January 6, 2006

Mr. J. J. Sheppard
Chairman, EPRI Fuel Reliability Program
President & Chief Executive Officer
South Texas Project Electric Generating Station
P. O. Box 289
Wadsworth, TX 77483

Mr. David J. Modeen
Vice President, Nuclear Power and Chief Nuclear Officer
Electric Power Research Institute
1300 West W. T. Harris Boulevard
Charlotte, NC 28262

Dear Mr. Sheppard and Mr. Modeen:

Since 1998, Electric Power Research Institute (EPRI) has been working cooperatively with the Nuclear Regulatory Commission (NRC) on a fuel-related research program at Argonne National Laboratory (ANL). During that time, EPRI provided shipping, cutting, and precharacterization of 17 Zircaloy-clad high-burnup fuel rods for testing. This work is providing the technical basis for a revision to regulatory criteria for loss-of-coolant accidents, as well as providing information that is needed for the licensing of spent fuel casks.

Although much of this work has now been completed, and numerous data reports have been provided to EPRI, additional testing is needed in FY 2007 and 2008 on high-burnup fuel rods with the more advanced ZIRLO™ and M5™ cladding alloys. The NRC has initiated a three-year extension to the Argonne program that includes this testing, but to complete the work the NRC again needs EPRI's help with the supply of high-burnup fuel rods. The planned research should be familiar to the staff who have been involved at EPRI, Westinghouse, and Framatome ANP. Responsibilities of each party would be the same as before, and formal extensions of agreements are under discussion. Specifically, the NRC is requesting that EPRI provide shipping, cutting, and precharacterization of high burnup ZIRLO™ and M5™ -clad fuel rods.

Given our current understanding of cladding performance following LOCAs based on testing done to date, in the absence of a comprehensive data base of irradiated cladding material performance, the staff may find it necessary to require that each fuel vendor conduct a LOCA test program (similar to the next phase at ANL) on irradiated fuel cladding to establish acceptance criteria for their current cladding alloys as well as future alloys.

The NRC's Office of Nuclear Reactor Regulation is now on a course to initiate rulemaking that would eliminate restrictions to specific zirconium cladding alloys in 10 CFR 50.46. Testing of ZIRLO™ and M5™ -clad fuel rods is essential to complete this process and to provide the qualification of a hydrogen-charging procedure that could avoid extensive testing of irradiated

fuel rods in the future. We would appreciate your commitment to help us complete this work by providing an adequate supply of ZIRLO™ and M5™ -clad fuel rods with high burnup for testing during the FY 2007-2008 time period.

Sincerely,

/RA/

Thomas O. Martin, Director
Division of Systems Safety
Office of Nuclear Reactor Regulation

cc: Rosa L. Yang, EPRI
David J. Colburn, Westinghouse
Roger S. Reynolds, Framatome ANP
Gerald A. Potts, Global Nuclear Fuel

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