



GAIN 2017 NE-Voucher Program

On June 26, 2017, the Gateway for Accelerated Innovation in Nuclear (GAIN) announced that 14 businesses will be provided nuclear energy vouchers worth approximately \$4.2 million to accelerate the innovation and application of advanced nuclear technologies. The GAIN nuclear energy vouchers provide advanced nuclear technology innovators with access to the extensive nuclear research capabilities and expertise available across the U.S. DOE national laboratories complex. GAIN nuclear energy voucher recipients do not receive direct financial awards. The GAIN nuclear energy vouchers provide access to national laboratory capabilities at no cost to the voucher recipients. The businesses selected to receive GAIN nuclear energy vouchers are provided in the table. (See Table on Page 2)

GAIN Voucher Announcement

American Nuclear Society Special Session

On June 12, Rita Baranwal participated in the President's Special Session: ANS Nuclear Grand Challenges at the American Nuclear Society's Annual Meeting. The special session was central to an ANS effort to identify the technical nuclear challenges that need to be resolved by 2030 in order to help solve some of the economic, sociological, or political issues that the Society faces. Following a robust discussion, ANS recognized nine Nuclear Grand Challenges, including one wholly focused on advanced nuclear reactor designs:

Expedite licensing and deployment of advanced reactor designs. We must develop a practical path forward for applying innovative approaches to licensing advanced reactor designs. We must do this in a way that reduces the regulatory burden while still ensuring safety and meeting the pace of commerce. Eliminating difficulties facing the licensing and construction of new nuclear power plants would impact nuclear power investments significantly.

American Nuclear Society Panel Session

On June 14, Lori Braase and Martin Sattison, INL, organized and chaired a session panel titled "Risk Aspects of Advanced Reactor Technologies Supported by GAIN" at the American Nuclear Society's Annual Meeting. The panelists discussed the risk and safety research opportunities for advanced reactor technologies that are supported by GAIN, including high temperature gas reactors, fast reactors and molten salt reactors. The meeting session included an overview presentation on GAIN, technical presentations on specific technology risks and safety challenges, and the current R&D efforts in these areas. The session ended with a moderated, informal discussion covering the same areas. The audience for the session was standing-room only and the session was very well-received based on ANS meeting participant feedback.

If you have a regulatory question for NRC, please see the [GAIN Regulatory Tab](#) to submit your question.

GAIN Nuclear Energy Voucher Recipient	Proposal Description	Partner Facility
AMS Corp. Knoxville, TN	Radiation Aging of Nuclear Power Plant Components	Oak Ridge National Laboratory
Columbia Basin Consulting Group LLC Kennewick, WA	Methodology for Meeting Containment System Principal Design Criteria for Heavy Metal Fast Reactor Systems	Pacific Northwest National Laboratory
DYNAC Systems LLC Del Mar, CA	Dynamic Natural Convection System	Idaho National Laboratory
Elysium Industries Clifton Park, NY	Synthesis of Molten Chloride Salt Fast Reactor Fuel Salt from Spent Nuclear Fuel	Idaho National Laboratory/Argonne National Laboratory
Fauske & Associates LLC Burr Ridge, IL	Development of an Integrated Mechanistic Source Term Assessment Capability for Lead- and Sodium-Cooled Fast Reactors	Argonne National Laboratory
GSE Systems Inc. Sykesville, MD	Human Factors Engineering for the Move to Digital Control Systems – Improved Strategies for Operations	Idaho National Laboratory
Kairos Power LLC Oakland, CA	NEAMS [Nuclear Energy Advanced Modeling and Simulation] Thermal-Fluids Test Stand for Fluoride-Salt-Cooled, High-Temperature Reactor Development	Argonne National Laboratory/Idaho National Laboratory
MicroNuclear LLC Franklin, TN	Development of the Microscale Nuclear Battery Reactor System	Idaho National Laboratory
Muons Inc. Batavia, IL	Conversion of Light Water Reactor Spent Nuclear Fuel to Fluoride Salt Fuel	Oak Ridge National Laboratory
Nuvision Engineering Inc. Pittsburgh, PA	Evaluation of Power Fluidic Pumping Technology for Molten Salt Reactor Applications	Oak Ridge National Laboratory
Oklo Inc. Sunnyvale, CA	Risk-Informed Mechanistic Source Term Calculations for a Compact Fast Reactor	Sandia National Laboratories/Argonne National Laboratory
SMR Inventec LLC Camden, NJ	Small Modular Reactor-160 Primary Flow Stability	Oak Ridge National Laboratory
Terrestrial Energy USA Ltd. New York, NY	IMSR® [Integral Molten Salt Reactor] Fuel Salt Property Confirmation: Thermal Conductivity and Viscosity	Argonne National Laboratory
Transatomic Power Corporation Cambridge, MA	Fuel Salt Characterization	Argonne National Laboratory