



**Department of Energy**  
Washington, DC 20585

September 30, 1996

Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Subject: Docket No. 72-1024

Dear Sir/Madam:

Enclosed is one (1) copy of Revision 0 of the Department of Energy's (DOE) Dry Transfer System (DTS) Topical Safety Analysis Report (TSAR), dated September 30, 1996. An additional fifteen (15) copies of the TSAR, along with three copies of full-sized drawings, are being provided to the Nuclear Regulatory Commission's (NRC) Dr. William Travers, Director of the Spent Fuel Project Office, to assist the staff in its review. This submittal contains no proprietary information.

The purpose of this submittal is to provide technical information on DTS design and operations. This information is intended to support the staff's safety evaluation of the DTS with respect to the requirements contained in 10 CFR Part 72 and other applicable NRC regulations. We request that, following the staff's review, the NRC issue a safety evaluation for the proposed facility design and operations in the form of a Safety Evaluation Report (SER) which can be referenced by applicants seeking to accomplish dry spent fuel transfer under a Part 72 license.

As stated in Mr. Ronald Milner's May 24, 1996, letter of intent to submit the DTS TSAR, the use of this dry spent fuel transfer system at multiple reactor sites is intended to become an integral part of the Department's and utilities' overall plans for moving spent nuclear fuel off reactor sites. Use of the dry transfer system will allow utilities to use more efficient storage and transportation cask designs for on-site spent fuel management. Moreover, the ability to transfer spent fuel in a dry manner will allow utilities to de-fuel pools and begin orderly decommissioning and dismantlement of shutdown reactor facilities. The dry transfer system has near-term application at several of the Department's sites also. In addition to the present and near-term need for a dry transfer capability, it is anticipated that the need for dry transfer capability will continue to increase in future years. Therefore, we are prepared to support the staff's review of this TSAR by providing thorough and timely responses to NRC requests for additional information and also to meet with the staff upon request. Based on the above considerations, we respectfully request that the SER be issued by April 1998.

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To assist us in supporting the staff's review, we have entered into a contract with Transnuclear, Inc. of Hawthorne, New York. Transnuclear developed the original DTS design through a contract with the Electric Power Research Institute. Transnuclear will support DOE in the development of responses to any requests for additional information resulting from the staff's review.

Mr. Dan Kane is the licensing manager on Docket 72-1024 and will serve as the point of contact for questions on technical and licensing matters. Mr. Kane can be reached at (202) 586-4970.

Sincerely,



Jeffrey R. Williams, Director  
Engineering Division  
Office of Waste Acceptance,  
Storage, and Transportation  
Office of Civilian Radioactive  
Waste Management

cc:

W. Travers, NRC (15/15 plus 3 full-size drwgs.)

E. Leeds, NRC (1/0)

M. Raddatz, NRC (1/0)

## TOPICAL SAFETY ANALYSIS REPORT

### DRY TRANSFER SYSTEM

#### ABSTRACT

The Dry Transfer System (DTS) is a stand-alone facility designed to enhance utilities' on-site spent fuel management capabilities by allowing dry transfer of individual spent fuel assemblies between top-loading source and dual and/or single-purpose receiving systems. This enhancement benefits both operating and shutdown reactors. The DTS is expected to have application at Department of Energy sites as well. Protection from the environment is provided by a reinforced concrete structure which also provides radiation shielding, radioactive material confinement, and decay heat transfer, while meeting all applicable requirements of 10 CFR Part 72. The design of the facility is presented in this Topical Safety Analysis Report (TSAR) which also addresses operating and safety considerations. This TSAR follows the format and content guidance suggested in Regulatory Guide 3.48 and relies on conservatively selected design and environmental parameters. Based on the analyses presented in the TSAR for sites whose design and environmental parameters fall within the envelope established in this TSAR, it is concluded that the DTS facility can be constructed and operated in a manner that protects the public health and safety.