

Gateway for Accelerated Innovation in Nuclear April 2018 Highlights Report

Industry Funding Opportunity Announcement (FOA)

On April 27, 2018, U.S. Secretary of Energy, Rick Perry, announced that the U.S. Department of Energy (DOE) has selected 13 projects to receive approximately \$60 million in federal funding for cost-shared research and development for advanced nuclear technologies. These selections are the first under the DOE Office of Nuclear Energy’s **U.S. Industry Opportunities for Advanced Nuclear Technology Development funding opportunity announcement (FOA)**, and subsequent quarterly application review and selection processes will be conducted over the next five years. DOE intends to apply up to \$40 million of additional FY 2018 funding to the next two quarterly award cycles for innovative proposals under this FOA. For information on the awardees, please access the *Funding Opportunities* tab on the GAIN website, gain.inl.gov.

2018 First Round NE Voucher Awards

On April 27, 2018, DOE announced five technical **NE Voucher awards** to U.S. companies selected under the GAIN initiative as part of DOE’s commitment to supporting U.S. industry through private-public technical partnerships for nuclear energy innovation. For more information, please access the *Funding Opportunities* tab on the GAIN website, gain.inl.gov.

GAIN 2018 1st Round NE-Voucher Recipient	Awarded Proposal	NE-Voucher Amount	Partner Facility
Oklo, Inc. Sunnyvale, CA	Accelerate Development of Industry-Relevant Features in Modern Simulation Tools	\$417,000	Argonne National Laboratory Idaho National Laboratory
Terrestrial Energy USA New York, NY	Advancement of Instrumentation to Monitor IMSR® Core Temperature and Power Level	\$500,000	Oak Ridge National Laboratory
ThorCon US, Inc. Stevenson, WA	Electroanalytical Sensors for Liquid Fueled Fluoride Molten Salt Reactor	\$400,000	Argonne National Laboratory
Urbix Resources, LLC Mesa, AZ	Nuclear Grade Graphite Powder Feedstock Development	\$320,000	Oak Ridge National Laboratory
Vega Wave Systems, Inc. West Chicago, IL	Radiation Testing for Nuclear Inspection Systems	\$130,000	Argonne National Laboratory

GAIN Executive Advisory Committee

On April 18-19, 2018, the **GAIN Executive Advisory Committee (EAC)** met at INL. The first day consisted of GAIN and VTR updates, presentations from voucher recipients on their experiences and suggestions for improvement, and a poster session with INL staff sharing their research pertaining to advanced nuclear technology development. Tours of ATR, TREAT, and MFC facilities were provided on the second day. Discussion highlights from the Enabling Advanced Reactors for the Market Symposium were of particular interest to the EAC. They requested a one-page summary to aid in their discussions with industry and investors.

Regulatory

April 19, 2018: Cooperation between the Nuclear Regulatory Commission (NRC) and the Department of Energy (DOE) has culminated in the issuance of a significant licensing aid for developers of advanced non-light-water (non-LWR) reactors, including sodium-cooled fast reactors and high temperature gas-cooled reactors. The NRC's new **Regulatory Guide 1.232, "Guidance for Developing Principal Design Criteria for Non-Light-Water Reactors,"** helps developers of these technologies align their concepts with relevant NRC regulations and forms a key portion of the NRC's advanced reactor regulatory framework. This new regulatory guide provides the non-LWR commercial industry with guidance for developing a proposed facility's principal design criteria (PDC) that establish the necessary design, fabrication, construction, testing, and performance requirements for structures, systems, and components. This regulatory guide provides a number of benefits, including reducing regulatory uncertainty, addressing design innovations that pursue enhanced nuclear safety, and improving licensing timeliness and efficiency for both license applicants and NRC staff. The new Regulatory Guide 1.232 is available on the GAIN website (gain.inl.gov) under the Regulatory tab, Regulatory Updates.

Outreach

On April 24, 2018, Rita Baranwal briefed the **Nuclear Regulatory Commission on Advanced Reactors**. This meeting was intended to provide the Commissioners with an update on GAIN activities to prepare for effective and efficient reviews of advanced reactor applications and to provide stakeholder perspectives on advanced reactor development activities, including projected policy and program issues that need to be resolved.

Andrew Worrall, Deputy Director GAIN, was invited to be part of a small panel at the showing of the **"New Fire" film** at the University of Tennessee. The film, by Emmy-winning director David Schumacher, focuses on how the new generation of reactor concepts is looking to target climate change. Along with the director, Andrew answered a number of questions from the audience about the advanced nuclear energy technologies and the challenges facing nuclear energy.

GAIN Look Ahead

<i>FY 2018 Date(s)</i>	<i>Title</i>	<i>Location</i>	<i>GAIN's Role</i>
May 1:	NuVision Site Visit	INL, Idaho Falls, ID	Organize, Attend
May 2:	NRC Advanced Reactors Standards Workshop	North Bethesda Marriott, Bethesda, MD	Organize, Attend
May 10:	GAIN HTR Symposium	INL, Idaho Falls, ID	Organize, Attend
May 15-16:	US NIC – Western Nuclear Supply Chain Mtg	INL, Idaho Falls, ID	Present, Attend
May 15-16:	Nuclear Energy in the 21 st Century: The Phase Beyond Too Cheap to Meter	Taliesin, Spring Green, WI	Attend
May 15-16:	Energy Disruptors Conference	Calgary, Canada	Present, Attend
May 21:	NAYGN National Conference	Atlanta, GA	Present, Attend
June 3-6:	2018 Western Conference of Public Service Commissioners	Boise, ID	Present, Attend
June 5-6:	Digital Environment for Advanced Reactors Workshop	ANL, Chicago, IL	Present, Attend
June 12:	NEI ARWG	NEI Office, Washington DC	Present, Attend
June 14:	Generation Atomic Workshop	INL, Idaho Falls, ID	Organize, Attend
June 15:	Millennial Nuclear Caucus	INL, Idaho Falls, ID	Organize, Attend
June 17-21:	ANS Annual Meeting	Marriott Philadelphia Downtown, PA	Present, Attend
July 17:	MEV School, “Advanced Reactor Systems and Novel Advances in Multi-Physic Modeling and Simulation”	ANL, Chicago, IL	Present, Attend

For questions or additional information, please contact Lori Braase, GAIN, lori.braase@inl.gov.

