IAEA's Cross Cutting Activities on Research Reactors

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For nuclear research and technology development to continue to advance, research reactors (RRs) must be safely and reliably operated, adequately utilized, refurbished when necessary, provided with adequate proliferation-resistant fuel cycle services and safely decommissioned at the end of life.

The IAEA has established its competence in the area of RRs with a long history of assistance to Member States in improving their utilization, by taking the lead in the development of safety standards, norms and dissemination of information on good practices for all aspects of the nuclear fuel cycle and in the planning and implementation of decommissioning. IAEA activities on RRs are formulated to cover a broad range of RR issues and to promote the continued development of scientific research and technological development using RRs. Member States look to the IAEA for coordination of the worldwide effort in this area and for help in solving specific problems.

Today RR operating organizations need to overcome challenges such as the on-going management of ageing facilities, pressures for increased vigilance with respect to non-proliferation, and shrinking resources (financial as well as human) while fulfilling an expanding role in support of nuclear technology development.

The IAEA coordinates and implements an array of activities that together provide broad support for RRs. As with other aspects of nuclear technology, RR activities within the IAEA are spread through diverse groups in different Departments. To ensure harmonized approaches a Cross-cutting coordination Group on Research Reactors (CCCGRR) has been established, with representatives from all IAEA Departments actively supporting RR activities.

Utilization and application activities are generally lead from within the Department of Nuclear Sciences and Applications (NA). With respect to RRs, NA is primarily carrying out IAEA activities to assist and advise Member States in assessing their needs for research and development in the nuclear sciences, as well in supporting their activities in specific fields.

The technological, fuel cycle and operational aspects of RR management are supported by the Department of Nuclear Energy (NE). NE is primarily working to support RR organizations in their pursuit of often diverse strategic objectives within the context of modern RR operational constraints.

The Department of Nuclear Safety and Security (NS) is assisting Member States in all aspects related to nuclear safety and security during all the stages of the RR lifetime, including design, commissioning, operation, utilization, and decommissioning.

In addition, the Department of Technical Cooperation (TC) supports RR activities for the principal benefit of RRs in developing countries. TC is subsequently supported by NA, NS, and NE who assist in the development and implementation of relevant TC projects within their specific fields of expertise.

A review on the status of the research reactors worldwide is briefly presented and discussed along with the common issues, trends, and challenges related to their safety, operation, management and

utilization. An update of the IAEA activities addressing these issues, trends and future challenges is highlighted. These include activities on the development of safety and technical infrastructures for the countries planning to build their first research reactor. These activities also include fostering networking which is central for improving utilization and safety of research reactors through share of facilities, optimization of resources and competencies, effective application of the IAEA Code of Conduct on the Safety of Research Reactors and Safety Standards, and exchanging operating experience. In this paper a description of the on-going and planned activities within the IAEA's Cross-cutting Area on RRs for the years 2012–2013 is presented.