

Gateway for Accelerated Innovation in Nuclear May 2018 Highlights Report

GAIN NE Vouchers

The NE Voucher team completed their review of the second round of 2018 NE Voucher proposals and submitted their recommended prioritized list to DOE-HQ on May 30, 2018. The tentative announcement date is June 15, 2018. The first round 2018 NE Voucher recipients have finalized their statement of work, budget, and cost share with their partner national labs.

High Temperature Reactor Symposium

On May 10, 2018, GAIN and the Advanced Reactor Technologies (ART) Program hosted the inaugural High Temperature Reactor (HTR) Symposium at the Idaho National Laboratory (INL), featuring a distinguished collection of speakers and panelists representing the HTR industry, potential customers, and investors. The objective of the event was to provide a venue for candid discussions of the state of HTR technology and the prospects for, and challenges to, commercialization. The HTR Symposium will become a bi-annual event, held on years opposite of the International HTR bi-annual conference.

More information on the HTR Symposium is available on the GAIN and ART websites.

<https://art.inl.gov/SitePages/High%20Temperature%20Reactor%20Symposium.aspx>

<https://gain.inl.gov/SitePages/Workshops.aspx>



Sodium System and Component Reliability Database

On May 10, 2018, GAIN and Sandia National Laboratories collaborated to provide the Sodium (Na) System and Component Reliability Database to the nuclear industry via the GAIN Website. It was developed as part of the United States DOE Nuclear Energy Advanced Reactor Technologies (ART) program. NaSCoRD will immediately benefit sodium system designers who can extract engineering, operational, and safety insights from the data sets. It includes reliability data from the Experimental Breeder Reactor II (EBR-II), Fast Flux Test Facility (FFTF), and Joyo reactors and multiple non-nuclear test facilities. This includes a record of component design and performance documentation across various systems that used sodium as a working fluid but was lost by its US custodian in the 1990s.

The restructured data and capabilities gained allow the DOE complex and the domestic sodium industry to understand how previous systems were designed and built and then use this information to improve the design and operations of future systems. Future expansion of NaSCoRD to new facility data sources provides the domestic industry with the best opportunity to develop a broad database to support future Probabilistic Risk Assessment (PRA) applications. Instructions to access the database are available on the NaSCoRD Website (<http://www.sandia.gov/nascord/>) or on the GAIN Website (<https://gain.inl.gov/sitepages/databsess.aspx>).



NRC Advanced Reactors Standards Workshop

On May 2, 2018, Rita Baranwal, Mark Holbrook, and Jim Kinsey attended a Nuclear Regulatory Commission (NRC)/American Nuclear Society (ANS) hosted workshop to develop a *Strategic Vision for Advanced Reactor Standards*. This workshop was an important first step to bringing the industry together to develop a path forward for advanced reactor standards. Each Technology Working Group (TWG) High Temperature Gas, Fast, and Molten Salt Reactors, held a breakout session to discuss technology specific needs for codes and standards.

There were two major outcomes. First, all three TWGs confirmed that there aren't any shortcomings in the current codes or standards that are preventing them from moving forward with development and deployment. Second, stakeholder resources, who are available to work on standards, are voluntary and typically very limited.

Overall, this workshop started to hone in on specific needs, but was still relatively general. The next steps will likely focus on cross-cutting topics, including:

1. Codes and Standards that already developed and awaiting NRC endorsement
2. Standards that are partially drafted and need to be completed
3. New Standards development work.

Ready4Nuclear – Western U.S. and Canada Nuclear Suppliers Workshop

The Ready4Nuclear Workshop was held at Idaho National Laboratory (INL) on May 15-16, 2018. The focus was North American nuclear energy deployment and the associated supply chain. It was hosted by INL; Consulate General of Canada/Seattle; Regional Economic Development Eastern Idaho; and the State of Idaho. The workshop was organized and managed by the US Nuclear Industry Council (USNIC), the leading U.S. business consortium advocate for nuclear energy and promotion of the American supply chain globally.



Lori Braase provided a short GAIN overview and discussed the importance of the supply chain to the GAIN objectives. Copies of the Advanced Reactor Directory, which includes a supplier section, were provided. GAIN supported a survey designed to collect data for a Leadership in Nuclear Energy (LINE) Commission study. The survey was available to attendees during and after the workshop and the information from it will provide insight into how the State of Idaho could attract advanced reactor supply chain businesses. The results of the survey will be incorporated in the overall deliverable to the LINE Commission.

Nuclear Futures II Workshop

The Nuclear Futures II Workshop was held in Spring Green, Wisconsin on May 15-16, 2018. This workshop is the second in a series of workshops focused on implementation of advanced nuclear and organized by ThirdWay, a Washington DC based think tank and with partial support from the GAIN Initiative. Representatives from INL and GAIN were invited to participate in this round table discussion which focused generally on social acceptance of nuclear power with particular focus on communities that are contemplating integration of nuclear into their energy portfolios. A widely varied cross section of interested parties including politicians, local community leaders, university professors (from a variety of disciplines including philosophy and social sciences) industry representatives and think tanks (both federal and non-federal) formed the discussion group. Structure of the discussion came in the form of tone setting topical presentations (one of which was provided by INL) along with three sets of guidance questions, which included:

"How are energy technologies chosen?"

"What is important to communities beyond technology?"

"What is the role of policy in community decision making?"

John Jackson, GAIN Technical Interface, provided a short summary to the group. A report will be compiled by Third Way and will be used to inform a possible third workshop in the series or other focused workshops.

Energy Disrupters Conference

Rita Baranwal was invited to speak at the Energy Disrupters Conference in Calgary, Canada on May 15-16, 2018. Industry thought leaders from every aspect of the energy value chain were invited, including the Oil and Gas industry, to discuss energy transformation. The objectives of this unique forum were to cross industry and policy barriers, break restraints on thought using human ingenuity and technology, and to accelerate game-changing solutions on a global scale. <https://www.energydisruptors.com/home>

GAIN Look Ahead

<i>FY 2018 Date(s)</i>	<i>Title</i>	<i>Location</i>	<i>GAIN's Role</i>
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:	Nuclear Advocacy and Communications Training / EBR-I After Hours Event	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
June 27:	Capitol Hill Event, SBV & DOE Foundation	Washington, DC	Present
July 17:	MEV School, "Advanced Reactor Systems and Novel Advances in Multi-Physic Modeling and Simulation"	ANL, Chicago, IL	Present, Attend
July 25-26:	Technologies to Reactors Workshop	ORNL, Oak Ridge, TN	Present, Attend
July 30- August 10:	Nuclear Innovation Bootcamp	University of California, Berkeley, CA	
August 5-8:	2018 Utility Working Conference & Vendor Technology Expo	Amelia Island, FL	Booth, Attend
September 6:	NEI ARWG	NEI Office, Washington DC	Attend
September 30- October 5:	Pacific Basin Nuclear Conference, Organized by CNL/INL/M. Peters Chair	Hyatt Regency, San Francisco, CA	Organize, Chair, Present, Booth

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

