

Preface

This report covers research activities of Kyoto University Research Reactor Institute (KURRI) for the fiscal year 2015, from April 2015 to March, 2016. Researchers under the joint use program of KURRI had difficult time in this period because of the shutdown of KUR and KUCA since 2014. In addition, Tracer Laboratory had major renovations. Nevertheless, researchers made remarkable achievements in the field of research activities with the Electron Linear Accelerator, the Co-60 Gamma-ray Irradiation and other facilities. BNCT research group also continues to work for the development of the Accelerator-based BNCT system. This is the important first step for the future that BNCT treatment will be available in a hospital. They have made good progress with a big mission to shift clinical trial to medical treatment.

In spring, 2016, KURRI obtained approval from the Nuclear Regulation Authority (NRA) to restart KUCA. KUR is the final stage to pass safety assessment at present. After the Fukushima nuclear Accident in 2011, the NRA formulated the New Regulatory Requirements. All the Japanese nuclear facilities have to apply it for the safety review. The NRA also requested research reactors to take strict assessment as same level as nuclear power plants do. At the time of writing this manuscript, we expect both facilities will restart the operation for the research utilization by the end of fall in 2016. I would like to express my heartfelt thanks to joint researchers for their strong patients and to our staffs and all who contributed their great efforts for gaining the approval.

The long shutdown of all research reactors in Japan had a large influence on nuclear/neutron research and education. Especially, cancer patients suffered, because they could not receive medical treatments with the reactor-based BNCT. In the point of human resource development, universities did not provide students practical nuclear education programs using nuclear facilities before their graduation. The essential problems of those educational circumstances were pointed out by many experts.

The biggest mission for us is the restart of KUR and KUCA at present. We recognized that we faced serious problem to satisfy the social needs and demands in the view of safe and security. It is apparent that these issues impose a substantial burden on KURRI which is just one of institutes in one university. We have to seek for ways to keep capable people in order to achieve safety management and to reinforce our nuclear security.

In the end, we would like inform a new pledge in the latest Nuclear Security Summit, held in Washington, organized by President Barack Obama. The Japanese government agreed with U.S. to remove and transfer high enriched uranium (HEU) fuels from KUCA to the United States. In the near future, HEU will be replaced with low enriched uranium (LEU) fuels. It would be tough burdens for us, but we are honored that the importance role of KUCA as a research and education facility was confirmed in the top level agreement of between Japan and U.S. governments.

Kumatori, July 14, 2016

Yuji Kawabata

Director, KURRI