

Workshop Overview



Ernst Warnecke; NSRW

R²D²Project: Transition Phase
ANSTO, Lucas Heights; 12-16 November 2007



IAEA

International Atomic Energy Agency

Background

- Research Reactor Decommissioning Demonstration Project (R²D²P)
- Decommissioning + dismantling (D+D) of the Philippine Research Reactor-1 (PRR-1)
 - Start in 2006 and duration of about 6 years
 - IAEA supports the decommissioning of PRR-1
 - Workshop (WS) schedule established
 - WS schedule and D+D progress to be co-ordinated
- Demonstration project established for other countries to “learn on the job”

Original Workshop Schedule

- Legal / regulatory 06/06
- Basics of D+D 10/06
- Characterisation 02/07
- D+D plan 05/07
- D+D technologies 09/07
- Cost estimates 02/08
- Review D+D plan 05/08
- Prepar. for D+D 09/08
- Decont. exercise 05/09
- Dismantl. exercise 10/09
- Dismantl. exercise 02/10
- Dismantl. exercise 06/10
- Decont. exercise 10/10
- Final survey / bldg. 05/11
- Final survey / envir. 05/11
- Final D+D report 10/11
- Careful implementation!
- Check: What to do next?
What is needed?
- Complementary activities!

Implementation of the R²D² Project

- Role of IAEA
 - Provide support by workshops, training, expert missions, equipment, fellowships, scientific visits etc.
- Role of the host country
 - Plan, regulate and execute D+D
 - Manage materials generated during D+D
- Participating countries
 - Active involvement: Learning on the job
 - Compare international approaches to national ones
 - Draw conclusions / improve national situations
 - Initiate / take necessary steps
 - Report on initiatives and implementation of actions



Revisit of Earlier Workshops / Reporting

- Legal / regulatory workshop (June 06, Manila)
- Workshop 'Basics of D+D' (Oct. 06, Manila)
- National reporting
 - Is national situation complying with international recommendations?
 - Have deficits been identified?
 - Has action been taken to improve the situation?
 - Is help / assistance necessary, e.g. from IAEA?
- Such progress reports are expected in the December 2007 meeting in Manila

Purpose of WS on 'Transition Phase'

- Transition from operation to decommissioning
 - Cannot be demonstrated on PRR-1
 - PRR-1: shut down, cleared and cleaned for repair
 - HIFAR transition is complementary to PRR-1 D+D
 - Relevant for most of the countries involved
- Important 'transition' issues
 - Reduce radionuclide (RN) inventory (radiation prot.!)
 - Removal of fuel / fuel destination
 - Removal of liquid and solid waste / material
 - Decontamination of systems (pipes, other structures)
 - Endpoint definition: very important for safe enclosure

Expectations from WS on 'Transition'

- Use the HIFAR experience as a model
 - learn how to integrate 'transition' into the D+D plan
 - learn about the complexity of 'transition'
 - be aware of possible 'obstacles' or 'traps'
 - learn about the safety implications
 - learn how to implement a safe 'transition' phase
- Check / improve the national situation
- Transfer HIFAR experience to national projects
- Report on progress (2008 R²D²P workshop)

Relevant IAEA recommendations (I)

- Have a D+D plan available at the end of reactor operation; if not: prepare such a plan a.s.o.p.
- No IAEA Safety Standard on transition phase
 - Safety Report No.36 (2004)
http://www-pub.iaea.org/MTCD/publications/PDF/Pub1184_web.pdf
 - Technical Report No. 420 (2004)
http://www-pub.iaea.org/MTCD/publications/PDF/TRS420_web.pdf
- Issues to be considered
 - Decide on 'transition phase': is it operation or D+D?
 - Is 'transition' covered by the operational license?

Relevant IAEA recommendations (II)

- In any case: integrate 'transition' in the overall D+D plan and decide on a D+D strategy
 - + direct dismantling (priority); deferred dismantling
 - + entombment: maybe in special circumstances
- Plan for the transition and its end state
- Have a destination for fuel and waste
- Have funds + qualified / trained staff available
- Have a license for transition phase / D+D plan
- Typical transition activities
 - Removal / management of fuel
 - Draining of liquids / decontamination of pipes etc.
 - Removal + management of all types of waste

Relevant IAEA recommendations (III)

- Retirement or reconfiguration of systems
- Replacement / renewal of old systems
- For deferred Dismantling:
 - Transition leads to 'safe enclosure'
 - Foresee safety implications of safe enclosure
 - + maintenance during safe enclosure
 - + aging of relevant systems: ventilation, cranes, ...
 - + availability of funds for dismantling
 - + existence of an operator
 - + availability of qualified staff
 - + records + documentation (corporate knowledge)

Practicalities

- Agenda / Information folder
- Presentations
 - Presentation by a lecturer (2/3 of allocated time)
 - Discussion (1/3 of time)
- Concluding discussion (on Friday)
 - Review of the workshop (improvements? ...)
 - Your contribution to the conclusions is expected
 - Relate the WS to the national situation
- Practical information (Host)
- R²D²P website <http://www-ns.iaea.org/projects/r2d2project/default.htm>



THANK YOU

