

## **OPENING ADDRESS to the TWGRR**

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**Good morning Ladies and Gentlemen**

It is my pleasure to welcome you on behalf of the International Atomic Energy Agency to the second meeting of the Technical Working Group for Research Reactors (TWGRR). Most of you have travelled many thousands of kilometres to be here. Let us work together over the next three days to achieve a productive outcome.

You have been appointed to provide advice to the IAEA on its RR activities and related programmes.

There are some different approaches in which the IAEA is advised on its programmes and activities. There are some Senior (some called International) Advisory Groups that advise the Director General on general matters of nuclear energy, nuclear applications, technical cooperation, safe-guard activities, safety and security. In specific technical areas there is a number of Technical Working Groups that report to the respective DDG. The TWG on the RRs reports to me as the Manager of MP-1 on Nuclear Power, Fuel Cycle and Nuclear Science. Taking into account the cross-departmental nature of the activities in the area of RRs representatives of the departments of nuclear technology applications and Safety and Security participate in the work of this group.

So, what do we expect from our Technical Working Group on Research Reactors? Well, I could refer to the Terms of Reference, but I would like to highlight a few points:

- You should provide advice and guidance for all aspects of the implementation of the Agency's programme, act as a link to your

country and could support for implementation of the Agency's programme in your country or region;

- You should help us identify issues and topics which might increase cooperation among different RR centres, particularly in various regions of the world, and encourage and facilitate regional and international collaborative programmes in the construction and utilization of RR;
- But we should not forget that the TWG is also a forum for information and knowledge sharing on national and international programmes development in your area and on the long term needs;

Your mission and our expectations are very high. For almost 60 years, RRs have been centres of birth for many nuclear technologies, centres of R& D in nuclear science, centres of training, productivity for medical and industrial uses and so on. Some 700 RRs have been built and about 242 reactors in 54 countries continue to operate.

Changes in nuclear global landscape lead to the new challenges and problems facing the RR community.

Let me start with one positive trend. An increasing number of IAEA Member States view nuclear energy as a viable option to satisfy their national energy demand. RRs may play an important role for building the required nuclear competence and providing support in establishment of a national nuclear power programme. The IAEA has received many requests for assistance to either build their first RR or to utilize RRs operating in neighbouring countries, by means of networking and cooperation arrangements, as a first step to develop national capability. In our proposal of P&B 2010-11 to the BoG there is some increase in funding for RRs activities. I hope you will have a chance to discuss this on your meeting.

On an opposite side the RR community now faces a number of critical issues ranging from the ageing of facilities and personnel, changes in governmental support. The market approach requires to cover operational costs by revenues and leads from one side to minimization of capacity margins. and from other side to the lack of resources and

under-utilisation causing problems in areas of modernization, safety and physical protection.

Some of the challenges have been particularly evident in the last year. The unscheduled shutdowns of the RRs NRU (Canada) and HFR Petten (Netherlands) have visibly demonstrated the difficulty of maintaining and operating aging reactors, and it has also demonstrated the over-reliance on a handful of RRs that produce Mo-99. However, this case can also open an opportunity that may convince some governments of the need to initiate local Mo-99 production in order to become less dependent on the unstable international supply situation, even if the cost is higher for locally produced isotopes .

The objective of this meeting is to move forward in general understanding of global trends to a more detailed advice for IAEA RR activities. In this context I would now like to share with you some ideas the IAEA has relating to this matter.

First is effective utilization of RRs in a more economically competitive, reliability- and sustainability-conscious world. The IAEA is helping countries pursue utilization strategies on national and regional bases through so called coalitions. These regional arrangements envision joint activities in the areas of nuclear education and training, isotope production and industrial applications, material and fuel science and testing, and in sharing of best practices, etc. It is also envisioned that these arrangements will make available the use of RR facilities and irradiation services to scientists and users from Member States that do not have RRs but need to use them. The best practices and your practical recommendations would be appreciated.

My second point addresses the need to effectively deal with the management of the RR nuclear fuel cycle. The IAEA actively supports international initiatives on conversion of RRs from the use of HEU to LEU like the Global Threat Reduction Initiative (GTRI) and the Reduced Enrichment for Research and Test Reactors (RERTR) programme, supports the development of high density LEU fuels for high flux RRs. In connection with the latter, I would like to note that the 13<sup>th</sup> International Topical Meeting on Research Reactor Fuel Management (RRFM) will be held this year, here at the VIC, from 22

to 25 March. The meeting will focus on the exchange of information on all key areas of the nuclear fuel cycle of RRs.

The end-point of the RR fuel cycle is when the spent fuel is either: a) returned to the country of origin; b) reprocessed and the high-level wastes (HLW) disposed or c) disposed in a geological repository. As the take-back programmes will be ultimately ceased and every country faces the necessity of developing a national management strategy. The expensive construction of geological repositories for the relatively small amounts of spent fuel or HLW from reprocessing is not practicable. A multinational repository is, however, still being a dream. Recommendations from your group on this matter are highly appreciated.

Finally, a word on RR operational performance and reliability. Some of the most high profile RR goods and services are produced almost entirely by some of the oldest operating facilities. Effective and proactive operation and maintenance management is a prerequisite to the long-term success. In 2008 the IAEA published a collection of recommended RR management practices gathered from some of the world's most heavily utilized facilities and initiated a large effort on RR ageing management. This work is being combined with ongoing activities involving RR modernisation and refurbishment. I am looking forward to see your opinion on this Agency's activity.

In conclusion once again, let me welcome you here to both the IAEA and Vienna, and wish you the best in your discussions. You represent a global network of excellence and expertise in the area of RRs and I am confident that with goodwill and hard work, we can achieve progress and take an important step forward during the next three days.

Thank you for your attention and I look forward to your discussions and findings.