



International collaboration between nuclear research centres and the role of research reactors

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Abstract. A research reactor is a core facility in many nuclear research centres (NRCs) of Member States and it is logical that it should be the focus of any international collaboration between such centres. There are several large and sophisticated research reactors in operation in both developed and developing Member States, such as Belgium, China, Egypt, France, Hungary, Indonesia, India, Japan, ROK, Netherlands, South Africa and the USA. There are also several new, large reactors under construction or being planned such as those in Australia, Canada, China, France, Germany, and Thailand. It is felt that the utilization of these reactors can be enhanced by international co-operation to achieve common goals in research and applications.

Current IAEA activities

In order for new proposals and plans to be put into context, it is important to know what the IAEA is currently doing to facilitate international collaboration and co-operation among research reactor owners and operators. Therefore, current work is listed below with some brief notes.

- *IAEA-wide strategic plan for research reactors.* The development of an IAEA-wide strategic plan for research reactor activities is in the program for 2001, starting with an advisory group meeting (AGM).
- *Strategic utilization plans for each research reactor facility.* Each research reactor is being encouraged to develop a facility strategic plan for sustainable utilization. One regional workshop has been held on such plans, with an AGM on the topic scheduled for September 2000. The existence of an active plan may become a prerequisite for IAEA utilization assistance in the future. International collaboration will need to be part of the plan, if appropriate for a specific facility.
- *Increased Research Reactor Database (RRDB) availability and usefulness.* Since July 1999 the RRDB has been accessible via the Internet. The utilization data is being greatly expanded with the current questionnaire. Both of these facilitate the sharing of knowledge about who is doing what, which in turn makes communication and co-operation possible.
- *Availability of regional and world research reactor list servers.* The IAEA has just in the past month developed such list servers. There are currently about 600 subscribers to the list servers and they are beginning to be actively used for communication between research reactor operators, owners and users. Such a tool greatly facilitates international collaboration.
- *Common research reactor calendar.* A common calendar of events is now available and is being maintained as a service to Member States to further assist in international co-operation. It provides a single source of all known meetings relating to research reactors.

- *Experts meeting on sharing of resources.* This regional meeting is already on the schedule for March 2001. It is specifically on the topic of international collaboration between research reactors in the Asia and Pacific region.
- *International research reactor symposia.* The most recent symposium on research reactor utilization, safety and management was held in September 1999 and the CD-ROM of proceedings is expected early in 2000. Such meetings are convened every few years by the IAEA specifically for the purpose of international communication and co-operation.
- *Topical technical committee meetings (TCM).* These are held routinely with the same aims as the broad symposia, but focused on a specific topic. The last TCM was in June 1999 on the current status of boron neutron capture therapy (BNCT). This was very well attended and contributed greatly to the transfer of knowledge from those facilities currently involved and those wanting to start BNCT programmes.
- *Active participation in non-IAEA international research reactor meetings.* In the past year, IAEA staff members have made presentations at the Asian Symposium on Research Reactors (ASRR), the Organization of Test, Research, and Training Reactors (TRTR), and the International Group on Research Reactors (IGORR). Such participation ensures that there is a common message being communicated among all research reactor facilities.

New initiatives

Despite all of these activities, it is felt that international collaboration can be still further enhanced under the auspices of the IAEA. Part of the purpose of this meeting is to discuss how best this can be done. The advice of the participants is requested in this regard. Perhaps discussion of some of the following questions may help in providing direction to the IAEA.

- *In what regions, or for what topics is further collaboration desirable?*
- *Should the IAEA convene an international (as opposed to regional) TCM on sharing of research reactor resources?*
- *Should the IAEA attempt to 'broker' bi- and multi-lateral agreements with respect to research reactor utilization? If so, what are the legal issues of such an attempt?*
- *How can problematic issues relating to commercial reactor use and international co-operation be best resolved?*
- *How can the IAEA foster sustainable collaboration in ways which do not require significant additional funds?*