

IAEA Technical Meeting: "Annual Forum for Regulators and Operators in the Field of Decommissioning: International Decommissioning Network (IDN) Activities and Outcomes of the International Peer Review of Decommissioning"

3-7 Nov 2008, IAEA, Vienna

Decommissioning of Small Facilities

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IAEA, Vienna
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Content

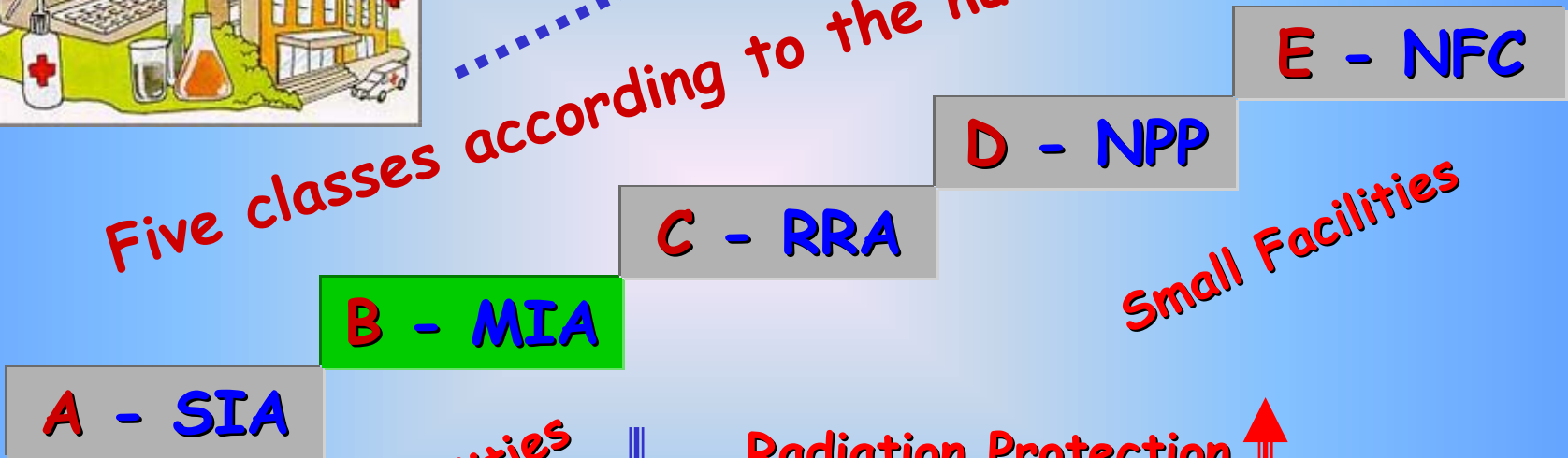
- 1- Introduction**
- 2- Brief update of D&D projects in our organization**
- 3- Current challenges**
- 4- What do we need from the other IDN participants**
- 5- What we can offer to the other participants in the network**
- 6- Conclusions**

1 - Introduction: Small Facilities - (less developed nuclear program MS)

- Smaller in size, complexity,
- Lower radiological risk



Five classes according to the nuclear programmes



Small Facilities

Small Facilities



Radiation Protection infrastructure

Legal issues

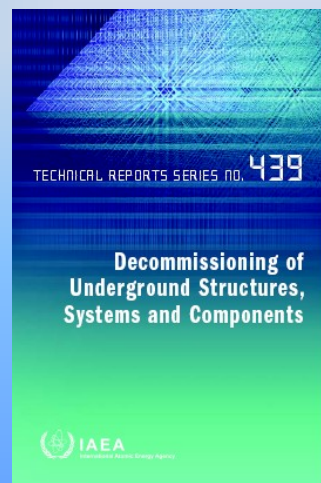
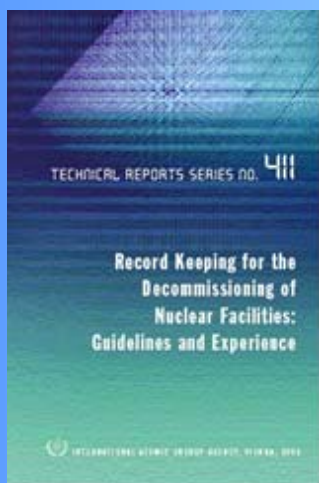
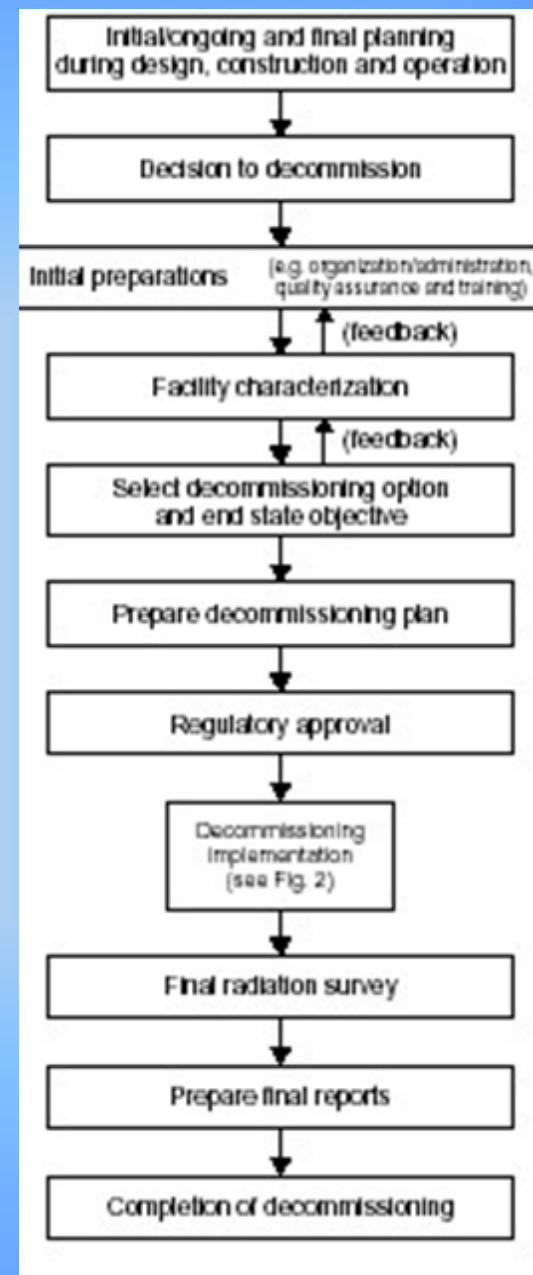
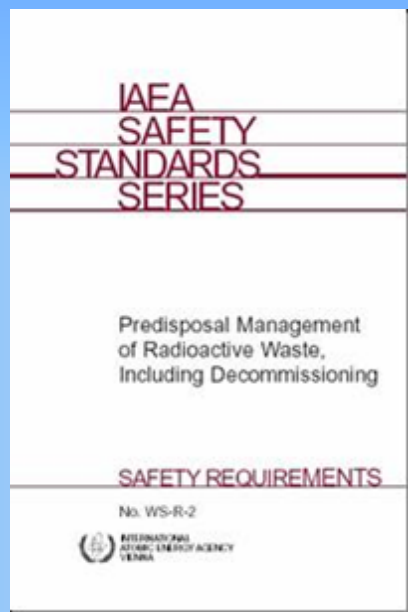
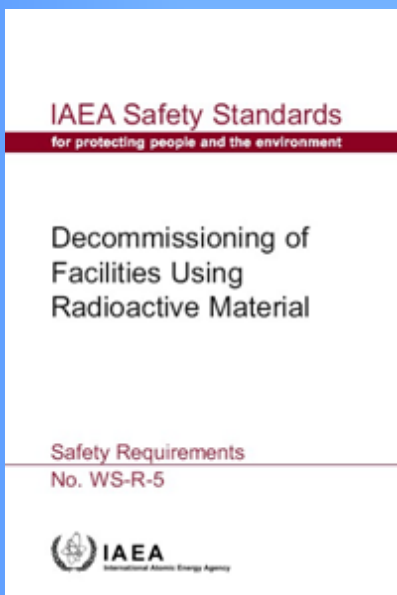
Culture in Decommissioning

1 - Introduction: Small Facilities - (less developed nuclear program MS)

- Lack of regulatory requirements for D&D
- Dilution of responsibility (facility is just part of bigger installation)
- Loss of documentation (design, drawings...)
- Inadequate record keeping
- Personnel is not trained, unfamiliar with D&D and safety aspects
- Unfamiliar with RadWaste management
- Lack of processing/storage facilities for RadWastes
- Lack of financial provisions
- Lack of adequate equipment, tools for D&D



2- Flow Chart for a Typical Decommissioning Project



2.1- D&D - Brachytherapy Facility - contamination with ^{226}Ra



License
Termination



2.2- D&D - Brachytherapy Facility - contamination with ^{137}Cs



2.2a- D&D - Brachytherapy Facility - "During and after"



2.3- Decommissioning small irradiator - Hospital [FP]



2.4- Decommissioning research laboratory potentially contaminated with C^{14} , H^3 , I^{125} , Cr^{51} y P^{32} [CIREM]



2.5- Decommissioning research laboratory potentially contaminated with S^{35} , H^3 , I^{125} , Cr^{51} , Re^{188} , Y^{90} y Fe^{59} . [CIM]



2.6- D&D retention tank of the Radioactive Waste Processing Facility



2.7- D&D of research laboratories at University [INSTEC]



2.8- D&D of transport container at harbor

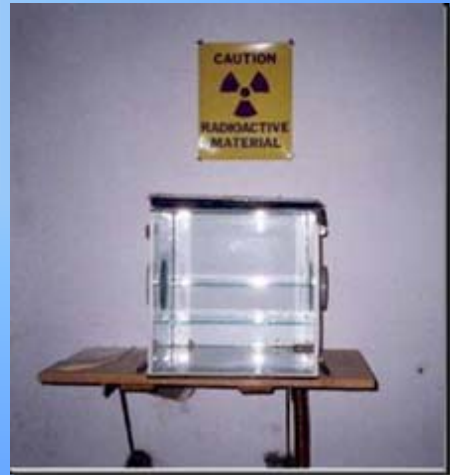


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2.9- D&D brachytherapy facility - Cs^{137} , Member State - B



2.10- D&D research facility - H^3 , Member State - C



2.11- D&D brachytherapy facility - Cs¹³⁷, Member State - D





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2- Brief update of D&D projects in our organization

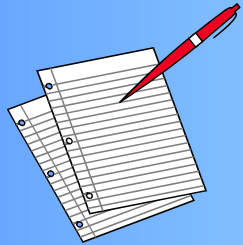
3- Current challenges

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3.1- D&D research irradiator [CENSA]



- Decommissioning plan (strategy, project management)
- Safety assessment for decommissioning (dose prediction for tasks). Emergency planning
- Disassembly of irradiator
- Source removal, DSRS (waste) management,
- Radiation Protection, QA, Record keeping
- Final survey and report. Request for release

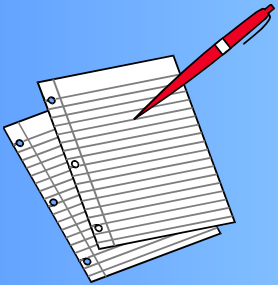
3.2- D&D University Storage Facility [INSTEC]



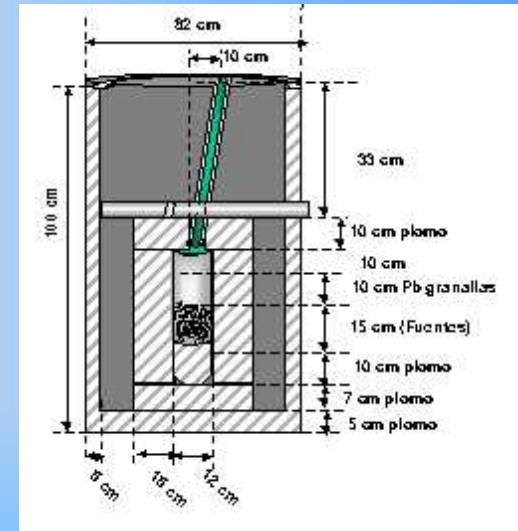
- Decommissioning plan
- Safety assessment for decommissioning
- Radioactive Decontamination
- Waste management,



3.3- D&D industrial irradiator [PIA]



- Decommissioning plan (strategy, project management)
- Safety assessment for decommissioning (dose prediction for tasks). Emergency planning
- Source removal, DSRS (waste) management,
- Radiation Protection, QA, Record keeping
- Final survey and report. Request for reuse





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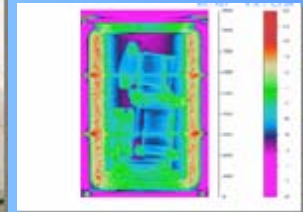
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4.1- Needs

- No specific (adequate) tool/equipment available



- No adequate equipment for V-LLW; i.e. D&D wastes characterization (needed for clearance)



(identified in the IAEA action plan for decommissioning)

- Tool/equipment/methodology for the radioactive sources recovery from the dry storage at irradiator



- Type B container for the transportation of High activity radioactive sources



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5.1- Offers

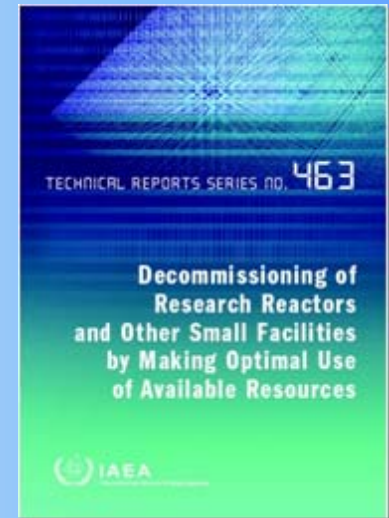
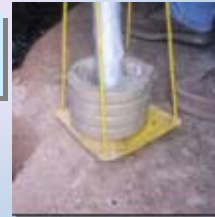
When no info on construction details, water supplies, drainage systems, Rad-Materials. Reports, drawings, technical designs disappeared.

➤ Detailed characterization for decommissioning



When no sophisticated equipment/tools available

➤ Appropriate alternative solutions are used



➤ Selection of adequate decontamination techniques & decommissioning strategy



5.1- Offers

➤ Development of appropriate capacity and capabilities of managing the wastes arising during decommissioning activities

➤ Training of facility operators and/or another national staff in D&D activities, and safety aspects of the D&D

Fellowships, Scientific Visits, Training Courses, Workshops

➤ Expert team/missions for carrying out D&D activities elsewhere





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CONCLUSIONS (1/2)

- ✓ **Safety culture for Decommissioning of small facilities is also required!!!**
- ✓ **In case of small nuclear programme and limited resources, the international involvement and cooperation is needed for planning and conducting decommissioning projects (e.g. IDN)**
- ✓ **Our organization expresses willingness to share knowledge & experience**

**Thank you for
your attention**