

IAEA Activities in Support of Research Reactor Operation and Maintenance

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Currently there are 247 operating research reactors globally, according to the International Atomic Energy Agency (IAEA) Research Reactor Database (RRDB). These reactors have a well-documented history of contributing to peaceful nuclear research and technology development, and have helped in the education and training of generations of scientists, reactor operators, and engineers. They are also used for basic research, radioisotope production, neutron radiography, neutron beam research, material characterization and testing, and other applications. The IAEA Research Reactor Section (RRS) has several initiatives to assist Member States (MS) individually, regionally, and through international coalitions with operational and maintenance (O&M) issues.

Some of the key issues related to RR O&M are due to ageing facilities and equipment. IAEA is leading several efforts, through Coordinated Research Projects and development of publications, to enable MS to share knowledge about material ageing and available equipment and facility upgrades to sustain RR operability. Additional O&M issues being addressed by MS are fuel optimization, equipment modernization, modifications required due to security and safety requirement changes, and modifications aimed at increasing facility reliability. The RRS offers MS Operations and Maintenance Assessment of Research Reactors (OMARR), a peer-to-peer review to assist with improvement of operational and maintenance practices. Thus far, two facilities have used this opportunity, and another is planned for 2016. IAEA is establishing a specialized activity for conducting non-destructive examinations and in-service inspections at research reactors. Additionally, RRS is currently participating in several projects through the Technical Cooperation organization to assist individual and regional MS on specific projects. These relate to instrumentation upgrades, fuel upgrades, safety infrastructure support, and decommissioning planning. This presentation will provide information on the current and planned IAEA RRS activities to support MS with RR O&M.

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