

International Conference on Research Reactors: Safe Management and Effective Utilization

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World of TRIGA Research Reactors: Present and Future

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TRIGA reactors (Training, Research, Isotopes, General Atomics) constitute a 'World of their Own' among the large variety of research reactors. Developed in the 1950s, they were mainly constructed in the 1960s and 1970s all over the world and many of them continue to operate successfully more than 50 years.

In 1970, the first of many TRIGA Users' Conferences was organised by the TRIGA reactor in Helsinki/Finland, followed by US- and European TRIGA Users' Conferences until 2000. In 2002 the first combined World TRIGA Users' Conference took place in Pavia/Italy, later on these conferences were added as a topical event to the annual Research Reactor Fuel Management Conferences (RRFM) organised by the European Nuclear Society, and to the annual conference of the Training, Research and Test Reactor (TRTR) organization in the United States. Majority of these Conferences are documented in a dedicated CD-ROM compiled by the AtomInstitut in Vienna together with the IAEA INIS Section [1]. This publication collects extensive volume of papers and presentations from the TRIGA conferences from 1970 to 2008; it includes more than 1000 searchable contributions from individual TRIGA facilities worldwide.

As both the front end and the back end of TRIGA fuel became increasingly important to TRIGA reactors, the IAEA took the initiative to invite all TRIGA reactor operators to a dedicated Technical Meeting in Vienna/Austria in November 2013 to discuss important TRIGA issues and challenges, such as utilization, management, technical support, fresh fuel supply and spent fuel options. One of the outcomes of this meeting was the unanimous decision to compile a TECDOC, describing history, present status and future perspectives of TRIGA facilities worldwide.

In April 2015 the TECDOC reached his final review stage. It covers both the Historical Development (Chapter 2) and basic TRIGA Characteristics (Chapters 2 and 3), followed by TRIGA Utilization (Chapter 4), TRIGA Fuel Conversion (Chapter 5) and Ageing Management of TRIGA research reactors (Chapter 6). The publication continues with Issues and Challenges (Chapter 7), introduction to the Global TRIGA Research Reactor Network (Chapter 8) and concludes with Future Perspectives (Chapter 9).

The publication summarizes in one compact form information on the past and present of TRIGA reactors and to give an outlook especially in view of potential issues to be solved by TRIGA operating organizations in the near future. As the staff, who participated in the construction and operated their TRIGA facilities throughout the decades have already retired in most of the institutions, there was an urgent need to gather their knowledge from already published sources or available as internal reports and documentation into a single publication.

Further this publication is complemented with an attached CD-ROM, which includes a large number of individual papers, describing operational TRIGA facilities, reporting on their key research results, issues and challenges as well as future plans.

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