POLICY ISSUE
(Information)

August 14, 1990 SECY-90-286

For: The Commissioners

From: James M. Taylor
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 possible problems in the compatibility of the design of dry spent fuel storage systems and the offsite transportation of spent fuel from such systems, without the need to return fuel to reactor basins.

Summary: The Commission stated a concern about the need to ensure compatibility among the various steps in the storage, transportation, and disposal of spent fuel to enhance the safety and efficiency of fuel handling. In response, DOE and the industry have continued to pursue resolution of this issue. The principal mechanism for DOE-industry cooperation is through the DOE's Standard Disposal Contract requirement for an Annual Capacity Report (ACR). In this report, DOE states its plans for the acceptance of spent fuel from the utilities. However, DOE has elected not to publish the ACR this year until a baseline schedule for waste acceptance can be developed. Events that caused DOE to postpone the expected start of repository operation from 2003 to 2010, have delayed the development of such a baseline. This delay does not mean that DOE and the industry have slackened in their cooperative efforts.

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The ACR Steering Committee was formed by the Utility Nuclear Waste and Transportation Program and the U. S. Council on Energy Awareness. This committee continues to work with DOE in identifying issues for resolution, including transportation interface issues. Two issues under consideration are the acceptance and handling of dual-purpose casks and Multi-Element Sealed Canisters (the sealed canisters for dry storage in the NUTECH Horizontal Modular System (NUHOMS)). In 1990, E. R. Johnson Associates, Inc., prepared a series of draft reports addressing these and other issues for DOE's Oak Ridge National Laboratory. Utilities are reviewing these reports, and the ACR Steering Committee will provide its response to DOE.

In addition, vendors of dry storage systems are independently addressing the resolution of compatibility problems. The Nuclear Assurance Corporation (NAC) is submitting a dual-purpose cask design to the U. S. Nuclear Regulatory Commission (NRC). By letter of April 25, 1990, NAC submitted an application for approval of its dry storage cask design. In a parallel action, NAC will submit a complementary application for transportation cask approval after quarter-scale-model cask drop testing is completed this summer.

By December 1990, Pacific Nuclear Fuel Services, Inc. (PNFSI, formerly NUTECH, Inc.) expects to submit a topical report for the design of a stainless steel canister (from its NUHOM-24P system) for approval under Part 71 of Title 10 of the Code of Federal Regulations (10 CFR) as a sealed transportation cask basket. This action is part of a cooperative effort by PNFSI, Kawasaki Heavy Industries, Electric Power Research Institute, and NUHOMS utilities (Duke Power Company and Baltimore Gas and Electric Company). PNFSI also seeks to develop a transportation cask for the shipment of NUHOMS-24P-type canister. In August 1990, PNFSI expects to receive notification of DOE's participation in the first step of this phased development, which is the submittal of the canister design topical report. Regardless of whether DOE provides financial support, PNFSI will submit to the NRC staff the topical report for the canister design. PNFSI will submit a letter of its intent to do so in late August 1990.

By letter of June 22, 1990, the Public Service Company of Colorado submitted an application to store dry spent fuel at the site of its Fort St. Vrain high temperature gas reactor (HTGR) plant. The design chosen is a modified Modular Vault Dry Store (MVDS) design by FW Energy Applications, Inc. Because the Fort St. Vrain plant is to be fully decommissioned with termination of the 10 CFR Part 50 operating license (OL), the modified MVDS installation has been designed to operate after OL termination and to accept shipping casks for direct offsite shipment of HTGR spent fuel.

Staff members of the NRC's Office of Nuclear Material Safety and Safeguards continue to address the Commission's concern for a safe and efficient back end of the fuel cycle in interactions with DOE and industry in spent fuel transportation and dry storage activities. DOE and the industry are responding to the Commission's concern by initiating actions to resolve this issue.

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