



International Atomic Energy Agency

**R2D2 Project
Basics of Decommissioning of Research
Reactors**

Exercise

Peter McIntyre,
Manila, 16-20 October 2006

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**Research Reactor Decommissioning Planning
Exercise Objectives**

- Reinforcement of material from the formal presentations
- Assistance in the development of the decommissioning plan for PRR-1
- Introduction of experience and issues from participant's home countries
- Influencing later R2D2 presentations, workshops and other activities

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Exercise Approach (1)

- Use PRR-1 as an example of the development of a decommissioning plan
- Resources available:
 - IAEA guidance on decommissioning of NPPs and research reactors WS-G-2.1
 - Example plans from 3 U.S. research reactors
 - International and PNRI lectures at this meeting
 - PRR-1 site visit and documentation
 - Your own experience



Exercise approach (2)

- Groups will be initially selected by the organisers but the formation of sub-groups within a group may be productive
- Each group should nominate a chairperson and spokesperson
- The lecturers will be available to discuss issues with groups but will NOT take a leading role
- Reporting back should be via laptop &/or flip charts
- **There are no pre-determined rights and wrongs- be creative!**



Decommissioning Plan Content as per WS-G-2.1

- a) Description of reactor, site and area**
- b) Life history and future site use**
- c) Legal and regulatory framework**
- d) Radiological criteria**
- e) Proposed activities and schedule**
- f) Rationale for preferred decommissioning option**
- g) Safety and environmental impact assessments**
- h) Environmental monitoring programme**
- i) Organization and staff capabilities**



Decommissioning Plan Content as per WS-G-2.1 (continued)

- j) Technology for decontamination, dismantling, remote operations and other services**
- k) QA programme**
- l) Assessment of plant radiological inventory**
- m) Waste management including criteria for segregation and recycling**
- n) Safeguards, security and emergency preparedness**
- o) Monitoring for site release**
- p) Cost and source of funds**
- q) Final radiological survey**



Decommissioning Plan Exercise Schedule (1)

1600 - 1730 Tuesday 17th October

Divide into 3 groups to discuss topics within WS-G-2.1 broadly gathered under the three headings of:

1. Regulatory, safety and environment (c, d, g, h, l, n, o, q)
2. Management and organisation of decommissioning and materials (a, b, f, i, k, m, p (funds))
3. Activities and required technology (e, j)

NB parts of topics e (schedule) and p (cost) later



Decommissioning Plan Exercise Schedule (1)

Consider each topic area to:

- identify what is known
- what is missing
- what impact these gaps could have
- what should be done to close these gaps
- make proposals on which topics should be focused on to study in more depth to help develop a schedule and cost for the project

Chairmen/spokesperson to meet Peter McIntyre after the session to discuss proposals and to allow design of next stage.



Decommissioning Planning for PRR-1 Exercise Schedule (2)

1630 Wednesday 18th and 1600 Thursday 19th October

- Further development in groups after brief feedback of the position to date.

0830 – 1030 Friday 20th October

- In plenary session each group presents their outputs with plenary discussion to clarify and comment on these. Discussion on the outputs as an integrated package with identification of inconsistencies, improvement opportunities and next steps. Deliverable:- 1) a project pack useful as a basis for PRR-1, and other participants, to use in further development of plans. 2) An input into General Discussion on the future activities within the R2D2 project.



Decommissioning Planning for PRR-1 Exercise Groups

The suggested groups are as below. Where there are two persons from a country please agree together which to attend.

Group	Topics					
1. Regulatory, safety and environment	c, d, g, h, l, n, o, q	Brazil (1)	Indonesia	Vietnam	Libya (1)	Philippines
2. Management and organisation of decom and materials	a, b, f, k, i, m, p(funds)	Argentina	Serbia (1)	Malaysia	Libya (2)	LL
3. Activities and required technology	e, j	Brazil (2)	Serbia (2)	China	Philippines	Philippines

