International Experts Meeting on

Decommissioning and Remediation After a Nuclear Accident

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Session V-A
Summary of Findings and Recommendations

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Session Theme

- Session V: Management of Radioactive Waste and Damaged Fuel
  - ➢ Session V-A: Generation and Management of Materials and Waste
    - ✓ Four presentations were given and discussed
    - ✓ Panel Discussions on Strategy, Planning and Licensing of facilities and activities for RWM

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Key issues identified and lessons learned

- Disastrous events such as Chernobyl or Fukushima may disturb completely an orderly established system (licensing, waste management, responsibilities, …). Such events are characterized by many uncertainties and unforeseen issues, such as:
  - ✓ Issues related to the management of huge amounts of waste;
  - ✓ A variety of wastes and a variety of chemical and isotopic composition;

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Key issues identified and lessons learned (ctd.)

- ✓ In many cases it concerns mixed wastes or not previously encountered types of waste
- ✓ Issues related to predisposal management and disposal of liquid and solid waste; accidents may lead to “not organized storage for not organized waste”.

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Key issues identified and lessons learned (ctd.)

- Explore and implement experiences from past accidents or from legacy remediation activities (eg the WISMUT project with management of large volumes of radioactive residues; top-down approach and step-by-step implementation).
- Optimize siting activities in view of existing circumstances and in view of limiting transport activities.

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Key issues identified and lessons learned (ctd.)

- Take into account interdependencies between management steps and between decommissioning/remediation activities and waste management.
- Public involvement as soon as possible with the aim of building confidence/trust.

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Findings and Recommendations identified

- Appropriate waste management strategies should be developed, taking into consideration past accident experiences and decommissioning activities of nuclear facilities and giving due attention to interdependencies between all waste management steps and including reuse and recycling of materials.
- The waste management strategy should clearly mention “what should not be done and what should be done”.

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Findings and Recommendations identified

- Further work to be done in order to reduce uncertainties in characterization of the variety of wastes generated during the accident and especially for bulk materials.
- Regulatory challenge to clearly allocate responsibilities of authorities and operators, to identify a leading organization and to provide in a short term licensing process

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Findings and Recommendations identified (ctd.)

- Within the development of appropriate strategies for radioactive waste management prior to and after an accident, one should optimize siting activities in view of existing circumstances and for limiting transport activities of large amounts of radioactive waste and contaminated material.

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Findings and Recommendations identified (ctd.)

- Strategic considerations and technical suggestions on remediation (clean-up) of large contaminated areas and on the management of large volumes of contaminated wastes, should be incorporated in recommendations, guidance and legal regulations, respectively, addressing in particular possible accelerations of licensing processes and the adaptation of such processes.

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Findings and Recommendations identified (ctd.)

- Comparing international safety standards with developed strategic considerations and technical suggestions for the remediation and management of large volumes of contaminated materials. A practical guidance to be developed on how to apply international standards in accident situations in order to achieve a stable and safe situation.

- It might be worthwhile to develop more guidance on how to apply the international standards for existing situations and to consider the need for flexibility in their application.

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Findings and Recommendations identified (ctd.)

- The combination of precisely adapted waste and clean-up strategies should definitely contribute to ensure long-term safety.

- Plans and procedures for emergency situations should be developed in advance and implemented.

- Targeted handling and treatment/storage of solid and liquid radioactive waste and of contaminated materials could be proposed, keeping in mind the fact that accidents are unique in character.

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Findings and Recommendations identified (ctd.)

- Develop a cost-to benefit methodology and apply it on known accident or legacy cases with the aim of calculating total costs associated with the strict application of the international safety standards and compare the outcome with the protection benefit offered by the extra cost.

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Findings and Recommendations identified (ctd.)

- International cooperation is essential, in areas such as:

  ✓ R & D for common or unique technologies, characterization methodologies, …;

  ✓Establishing recommendations and guidance;

  ✓Providing expertise, support and service.

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Thank you for your attention

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