguards (NMSS) staff to discuss submittal of a dual-purpose spent fuel storage/transportation cask design.

A topical report for this cask design is expected to be submitted this fall to NMSS' Fuel Cycle Safety Branch for its review for storage in conjunction with an application to NMSS' Transportation Branch for certification as a shipping cask under 10 CFR Part 71. Given successful Parts 71 and 72 reviews and assuming issuance in final form in 1990 of the Commission's dry spent fuel storage cask certification rulemaking [PR 50, 72, 170 (54 FR 19379)], this dual-purpose cask design could represent the first dry-storage technology design to fully address and meet the Commission's direction.

NMSS staff members continue to respond to other industry queries on meeting the Commission's concern for a safe and efficient back end of the fuel cycle. NRC staff expects to see continued progress on this issue in the coming year.

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