

## SPECIAL PROJECTS

# Research Reactor Decommissioning Demonstration Project (R<sup>2</sup>D<sup>2</sup>P)

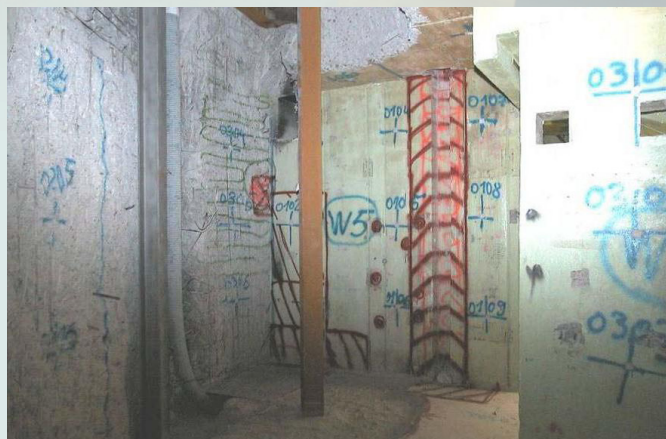
URL: <http://www-ns.iaea.org/projects/r2d2project/default.asp?s=8>

Many research reactors have been shut down or will be shut down in the near future. The respective countries must develop decommissioning policy, strategy and expertise and have funds available to implement a decommissioning project effectively. The IAEA responds to requests from Member States, for example, by establishing R<sup>2</sup>D<sup>2</sup>P to help implement IAEA safety standards covering all aspects of decommissioning and provide a model for future decommissioning projects. The focus of the project is on the decommissioning of a research reactor based on the example of the Philippine research reactor (PRR-1) located in Quezon City, Philippines, with the reactor being at an early stage of decommissioning. Other decommissioning projects have contributed. The scope includes all aspects of the decommissioning process, from establishing a legal and regulatory infrastructure to the final release of the facility from regulatory control.

This project involves in particular the regulatory body, the operator, any contractors, the organisations responsible for the processing, transport and disposal of radioactive waste, the radiation protection personnel, decontamination and dismantling specialist, administrative personnel as well as politicians and decision makers.

The project would not be used as a research and development platform to develop new technologies. Only commercially available technologies are being considered for incorporation into the decommissioning project.

Examples of such training might include characterization, decontamination, disassembly of systems, release of materials and waste, processing of waste for storage and disposal and radiation surveys, including operational and final release surveys and regulatory overview activities.



Practical training is provided including site characterisation.





## RESEARCH REACTOR DECOMMISSIONING DEMONSTRATION PROJECT (R<sup>2</sup>D<sup>2</sup>P)

It is expected that experts from participating countries will calibrate their national situations against international recommendations provided in the lectures and demonstrations during the project. They are expected to help improve the national situation and report on progress in each of the workshops.

An initial work plan was developed when the project was implemented. The first part of the workshops targets infrastructure, planning and licensing issues. The second part would then target the actual decontamination and dismantling activities. In any instance, the progress in the decommissioning activities should be in parallel with the workshop implementation. The project commenced in June 2006 and was expected to take about 6 years. The activities carried out so far followed the sequence of events given in this work plan. It is expected that this project will end in 2014.

The project is expected to capture lessons learned from the activities that will be performed and to make this information available to as many people as possible. At the end of the project, the following should be available:

- A set of information papers and IAEA documents to share lessons learned;
- Information for use in updating Agency safety standards and technical documents;
- A set of safety related documents (decommissioning plan, environmental impact assessment, safety analysis report, health and safety plan, cost estimate, etc.) for use as models by States beginning the decommissioning process;
- The names of a number of experts who can provide expertise to States;
- A model for other reactor decommissioning projects;
- A decommissioned facility;
- Expert mission reports;
- Progress reports;
- Technical documentation and regulations for decommissioning, including decommissioning plans and support documents.

Workshops and training courses would be held at the facility, which would be used as a teaching laboratory for participants. It is anticipated that during major evolutions of the decommissioning process, groups of individuals from countries involved in the project would be 'cycled' through the facility to obtain practical experience.

Previous workshops include:

- Workshop 1: Legal and Regulatory Aspects of Decommissioning  
26-30 June 2006, Manila, Philippines
- Workshop 2: "The Basics of Decommissioning"  
16-20 October 2006, Manila, Philippines

- Workshop 3: Transition Phase  
12-16 November 2007, Menai, Australia
- Workshop 4: Characterization Survey  
3-7 December 2007, Manila, Philippines
- Workshop 5: Project Planning, Management, Regulatory Review and Safety Assessment  
15-19 September 2008, Manila, Philippines
- Workshop 6: Cost Estimates  
30 March - 3 April 2009, Manila, Philippines
- Workshop 7: Decommissioning Technologies  
6-10 July 2009, Karlsruhe, Germany
- Workshop 8: Safety Assessment for Decommissioning of Research Reactors  
4-8 October 2010, Risø, Denmark
- Workshop 9: Release of Sites and Building Structures  
2-7 September 1 October 2010, Karlsruhe, Germany
- Workshop 10: Review of a Decommissioning Plan  
4-8 July 2011, Bucharest, Romania



View of the reactor hall at the Magurele Research Reactor.



The project was established using the decommissioning of the Philippine Research Reactor (PRR-1) as a model.

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### For further Information:

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See: <http://www-ns.iaea.org/projects/r2d2project/default.asp?s=8>

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