

**Record of a Meeting of the
Generation IV International Forum
held March 14-16, 2001**

1. Introduction

The Policy and Experts Groups of the Generation IV International Forum (GIF) met on March 14–16, 2001 in Paris, France. Meeting objectives were reviewed by the group and are given below. The meeting agenda (as executed) is provided in *Attachment I*.

2. Meeting Objectives

Policy Group (March 14, 2001)

- Review Status & Actions for Approval of GIF Charter
- Review and Comment on Gen IV Goals

Joint Policy and Experts Groups (March 15, 2001)

- Review the Gen IV Roadmap Process
- Review Proposed NEA and IAEA Participation in GIF
- Expand GIF Participation in the Roadmap

Experts Group (March 16, 2001)

- Summarize the Roadmap Working Groups' Progress
- Review Approach to Collaborations

3. Policy Group Attendees: Members in attendance on March 14 or 15 were as follows.

Jacques Bouchard
France

Andrew N. Hall
United Kingdom

Phillipe Thiebaud
France

William D. Magwood, IV
United States of America

Kazuaki Matsui
Japan

Gail H. Marcus
United States of America

Masa-aki Ochiai
Japan

Jose Mauro Santos
Brazil

Mun-Ki Lee
Republic of Korea

Daniel Whelan
Canada

Chang Park
Republic of Korea

Phumzile Tshelane
Republic of South Africa

Helen Leiser
United Kingdom

4. Experts Group Attendees: Members in attendance on March 15 or 16 were as follows

Frank Carre France	Phumzile Tshelane Republic of South Africa
Dominique Greneche France	Andrew N. Hall United Kingdom
Kazuaki Matsui Japan	James Lake United States of America
Masao Suzuki Japan	David Wade United States of America
Mun-Ki Lee Republic of Korea	Jose Mauro Santos Brazil
Chang Park Republic of Korea	Daniel Whelan Canada

The following are the highlights of matters taken up at this meeting.

5. Charter for the Generation IV International Forum

A brief report was made of the teleconference on November 9 regarding edits to the Charter. Time was spent on reporting the status of each country toward Charter approval, as well as on finalizing the language in the Charter for the GIF.

The final version of the Charter is included with this record in *Attachment IV*. The members agreed to take this Charter back to their individual countries for consideration and approval.

A sample Statement of Formation was provided to the Policy Group, but it was agreed that a Statement was not needed and that signature blocks for each country could simply be added to the final pages of the Charter. Each country took an action to report the desired signatory (person and title) for their place in the Charter.

The Policy Group intends that comments to the charter from each country will be obtained for a target date of May 31, 2001. Policy Group members plan to hold a teleconference on May 11, 2001 to discuss progress toward this target.

6. Comments on the Goals for Generation IV

The Policy Group discussed the set of goals for Generation IV that had been provided before the meeting. The goals had been drafted by the Generation IV Roadmap NERAC Subcommittee (GRNS) of the DOE Nuclear Energy Research Advisory Committee (NERAC). A set of comments were generated by the Policy Group.

An action was taken to have these comments sent to the GRNS for their consideration.

7. Interaction with International Organizations

The U.S. reported that discussions with the OECD NEA and IAEA had taken place. Both organizations presented an overview of their proposed roles. In addition, the EC presented an update on their planned activities. An action was taken to discuss the proposed roles at the next Policy Group meeting.

8. Secretariat

The Secretariat was requested to propose a process for the addition of new members (to be effective once the Charter is signed). A process was provided, modified and approved by the Policy Group. It was decided that certain important matters of this type warrant having an approved process for the Secretariat, and these will be provided as needed for approval. Further, the Secretariat was requested to bring forward options for having its operations shared by several member countries in the future. This was taken as an action for the next Policy Group meeting.

9. Statement from the United Kingdom

During the discussions on finalizing the Charter, the United Kingdom asked to include a statement of its policy on nuclear energy in the meeting Record as follows:

“The UK’s broad energy policy is to ensure secure, diverse, sustainable supplies of energy at competitive prices. The UK government believes that this is best achieved through competition in deregulated markets, which promotes efficiency and innovation. Agreement to UK membership in the Forum should not be taken as implying any change in that policy nor to any commitment to a specific nuclear proportion of UK electricity generation sources.”

10. Interface with Regulators

As a follow-up to an action from the August, 2000 meeting, the United Kingdom reported the following:

Andrew Hall asked INRA Chair Laurence Williams to canvas the group on ways it might interact with GIF. The INRA view was that nuclear regulators would interact best with GIF through contacts with their countries’ representatives at present, rather than directly with GIF.

11. Next Meeting

The next meeting was recommended by the Policy Group to be held on October 2-3, 2001 in Miami, Florida. An action was taken to have each country check their availability for the meeting.



Agenda for the Meeting of the Generation IV International Forum *March 14-16, 2001* Paris, France

Wednesday, March 14, 2001 (Policy Group)

8:00 – 8:30	Arrival, Schedule, and Announcements	Facilitator
8:30 – 8:45	Welcome and Introduction	J. Bouchard
8:45 – 9:00	Program Vision and Key Activities	W. Magwood
9:00 – 9:15	Review Meeting Objectives	Facilitator
9:15 – 9:45	Review Action Items from August Meeting	Facilitator
9:45 – 11:15	Country-by-Country Review of Charter Status	Facilitator
	France	
	Japan	
	Republic of Korea	
	Republic of South Africa	
	United Kingdom	
10:15 – 10:30	<i>Break</i>	
	United States	
	Argentina	
	Brazil	
	Canada	
11:15 – 11:30	Review Statement of Formation	Facilitator
11:30 – 12:00	Overview of French Nuclear Programs	P. Bernard
12:00 – 1:30	<i>Lunch (Hosted)</i>	CEA
1:30 – 3:00	Generation IV Roadmap Goals	R. Bennett
3:00 – 3:15	<i>Break</i>	
3:15 – 5:15	Generation IV Roadmap Goals Comments	R. Bennett
5:15 – 5:30	<i>Closure and Adjourn</i>	
8:00 p.m.	Hosted Dinner at Restaurants du Musée d'Orsay	CEA



Agenda for the Meeting of the Generation IV International Forum *March 14-16, 2001* Paris, France

Thursday, March 15, 2001 (Combined Meeting of Policy and Experts Groups)

8:00 – 8:15	Arrival, Schedule, Announcements and Meeting Objectives	Facilitator
8:15 – 8:45	Charter Update and Review	R. Bennett
8:45 – 10:15	Review of Generation IV Roadmap Process	R. Bennett
10:15 – 10:30	<i>Break</i>	
10:30 – 10:45	Next Steps in the Roadmap	W. Magwood
10:45 – 11:15	IAEA Role in Roadmap	J. Kupitz
11:15 – 11:45	NEA Role in Roadmap	T. Dujardin
11:45 – 12:00	EC Role in Roadmap	S. Crutzen
12:00 – 1:30	<i>Lunch (Hosted)</i>	CEA
1:30 – 2:30	Nominations to Technical Working Groups	R. Bennett
2:30 – 3:00	International NERI (I-NERI)	S. Johnson
3:00 – 4:00	Review, Identify and Resolve Common Issues	Facilitator
	- International R&D Cooperation Models	
	- Next Meeting Agenda, Location and Date	
4:00	<i>Adjourn</i>	

Friday, March 16, 2001 (Experts Group)

8:00 – 8:15	Arrival, Schedule, Announcements and Meeting Objectives	Facilitator
8:15 – 8:45	Review Action Items From Last Meeting	Facilitator
8:45 – 9:00	NEA Examples of Cooperation Models	T. Dujardin
9:00 – 9:15	EC Examples of Cooperation Models	S. Crutzen
9:15 – 9:30	<i>Break</i>	
9:30 – 11:30	Status of Technical Working Groups	R. Bennett
11:30 – 12:00	Fuel Cycle Crosscut Group	D. Wade
12:00 – 1:30	<i>Adjourn and Lunch (Hosted)</i>	CEA
2:15 – 5:30	Tour of French Facilities at Saclay	CEA

Overall Considerations:

Proposed date for signatories to the Charter is May 31, 2001. It was agreed that a minimum of five signatories are required for creation of GIF. A conference call concerning the country status and the target date will be held on May 11, 2001.

Activities of the GIF will continue without a signed Charter.

Signatures following the creation of GIF will proceed through an agreed process (below) for new members which was presented by the Secretariat and approved by the countries in attendance.

Procedure for Adding New Members to GIF

1. Candidate member identified by any existing member(s) to the Secretariat. Notice sent to all members of the candidate.
2. Candidate contacted by Secretariat, invited to petition for membership, and informed of current Charter and activities.
3. Candidate petitions the GIF to join. The petition states that the candidate is willing to sign the charter, and includes a statement of how the proposed member meets the criteria for membership (in Section 1.4). Their petition is circulated to the members, and the candidate answers collective questions from the members.
4. The Secretariat conducts a ballot on the candidate's membership. A member is added by unanimous consent, or not added if there are any dissenting votes.
5. The Secretariat will draft a letter informing the proposed member of the acceptance or rejection of their petition. In the case of rejection, an effort will be made to summarize the reasons for rejection and possible deficiencies that, if corrected, may result in acceptance. In the case of rejection, the letter will be formally agreed to by the membership before it is transmitted to the candidate.

A final version of the charter was created on March 15, 2001 and handed out to the countries for consideration. An electronic copy will be sent following the meeting in Paris.

Charter Final Draft

Preamble

Taking into account the expected increase in energy demand worldwide and the growing awareness about global warming, climate change issues and sustainable development, nuclear energy will be needed to meet future global energy demand. However, opportunities for building new nuclear energy systems will depend on their attractiveness and suitability in different countries and situations. Ongoing Research and Development (R&D) in the areas of economics, safety, waste and proliferation resistance is necessary in order to achieve nuclear energy's potential worldwide.

Nuclear power plant technology has evolved as three distinct design generations:

- (1) Prototypes,
- (2) Current operating plants, and
- (3) Advanced reactors.

The next generation of nuclear energy systems must be licensed, constructed, and operated in a manner that will provide a competitively priced supply of energy, keeping in consideration an optimum use of natural resources, while addressing nuclear safety, waste, and proliferation resistance, and the public perception concerns of the countries in which they are deployed.

Recognizing both the positive attributes and shortcomings of the prior generations of reactor designs, it is now time to lay the groundwork for a fourth generation to be called Generation IV. Because the next generation nuclear energy systems will address needed areas of improvement and offer great potential, many countries share a common interest in advanced R&D that will support their development. Such development will benefit from the identification of promising research areas and collaborative efforts that should be explored by the international research community.

Accordingly, our respective Governments who share a common interest in R&D for the next generation of nuclear energy systems have agreed to establish an international framework to be known as the Generation IV International Forum (GIF).

This Charter states the purpose and vision of a new Generation IV International Forum for international cooperation on R&D for the next generation of nuclear energy systems. Its articles discuss the activities, establish the guidelines, and provide the framework for international collaboration on R&D. This cooperation of many nations on the development of advanced next generation nuclear energy systems will aid the progress toward the realization of such systems.

1. General Considerations Regarding the Forum

1.1 Purpose of the Forum and Vision for Generation IV

The development of one or more Generation IV nuclear energy systems that can be licensed, constructed, and operated in a manner that will provide a competitively priced and reliable supply of energy to the country where it is deployed, while satisfactorily addressing nuclear safety, waste, proliferation and public perception concerns.

1.2 Function of the Forum

An international framework should be established to:

- (a) Identify potential areas of multilateral collaborations on next generation nuclear energy systems,
- (b) Foster collaborative R&D projects,
- (c) Establish guidelines for the collaborations and reporting of their results, and
- (d) Regularly review the progress and make recommendations on the direction of collaborative R&D projects, and
- (e) Establish and regularly review an inventory of the potential areas of needed research.

This Forum will include interaction and collaboration with all sectors of the international research community, including industry, academia, government and non-government organizations.

1.3 Name

This international framework will be known as the Generation IV International Forum.

1.4 Membership

1.4.1 The signatories to the charter will become the initial membership of the Forum. Following the declaration, additional members may join the Forum by the unanimous consent of the existing members.

1.4.2 Any new member must be acknowledged by the existing members to be able to contribute substantially to the Forum. Members are expected to maintain an appropriate level of active participation in collaborative projects, namely, the sponsorship of at least one significant collaborative project.

- 1.4.3 Observer countries are not recommended other than for the purpose of deciding on their own interest in membership.
- 1.4.4 For projects conducted under the auspices of this Forum, citizens of non-member countries may participate in R&D projects. For example, a technical expert from a non-member country may be part of an R&D project.
- 1.4.5 Representatives from the Organization for Economic Cooperation Nuclear Energy Agency (OECD NEA), the International Atomic Energy Agency (IAEA), and others as deemed necessary by the Policy Group will be invited to cooperate with the Forum. NEA and IAEA are granted permanent observer status.

1.5 Research Coordination

The Forum will establish appropriate methods to facilitate collaborative research. These methods will include coordination through international agencies such as the OECD NEA.

1.6 Organization

The Generation IV International Forum will be operated as a virtual organization without the need at this time to establish a physical office for the Forum with permanent staff and an operations budget. Rather, members will agree on their shared responsibilities and provision of their own resources for the Forum's ongoing communications and activities.

1.7 Operation

- 1.7.1 The Generation IV International Forum will operate with the Policy and Experts Groups that have been formed to date. Each member will make up to two appointments to the Policy Group and up to two appointments to the Experts Group. Additional participants may attend the Experts Group meetings as deemed necessary by the appointed members.

The Policy Group will govern the overall framework and policies of the Forum. It should meet at least once a year to be informed of overall progress and to take action on high-level recommendations.

The Experts Group will report to the Policy Group. The Experts Group should meet as often as necessary to review the progress of collaborative projects, identify promising directions for the research, and make recommendations to the Policy Group on needed actions.

The Policy and Experts Groups will seek to identify opportunities to work with the OECD NEA and IAEA to their mutual benefit.

- 1.7.2 The principal coordinator of the Forum's communications and activities is staff known as the GIF Secretariat. The Secretariat (1) organizes the meetings of the GIF, (2) arranges special activities such as teleconferences or new member petitions, (3) coordinates communications with regard to GIF activities and their status, (4) acts as a central source of information for GIF, and (5) maintains procedures for its key functions that are approved by the Policy Group.

2. Identifying Research Needs and Interests

2.1 Research Emphasis

The Forum desires intermediate- and long-term research. The emphasis will remain primarily on long-term Generation IV objectives; however, it will not exclude other short-term advances consistent with the vision.

2.2 Identification and Updating of Research Needs

The Experts Group will identify research needs in accordance with the vision for the Forum and the interests of the members. The Experts Group will be responsible for regularly updating the research needs and interests.

2.3 Dissemination of R&D Needs and Development of Collaborative Projects

2.3.1 The Experts Group will identify research areas for consideration by the Policy Group. Once approved by the Policy Group, the information will be made available to the international research community, including industry, academia, government and non-government organizations. These communications will include summaries of the goals for Generation IV, its needed areas of research, and summaries of international progress.

2.3.2 The Forum will not directly issue calls for R&D.

2.3.3 The Experts Group will encourage collaborative research between members.

3. Research Project Funding

3.1 Independence of Funding

Each country or collaborative will control its own research management process. A general fund will not be created for research collaborations.

4. Review of the Forum's Progress

4.1 Project Review

The Policy Group, advised by the Experts Group, will review the program of collaborative projects to gain an appreciation of the relevance and impact of the research program. The Experts Group should also provide recommendations to the Policy Group regarding the research agenda.

5. Encouragement of Open Research

5.1 Open Research

To the extent practicable, the R&D fostered by the Forum should be open and non-proprietary. Nevertheless, the Forum will allow any country to declare what it determines to be proprietary within the information exchanged in the project, and to mark the information with release caveats consistent with the GIF information system in use.

5.2 Access to Research

Member countries will have access to the results of their collaborative teams, consistent with any declarations regarding the dissemination of their information.

Signatories to the Generation IV International Forum Charter:

Representative of Argentina

Signature and Date

Name and Title

Representative of Brazil

Signature and Date

Name and Title

Representative of Canada

Signature and Date

Name and Title

Representative of France

Signature and Date

Name and Title

Representative of Japan

Signature and Date

Name and Title

Representative of the Republic of South Africa

Signature and Date

Name and Title

Representative of the Republic of Korea

Signature and Date

Name and Title

Representative of the United Kingdom

Signature and Date

Name and Title

Representative of the United States of America

Signature and Date

Name and Title