GEN IV International Forum
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Webinar Invite

Education and Training Working Group

Join us on October 26, 2022, 8:30 am EDT (UTC-4)

Sodium Integral Effect Test Loop for Safety Simulation and Assessment (STELLA)

The STELLA (Sodium Integral Effect Test Loop for Safety Simulation and Assessment) program was launched with the PGSFR (Prototype Gen-IV Sodium-cooled Fast Reactor) development plan in 2012; and, in the 1st stage, the design of two types of heat exchangers in passive DHRS (Decay Heat Removal System) was verified and validated. Specifically, the in-house design codes for the sodium-to-sodium heat exchanger, DHX, and the helical-type sodium-to-air heat exchanger, AHX, were evaluated by the experiment data with the large-scale facility, STELLA-1. The STELLA-1 is a separate effect test facility for component design V&V including the heat exchangers, the mechanical pump, and other miscellaneous components such as sodium valve, electro-magnetic pump, cold trap, plugging meter, etc.

For the 2nd stage of the STELLA program, the STELLA-2 facility was designed to investigate the integral effect of safety systems including the comprehensive interaction among PHTS (Primary Heat Transfer System), IHTS (Intermediate Heat Transfer System) and DHRS. Especially, the focus of STELLA-2 is various combinations of interaction between passive and active DHRS with the PHTS and the long-term transient behavior needs to be observed to evaluate the overall safety aspect of PGSFR. The database of STELLA-2 is expected to be used for V&V of the safety analysis code as well as the demonstration of the overall safety system performance of PGSFR. Currently, the STELLA-2 construction has been completed, and it is actively operating to produce valuable data.

Free webcast!

October 26, 2022
8:30 am EDT (UTC-4)

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https://attendee.gotowebinar.com/register/7823662274919750413

Who should attend:
policymakers, managers, regulators, students, general public

Dr. Jewhan LEE is currently the project manager of STELLA program and the team leader of the sodium experiment team in the Korea Atomic Energy Research Institute. He earned his Ph.D. in nuclear engineering and established his career as a sodium experiment professional. He served as a supporter of the Technical Director of EG and now he is a member of GIF SFR-SSC SO-PMB. His specialty is in the sodium heat transfer of both analytical and experimental works. He has experience on handling and managing the alkali metal and evaluating the performance of various heat transfer systems, including heat exchangers, using various analysis tools. He has a deep understanding of the liquid metal system from component level to system level. His recent interest expands to the innovative instrumentation for high temperature liquid metal as well as various liquid metal applications, such as a thermal energy storage system.

Upcoming Webinars

28 November 2022, Visualization Tool for Comparing Energy Generation Options, Professor Mark Deinert, Colorado School of Mines, USA

14 December 2022, The Mechanisms Engineering Test Loop (METL) facility at Argonne National Laboratory, Dr. Derek Kultgen

25 January 2023, Molten Salt Reactors Fuel Cycle Performance, Dr. Jiri Krepel, Paul Scherrer Institute, Switzerland

For more information, please contact Patricia Paviet at patricia.paviet@pnnl.gov or visit the GIF website at www.gen-4.org