

April 11, 2008

Dr. William J. Shack, Chairman  
Advisory Committee on Reactor Safeguards  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

SUBJECT: REVIEW AND EVALUATION OF THE NRC SAFETY RESEARCH PROGRAM

Dear Dr. Shack:

On behalf of the U.S. Nuclear Regulatory Commission (NRC), I am responding to your letter to Chairman Dale E. Klein, dated March 6, 2008, regarding draft NUREG-1635, Vol. 8, "Review and Evaluation of the Nuclear Regulatory Commission Safety Research Program." In the letter and the NUREG report, the Advisory Committee on Reactor Safeguards (ACRS or the Committee) provided the results of its review of and its comments and recommendations on the NRC reactor safety research program, which is conducted by the Office of Nuclear Regulatory Research (RES).

The staff is very appreciative of the time and effort the Committee put into both conducting the review and developing recommendations. In the letter, the ACRS comments primarily focused on long term research that would be desirable for the agency to conduct to be better prepared for future agency regulatory challenges. Some comments in the Committee's report focus on additional research that would be desirable for the agency to conduct to enhance its current research program. Both subjects will be briefly addressed below. It should be noted that while we are in full agreement with your recommendations, resource limitations require us to prioritize our research.

In the report, the ACRS noted that the research program is well directed toward the short-term needs of the agency. While most of our research budget is focused on short-term research activities, many other research activities are addressing new and advanced technologies. These activities address issues that will come before the agency over the next 10 years both to support upgrades to the current generation of plants (e.g., digital instrumentation and control), and to support new reactor certification and advanced reactor reviews (e.g., High Temperature Gas Cooled Reactors (HTGR)). In Fiscal Year (FY) 2009, the staff will begin feasibility studies of long-term research activities focusing on issues that the agency may face over a longer timeframe. We identified these activities in SECY-07-0192, "Agency Long-term Research Activities for Fiscal Year 2009," dated October 31, 2007. Once an idea shows feasibility, the staff will incorporate further research activities, as necessary, in its research plans. We will perform these feasibility reviews on a yearly basis. The staff discussed this initiative with the ACRS during the development of the program and received your comments and recommendations in a letter to Chairman Klein dated May 16, 2007, "Development of an Integrated Long-Term Regulatory Research Plan." Further, beginning in FY 2010, RES will budget for a dedicated long-term research fund. A committee composed of the RES Senior Level Technical Advisors will review and prioritize suggested projects that meet criteria for exploratory, long-term research. High priority projects would be funded, to the limit of the available resources, probably through the grant program.

In the final point of your letter, you emphasized that opportunities exist for NRC through collaboration with the international community. The agency has extensively used, and continues to use, such international collaborative efforts. Moreover, we intend to pursue more opportunities in the future. For instance, in the area of HTGR and Liquid Metal Cooled Reactors, the NRC is leading an effort at the Nuclear Energy Agency's Committee on the Safety of Nuclear Installations to identify advanced reactor experimental needs. The objectives of this effort are to identify operational characteristics of advanced reactors for which experimental data is deemed necessary to confirm plant safety, and to identify either existing facilities that could provide needed data, or the need for new facilities.

With regard to the specific comments on the existing program, we believe that the ACRS comments and recommendations will enhance these programs. We are planning to address them as part of our budget process and will welcome the opportunity to discuss them further as we interact with the appropriate subcommittees.

Sincerely,

*/RA/*

Luis A. Reyes  
Executive Director  
for Operations

cc: Chairman Klein  
Commissioner Jaczko  
Commissioner Lyons  
Commissioner Svinicki  
SECY

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