



International Atomic Energy Agency

Meeting of Senior Officials on
Managing Nuclear Knowledge

17 – 19 June 2002
International Atomic Energy Agency
Vienna International Centre
Austria

Summary Meeting Report

Issued 25 June 2002

General issues

In response to the recommendations of several Agency advisory committees, e.g. INSAG, SAGNE 2002, SAGNA, SAGTAC, to address issues related to nuclear knowledge management, the International Atomic Energy Agency (IAEA) convened a meeting on Managing Nuclear Knowledge on 17-19 June 2002 with senior representatives from Member States. The purpose of the meeting was to sharpen awareness and understanding of the emerging concerns about the maintenance and preservation of knowledge and expertise in nuclear science, technology and applications and to better comprehend the role of the Agency in this process.

The meeting was attended by more than 70 participants from 35 Member States and 4 international organizations, representing academic leaders, senior level executives, managers and governmental officials. A number of representatives from the Permanent Missions in Vienna were also present.

IAEA Director General Dr. Mohamed ElBaradei opened the meeting and invited participants to address the needs for managing nuclear knowledge, to recommend appropriate steps for the Agency and to propose concrete activities. He announced that findings from this meeting would be included in the Scientific Forum at the IAEA General Conference 2002.

Mr. D. Torgerson, Senior Vice-President of AECL, Canada, chaired the meeting.

Statements and Observations

Issues and challenges related to managing nuclear knowledge were introduced in eight keynote presentations and special presentations by Member States. The presentations covered: present and future development of nuclear knowledge; education, training and research; safety perspective for managing nuclear knowledge; the perspective from developing countries; the perspective from industry; managing nuclear knowledge for sustainable development; the perspective from governments; and present needs and future perspectives for nuclear knowledge.

In three plenary panel sessions, participants focused on the contribution and role of the Agency in this context. Panels discussed three separate but interlinked issues: Succession Planning (education and training for the next generation) and the IAEA; Preservation of Knowledge for Future Generations and the Role of the IAEA; and the Role of International Organizations.

Recommendations

Responding to the questions posed by the Director General, participants came to the following conclusions:

There is an immediate need to preserve existing knowledge in nuclear science and technology for peaceful applications for future generations, as it represents a valuable human capital asset. The development of an exciting vision for nuclear technology is prerequisite for attracting young scientists and professionals to seek careers in nuclear science and technology. Participants agreed that the Agency takes the lead and initiate the development of such a vision.

Irrespective of current national energy policies, the need to maintain or even enhance the nuclear knowledge base and national capability will persist. In this way, the knowledge base will be available to meet requirements for evolving policy development. Participants stressed the importance of preserving and further enhancing nuclear science and technology for socio-economic development. For nuclear science and technology to contribute to sustainable development requires knowledge and capacity on three levels: (a) basic nuclear science, (b) technology, (c) engineering and operation.

There was unanimous consensus that IAEA has an obligation to lead activities towards preservation and enhancement of nuclear knowledge by complementing, and as appropriate supplementing, activities by governments, industry, academia and international organizations. International co-operation is of vital importance. Unless action is taken now, invaluable assets in critical nuclear knowledge and capacity will soon be lost.

Participants agreed that the need to sustain the present level of deployment of nuclear technology (energy and non-energy alike) requires urgent action throughout the nuclear community and beyond. The Agency, in particular, is requested to use its potential in assisting Member States to ensure the preservation of viable nuclear education and training which is a necessary prerequisite for succession planning.

The needs may be even more pressing in Member States that consider nuclear power essential for their national sustainable development objectives and face expanding nuclear programmes.

The Agency was commended for its present activities and was strongly urged to further increase the level of attention given to knowledge preservation and enhancement activities: a list of possible activities is given in Annex 3 (attached to this report).

Participants also urged the Agency to bring the conclusions of this meeting to the attention of a wider audience, e.g., Member States' governments, the IAEA Board of Governors and the IAEA General Conference.

Annex 3: Possible activities for the Agency

[Annexes 1 and 2 are contained in the full Meeting Report]

Six top priority activities (ranked):

- 1. Integrate existing nuclear data and information bases (in the Agency and in Member States) in the form of an easily accessible *Nuclear Knowledge Portal*.**
- 2. *Promote networking of institutions* for nuclear education and training in Member States in coordination with existing activities.**
- 3. Develop *guidance documents* on the preservation of nuclear knowledge.**
- 4. Implement targeted *preservation of knowledge projects*.**
- 5. *Design and implement outreach activities*, which improve the general knowledge in society of the benefits of nuclear science and technology.**
- 6. *Facilitate the development of curricula* for internationally accepted higher university degrees on “nuclear technology”, e.g. by networking universities.**

Additional activities (ranked)

7. Provide support for the establishment of an *International Nuclear University*.
8. *Map existing knowledge preservation activities* in Member States.
8. Support for *networking retired nuclear experts with young generation nuclear scientists and professionals*. Establish a dedicated emeritus programme for preserving the knowledge of nuclear professionals.
9. *Strengthen fellowships* and direct support for research and higher education.
9. Develop a programme focused on *attracting a new generation of students* into the nuclear area.
10. *Determine the needs and capacity* for education, training and research in Member States including advanced technology and distance learning.
10. *Integrate available Agency resources*, e.g. INIS, into a knowledge management programme.
11. Support closer *co-operation between industry, institutions of higher education and research centres*.
12. Support existing and facilitate as appropriate new *regional centres* for education and training.
12. Increase the *accessibility* of meaningful information and knowledge by way of expert and smart systems
13. Support *Summer Schools* (mentoring programmes).
14. Strengthen *co-operation with other UN organizations*.