

Editorial

Hideki KAMIDE (GIF Chair)



The new coronavirus has significant influences in the world, health, economy, culture, and the relationship of countries. Nuclear power is responsible for stable supply of electricity in this difficult situation.

GIF had the virtual EG and PG meetings in last May with many attendees from all member countries, EU and IAEA. It was the first experiences for us to hold such large size and hot discussions through the internet meetings and was not so easy. However, we could see our faces each other in the PC monitors and confirm our active cooperation and directions there. I appreciate great support of NEA Technical Secretaries and also sincere discussions and kind cooperation of all of the attendees. We will feed back our experiences of these virtual meetings to the GIF meetings in future. It is difficult to predict future situations of the new coronavirus in the world. But we found that we can proceed the international collaborations of GIF by our positive minds and the communications through the growing internet technologies.



The photo here is the cherry blossoms in front of a sodium test facility, named PLANDTL where I worked for so long time in Oarai, Japan at the full blossom in this April. As you know, the cherry blossom is so beautiful during only a week of length. But it is supported by years length of growing. I believe that we can survive and see the flowers and fruits through a tunnel of the new coronavirus. Stay safe, and let's move forward!

Please visit my interview toward the world for GIF via the YouTube prepared by the chairman's secretaries, when you have a time. I explained our GIF goals and how we can proceed the developments of Gen-IV reactors through the GIF cooperation. <https://www.youtube.com/watch?v=GOjnUMYOEWI>

Best regards.

The System Safety Assessment of Lead-cooled Fast Reactor has been completed

Alessandro ALEMBERTI, Chair of LFR pSSC



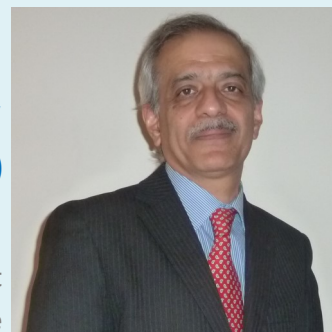
The GIF-LFR System Safety Assessment has been completed by the Generation IV International Forum Lead-cooled Fast Reactor provisional System Steering Committee (GIF LFR pSSC) in close collaboration with the GIF Risk & Safety Working Group. The objective of the report is to review and identify the main safety advantages and possible challenges of the technology, to assess the current status of safety-related Research & Development (R&D) activities and to identify future R&D needs for the LFR system. In preparing this analysis, the LFR pSSC has placed emphasis on the assessment of the fulfilment of the Generation IV goals, to highlight the attractiveness of the LFR technology for future extensive implementation.

The report concludes that gaining safety and operational experience feedback through licensing and operation of demonstration plants is a prerequisite to bring the LFR to the industrial deployment.

The LFR-SSA report is now available under the [RSWG public folder](#).

New Plant Systems Design Code for Future

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[The author is a member of ASME PSD Executive Committee, UK member of the SIAP]

The challenge for designing the next generation of nuclear power plants will be to reduce cost whilst increasing safety and that calls for a different design approach. There are two major challenges. The first is to reduce the cost of building new nuclear power plants. In the UK, the Nuclear Sector Deal issued by the UK Government last year has called for 30% reduction in the new build cost by 2030. The second challenge is to increase safety. After the Fukushima event, the safety requirements have been toughened by the IAEA's Design Extension Conditions that require plants to withstand multiple hazards and extreme hazards.

The nuclear industry is responding to this challenge of reducing cost without compromising safety by taking part in the development of new Plant Systems Design (PSD) code that will change the way design and construction is done. There is an initiative that is being taken by committee of international experts under the aegis of ASME to develop the PSD code which is a technology neutral standard that provides a framework, including requirements and guidance, for design organisations.

In traditional nuclear industry approach the design process goes through concept, preliminary design, detail design, construction, commissioning and operation. The emphasis is mostly on component design not on system design and the whole design process is sequential. It is like a 'waterfall' approach where components are designed in stages and then hazard assessments are done to prove safety of a system. The PSD standard aims to bring in three main changes: (a) integrate process hazard analysis in the early stages of design; (b) incorporate and integrate existing systems engineering design processes, practices and tools with traditional architect engineering design processes, practices and tools; and (c) to integrate risk informed probabilistic design methodologies with traditional deterministic design. Main feature and advantage of this new PSD code being developed is that it employs systems based approach to integrate design and safety.

For more information and to participate in code development, readers can contact the author.

GIF Webinar, the monthly rendez-vous

Patricia Paviet (Education & Training WG Chair)



Join us each month for our featured webinar presentation on GIF reactor systems and cross cutting subjects. The first webinar was presented by former GIF Chair Dr. John Kelly on "Atoms for Peace – the Next Generation" in September 2016. Since then, forty webinars have been presented by internationally recognized subject matter experts on advanced reactors systems and cross-cutting subjects explaining why GEN IV reactor systems are crucial for the sustainability of the nuclear fuel cycle. The monthly webinars are presented live with an interactive question and answer session. Recordings are archived and accessible online at www.gen-4.org. Also, we have recently converted all

the archived webinar as YouTube videos that can be viewed at <https://www.youtube.com/channel/UCEHOQ63gD01fSKbCIY9XvSQ>. Mark your calendars for our upcoming webinars. The presentations scheduled through April 2021 are listed in the following link and as we approach the date of the webinar presentation, a registration link will be available at https://www.gen-4.org/gif/jcms/c_82831/webinars.

We appreciate your involvement and support and welcome your inputs on the online survey following each webinar. This helps us to plan future webinars and find interesting subjects. THANK YOU.