

## Report from Vice-Chair on R&D Collaboration

*49th GIF Policy Group Meeting*

*27 May 2020*

*(Online meeting)*

*Mr. Jong-Hyuk BAEK (Vice Chair)*

### Terms of Reference (TOR)

- **Better understanding** the drivers, opportunities, and constraints related to the use of large scale facilities for qualification purposes
- **Examining the various means** through which to share such resources and also R&D results or avoid duplication when it is possible
- **Investigating other R&D topics** (or cross-cutting issues) that are especially relevant to the research challenges or technical gaps to further boost the development of GEN-IV systems

### Vice Chair's Mission

The mission on enhancement of R&D collaboration will focus on;

- **Strengthening** R&D collaboration within GIF,
- **Sharing innovative technology idea and issues** among the GIF members, and
- **Promoting collaboration** with outside organization and technology field in the PG.

### Report from 48<sup>th</sup> PG meeting

At the last PG meeting in Weihai China, I proposed that R&D collaboration under GIF will be divided to three categories: 1) Hard collaboration focus on the large experimental infrastructures, 2) Soft collaboration focus on exchanging data and idea, and 3) Human collaboration focus on exchanging experts, and reported his analysis of current situation about each collaboration. I concluded that all collaboration should be discussed in a PG level to draw a consensus. I also called ideas to PG members and these ideas will be included in a white paper later.

### Previous Activities for Vice Chair's Mission

- International Workshops with Nuclear Industry including SMR vendors and supply chain SMEs (Feb. 2020, France)
  - Advanced manufacturing and material technologies are introduced
  - Remarkable chance to have perspective of private sector on SMR development cooperation
  - Further cooperation with SME industry is expected
- GIF Chair Virtual meeting (May 2020, Zoom meeting)

- The current state of R&D white paper is shared
- RDTF Recommendations is reviewed for R&D collaboration enhancement idea

**Preparation of White Paper**

To achieve the vice chair’s mission, the objective and practical way of R&D collaboration should be clearly understood by all GIF members. For that reason, the vice chair’s proposing that his mission and activities on enhancing R&D collaboration is reported in a written description form. The objectives of this white paper is;

- To better understand the R&D collaboration activity within GIF members,
- To find the practical way of cooperating not only within GIF members but other organization and field, and
- To conduce the action item that can promote the R&D collaboration activity in GIF.

Current State of white paper is now under developing the content of it. It’ll cover some previous activities of GIF related to R&D collaboration. It reviews the works of RDTF and AMME TF including the last workshop with SMR vendors in France. It was a good attempt to find the way of cooperating with external filed. From the RDTF report, it specially described about cross-cutting R&D infrastructures and approaches for collaborative R&D activities. I believe it brought the common R&D issues and inspired all GIF members to be consider the various way of cooperation.

The white paper also covers the current collaboration activities of 6 systems. So some parts of the paper will be asked to complete for SCC and GIF members later. Moreover, it includes the activities of other organizations like IAEA, NEA related to Industrial Applications & Flexibility and use of experimental facilities. It’ll give some benchmark idea to enhance R&D collaboration. Lastly, the way of enhancing R&D collaboration and action item will be proposed as conclusion, (see attachment). The future plan of white paper is listed below.

Time	Plan
After 49th PG (Jun. 2020)	Ask for filling out some parts of white paper
50th PG (Oct. 2020)	Draft of white paper (asking for comments from members)
51th PG (May 2021):	Circulation of white paper (asking for review)
52th PG (Oct. 2021):	Approval of white paper (after reviewing by PG members)

## **Attachment**

### **ENHANCEMENT OF R&D COLLABORATION WITHIN GIF (draft-3)**

#### **EXECUTIVE SUMMARY**

##### **1. INTRODUCTION**

- 1.1. Background**
- 1.2. Objectives**
- 1.3. Scope**
- 1.4. Structure**

##### **2. REVIEW OF GIF DOCUMENTS RELATED TO R&D COLLABORATION**

- 2.1. Charter of the GIF**
- 2.2. Governance of the GIF**
- 2.3. Agreement for R&D Collaboration**

##### **3. REVIEW OF R&D COLLABORATION ACTIVITIES**

- 3.1. Review of Vice Chair Reports**
- 3.2. Summary of RDTF Works**
  - 3.2.1. Scope of Mission**
  - 3.2.2. Approaches**
  - 3.2.3. Key Recommendations**
- 3.3. Summary of AMME TF Works**
  - 3.3.1. Scope of Mission**
  - 3.3.2. Approaches**
  - 3.3.3. Key Recommendations**
- 3.4. Activities of GIF**
  - 3.4.1. GIF-R&D Outlook**
  - 3.4.2. GIF-Technology Roadmap**
  - 3.4.3. Collaborations in Systems**
    - SFR, VHTR LFR SCWR GFR MSR**
- 3.5. Activities of Other Organizations**
  - 3.5.1. Industrial Applications & Flexibility**
  - 3.5.2. Experimental Facilities**

##### **4. PROPSAL OF R&D COLLABORATION**

- 4.1. Proposes of R&D collaboration**
- 4.2. Hard Collaborations**
- 4.3. Soft Collaborations**
- 4.4. Human Collaborations**
- 4.5. Action Items**

##### **5. CONCLUSIONS**

##### **REFERENCES**