

Vice-Chair Report on Regulatory Issues

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Topics

- Overview of GIF Policy Group Vice Chair role
- Highlights of RSWG activities
- Status of RSWG-WGSAR Initiative on Risk Informed Approach for Event Selection, Component Classification, & Defense in Depth Assessment
- Collaboration with IAEA

Mission

- The mission for the Vice Chair on Regulatory Issues is to coordinate, where possible, the GIF's efforts with various regulatory bodies to achieve harmonized regulatory requirements
- Routine dialog between the international R&D community and regulatory community is mutually beneficial
- These interactions can facilitate a collaborative approach to:
 - Identify and resolve key regulatory issues
 - Identify and address safety research needs
 - Further harmonize design, safety and regulatory requirements

Responsibilities

- Identify the drivers, opportunities, and constraints related to the regulatory environment for GIF consideration;
- Lead GIF engagement with the OECD/NEA WGSAR and with the appropriate IAEA sections;
- Complete the external review of SDC/SDG reports for SFRs, working towards development of IAEA safety standards;
- Promote the extension of the SDC/SDG development effort to include other Gen-IV systems and coordinating the review process of the deliverables with GIF experts and the international regulatory community (e.g., IAEA, WGSAR, TSOs and safety authorities);
- Engage SSCs, EG, and SIAP to identify safety research priorities to meet designer and regulator needs, and update the Policy Group members on these priority research activities.

Highlights of RSWG Activities

- RSWG Status Report provides updates on:
 - Update of 2008 GIF Basic Safety Approach Report
 - RSWG collaboration with SSCs
 - “White papers” on pilot application of ISAM
 - Demonstrate applicability of ISAM for self-assessment of Gen-IV design tracks
 - System Safety Assessment Reports
 - A summary for current state of high-level safety design attributes and challenges
 - Overview of remaining R&D needs after decade of system development under GIF
 - Development of safety design criteria* (and guidelines) for each system
(* SFR SDC TF members have joined RSWG)
 - RSWG-WGSAR interactions
- Next RSWG virtual meeting on 30 June-01 July, 2020

Status of RSWG-WGSAR Initiative

- Technology-inclusive risk-informed approach for event selection, component classification, and DiD assessment for six systems
 - Common understanding of plant states corresponding to different defense-in-depth levels
 - Structured approach to incorporate risk insights into safety assessments and regulatory decisions for all Gen-IV systems
- Effort was proposed to WGSAR in October 2018 and was endorsed by WGSAR in November 2018
 - Approach briefed to RSWG and WGSAR in October 2019
 - First draft provided in January 2020 for RSWG review/revisions
 - Comments received by Japan, Korea, EURATOM, South Africa, France
 - Updated version to be discussed at the upcoming RSWG meeting

WGSAR Fuel Performance and Qualification Doc

- WGSAR has been drafting a report on fuel performance and qualification
- GIF has been asked to provide contribution to fuel types and characteristics to be used in their systems, namely:
 - Type of fuel;
 - Fuel role in safety case;
 - Anticipated fuel qualification challenges
- RSWG is coordinating the GIF contributions with input from SSCs
- Individual GIF SSCs contributions expected by end of July
 - GFR input already received

Collaboration with IAEA (1/2)

Participation in safety document development for SMRs

- IAEA is developing safety standards for SMRs. Most SMR technologies overlap with GIF reactor technologies.
- Division of Nuclear Installation Safety in IAEA is interested in the collaboration with GIF in the field of SMR safety such as Development of TECDOC on
 - Approach and Methodology for the Development of Regulatory Safety Requirements for the Design of SMRs
 - Applicability of Design Safety Requirements to SMR Technologies
 - Current Experience in Design Safety Considerations for Innovative SMRs
- Participation to some of IAEA activities will be discussed in coming RSWG meeting in June, and GIF-IAEA interface meeting in July.

Collaboration with IAEA (2/2)

GIF-IAEA joint work shops

- Joint IAEA–GIF Technical Meeting on the Safety of High Temperature Gas Cooled Reactors, 9–11 December 2019
 - Exchange on GIF Safety methodology, risk informed approach, SFR SDC/SDG, and IAEA CRP on Modular High Temperature Gas cooled Reactor Safety Design
- Ninth Joint IAEA–GIF Technical Meeting/Workshop on the Safety of Liquid Metal Cooled Fast Reactors
 - Discuss the development of Safety Design Guidelines for SFRs and Safety Design Criteria for LFRs
 - Originally planned in March 2020, to be postponed until January or April 2021

Thank you!