

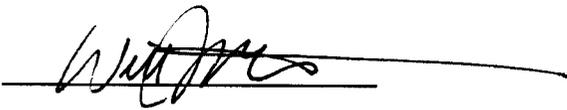
Foreword

The Nuclear Energy Research Initiative (NERI) began in Fiscal Year (FY) 1999 as the core of a new, restructured Federal effort to develop advanced nuclear energy concepts and technologies. NERI grew out of the recommendations made in the November 1997 report by the President's Committee of Advisors on Science and Technology on Federal energy research and development (R&D). FY 2002 marks the completion of the first round of NERI sponsored research projects initiated in FY 1999. The results and accomplishments of these 46 initial projects is a major focus of this year's NERI Annual Report.

Since its inception the NERI program has focused on innovation and forward looking technological advances. NERI has also gained momentum in addressing issues associated with the maintenance of existing U.S. nuclear generating plants, as well as with other areas identified in the National Energy Policy. In combination with the Nuclear Power 2010 and Generation IV Nuclear Energy Systems initiatives, NERI will respond to the Nation's need for new electricity generating capacity in an economical and environmentally friendly manner.

NERI has been realizing its goals to develop advanced nuclear energy systems, and to provide state-of-the-art information concerning nuclear technology and science. The research effort conducted by the Nation's universities, laboratories, and industry partners has helped to maintain the nuclear research infrastructure in this country and has focused attention on the United States as a nuclear R&D leader. The NERI program continues to use independent, expert, peer reviewers to competitively select project proposals from a wide range of researchers.

This Annual Report summarizes research progress based on information submitted by the principal investigators for NERI projects initiated in FY 1999, FY 2000, and FY 2001. Also included in this document are the abstracts for the FY 2002 NERI research awards. This report disseminates the results of NERI-sponsored research to the wide R&D community to spur yet more innovation, assuring a bright future for nuclear energy in the United States and the world.

A handwritten signature in black ink, appearing to read 'William D. Magwood IV', is written over a horizontal line. The signature is stylized and cursive.

William D. Magwood IV, Director
Office of Nuclear Energy, Science and Technology
U.S. Department of Energy

