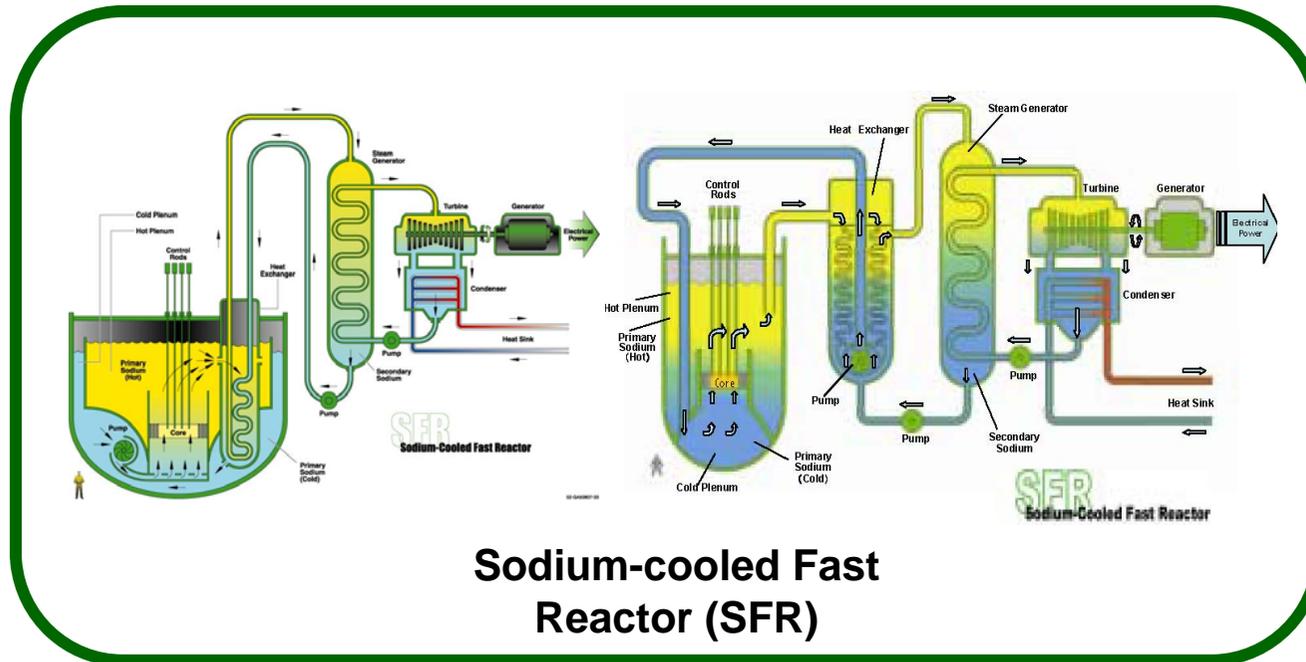

Monju International Workshop
April 25, 2013



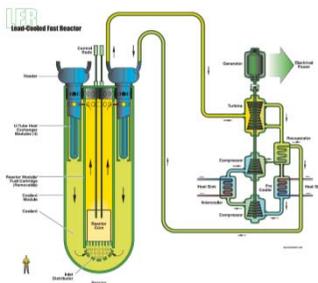
***Present status of SFR collaboration
in Generation-IV International Forum
“Work toward the effective use of Monju”***

***Yutaka SAGAYAMA
Former Chairman of the GIF
(Assistant to the President, JAEA)***

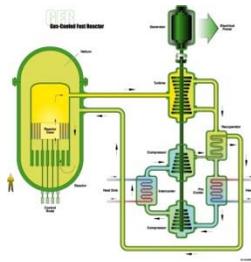
The six systems



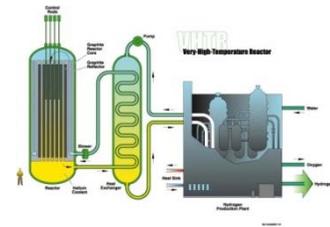
Sodium-cooled Fast Reactor (SFR)



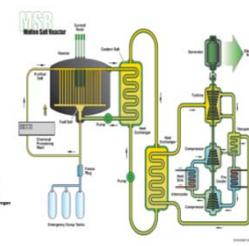
Lead-cooled Fast Reactor (LFR)



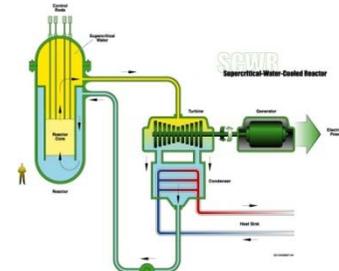
Gas-cooled Fast Reactor (GFR)



Very High Temperature Reactor (VHTR)

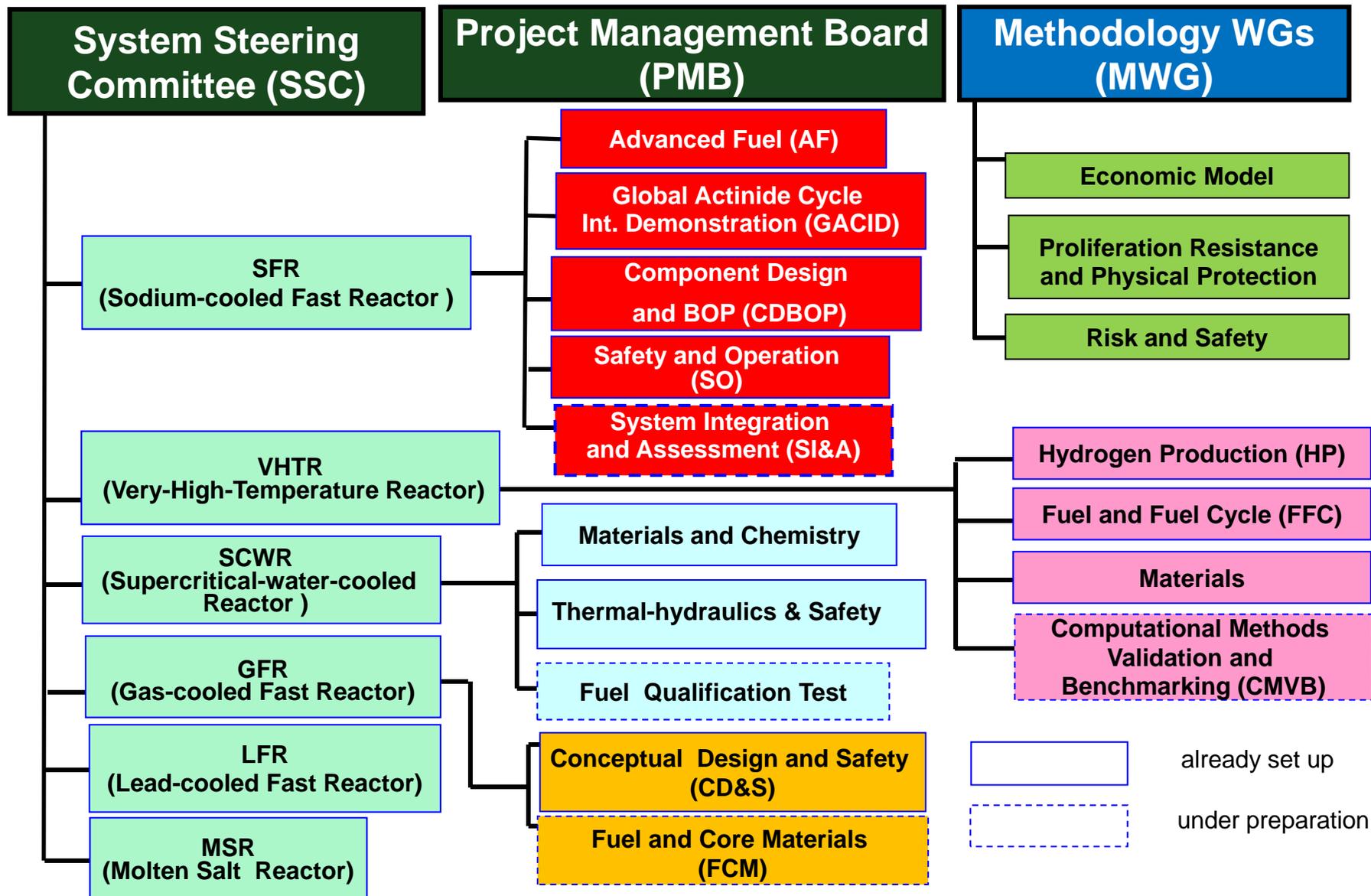


Molten Salt Reactor (MSR)



Supercritical Water cooled Reactor (SCWR)

R&D Projects of 6 Systems in GIF



IAEA and GIF Discuss Safety Design Criteria for SFRs

GIF Policy Group (PG) Proposed to initiate the development of Safety Design Criteria (SDC) for the Gen-IV SFR system (Oct. 2010), Approved the terms-of-reference for establishing the Task Force (May 2011).

The GIF–IAEA joint SFR workshop,

1st: “Operational and Safety Aspects of SFRs” (23-25 June 2010 at IAEA)

2nd: “Safety Aspects of SFRs”, (30 Nov. –1 Dec. 2011 at IAEA)

3rd: “ Safety Design Criteria for SFRs ”, (26-27 Feb. 2013)

Gen- IV safety should be either equal or superior to Gen-III/Gen-III+



*Further discussion will be conducted in GIF for **Quantification of requirements** of SFR SDC, and also the SDC will be **evaluated in IAEA***

GIF's Safety & Reliability Goals and Safety Approach

SR-1: Excel in Operational Safety and Reliability

Safety and reliability during normal operation, and likely kinds of operational events that set forced outage rate

SR-2: Very low likelihood & degree of reactor core damage

Minimizing frequency of initiating events, and design features for controlling & mitigating any initiating events w/o causing core damage

SR-3: Eliminate the need for offsite emergency response

Safety architecture to manage & mitigate severe plant conditions, for making small the possibility of releases of radiation

- *Defence-in-depth*
 - *Risk-informed*
 - *Built-in safety function, and not add-on*
 - *High level safety meeting to GIF's safety & reliability goals*
-

International Collaboration using “Monju”

GIF

GACID

MA fuel performance

AtheNa

Severe accident measure



“Accident Management Training Program”
in case of Severe Accident, Sharing of knowledge,
Countermeasure against station blackout, etc.



Sodium Natural Convection in the Upper Plenum of the Monju

INPRO, TWG-FR

Thank you for your attention!
