2006 NUCLEAR ENERGY RESEARCH INITIATIVE AWARDS

Lead Organization	Project Title	Collaborators
Advanced Fuel Cycle Initiative		
Massachusetts Institute of Technology	The Development and Production of Functionally Graded Composite for Pb-Bi Service	Los Alamos National Laboratory
Massachusetts Institute of Technology	Flexible Conversion Ratio Fast Reactor Systems Evaluation	None
North Carolina State University	Development and Utilization of Mathematical Optimization in Advanced Fuel Cycle Systems Analysis	Argonne National Laboratory
Purdue University	Engineered Materials for Cesium and Strontium Storage	None
University of California-Berkeley	Feasibility of Recycling Plutonium and Minor Actinides in Light Water Reactors Using Hydride Fuel	Massachusetts Institute of Technology, Argonne National Laboratory
University of Florida	Separation of Nuclear Fuel Surrogates from Silicon Carbide Inert Matrix	None
University of Idaho	Enhancements to High Temperature In-Pile Thermocouple Performance	Idaho National Laboratory
University of Michigan	Accelerator-Based Study of Irradiation Creep of Pyrolytic Carbon Used in TRISO Fuel Particles for the VHTR	Oak Ridge National Laboratory
University of Nevada-Las Vegas	Solution-Based Synthesis of Nitride Fuels	Los Alamos National Laboratory
University of New Mexico	Design and Development of Selective Extractants for An/Ln Separations	Washington State University
University of Tennessee	Development of Acetic Acid Removal Technology for the UREX+ Process	Oak Ridge National Laboratory
University of Wisconsin-Madison	Radiation Stability of Candidate Materials for Advanced Fuel Cycles	None
Virginia Polytechnic Institute and State University	Microwave Processing Of Simulated Advanced Nuclear Fuel Pellets	University of Tennessee
Lead Organization	**Project Title**	**Collaborators**
Generation IV Nuclear Energy Systems Initiative		
North Carolina State University	Managing Model Data Introduced Uncertainties in Simulator Predictions for Generation IV Systems via Optimum Experimental Design	Idaho National Laboratory, Argonne National Laboratory

Purdue University	Uncertainty Quantification in the Reliability and Risk Assessment of Generation IV Reactors	The Ohio State University
The Pennsylvania State University	Improving Corrosion Behavior in SCWR, LFR and VHTR Reactor Materials by Formation of a Stable Oxide	Westinghouse Electric Company
University of California-Los Angeles	Multiscale Modeling of the Deformation of Advanced Ferritic Steels for Generation IV Nuclear Energy Systems	California State University-Northridge
University of Michigan	An Advanced Neutronic Analysis Toolkit with Inline Monte Carlo Capability for VHTR Analysis	Studsvik of America, General Atomics, TransWare Enterprises, Idaho National Laboratory, Los Alamos National Laboratory, Oak Ridge National Laboratory
University of Wisconsin-Madison	*Ab Initio*-Based Modeling of Radiation Effects in Multi-Component Alloys	None
Nuclear Hydrogen Initiative		
Georgia Tech Research Corporation	Microstructure Sensitive Design for Materials in Solid Oxide Electrolyzer Cell	Pacific Northwest National Laboratory
Massachusetts Institute of Technology	Dynamic Simulation and Optimization of Nuclear Hydrogen Production Systems	None
Purdue University	Development of Efficient Flowsheet and Transient Modeling for Nuclear Heat Coupled Sulfur Iodine Cycle for Hydrogen Production	None
University of Missouri-Rolla	Ni-Si Alloys for the S-I Reactor – Hydrogen Production Process Interface	Idaho National Laboratory
University of South Carolina	High Performance Electrolyzers for Hybrid Thermochemical Cycles	Sandia National Laboratories, Savannah River National Laboratory, Argonne National Laboratory