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## **SESSION 101**

# **US NRC/US DOE/IAEA LLW Performance Assessment, the Safety Case (PRISM) and Long Term Monitoring Workshop**

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# *Overview of IAEA PRISM Project*

- PRISM
  - Practical Illustration and Use of the Safety Case Concept in the Management of Near-Surface Disposal

# *Safety Case*

- Recognized in national and international documents
- Term used to refer to this broad range of arguments and activities that demonstrate and provide confidence in the safety of a facility and its management
- Some programs address these issues without using the term “Safety Case”

# *Safety Assessment*

- Provides an important contribution to the safety arguments for a disposal facility
- Cannot, itself, adequately demonstrate the safety of the disposal system
- A holistic view is needed, with a broader range of arguments and activities to justify disposal of radioactive waste

# *Objective of the PRISM Project*

- The current lack of a consistent interpretation of the safety case concept, particularly in respect of near-surface disposal, suggests that the PRISM project is timely.
- Focus on exchanging experience and communicating good practice concerning:
  - Components and expectations of the Safety Case and their evolution over the lifecycle of a near-surface radioactive waste disposal facility
  - Decision making at different stages in the facility lifecycle, using the Safety Case

# *Objective of the PRISM Project*

- Predecessor Projects

- NSARS

- Safety Assessment of Near-Surface Radioactive Waste Disposal Facilities

- ISAM

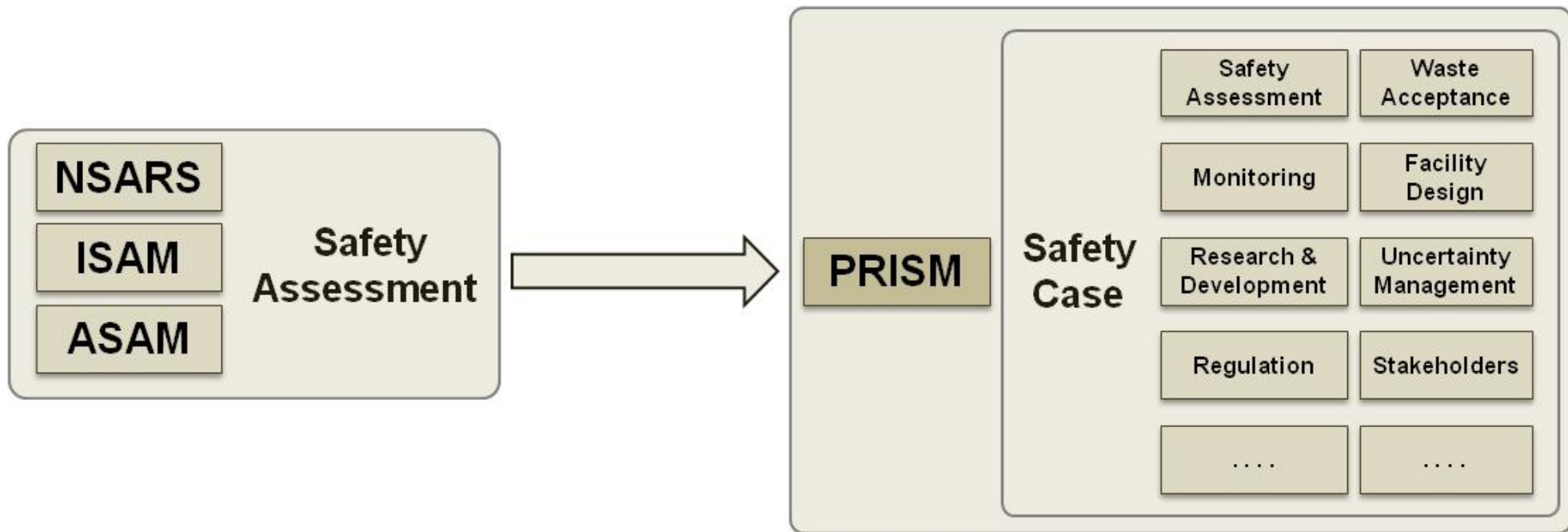
- Improvement of Safety Assessment Methodologies for Near-surface Disposal Facilities

- ASAM

- Application of Safety Assessment Methodologies for Near Surface Waste Disposal Facilities

# Objective of the PRISM Project

- Evolution of Related IAEA Projects



# *Scope of the PRISM Project*

- The project is open to professionals from Member States who are from operating and supporting organizations or regulatory organizations concerned with assessing, improving and managing the safety of near-surface radioactive waste disposal facilities. Participants are expected to contribute actively to the project by taking part in plenary discussions and Task Group activities.
- Target Audience
  - Professionals from Member States who undertake technical activities related to the safety of near-surface radioactive waste disposal facilities
  - Technical specialists in issues related to safety assessment or the Safety Case
  - Those who responsible for the management / operation or regulation of waste disposal facilities

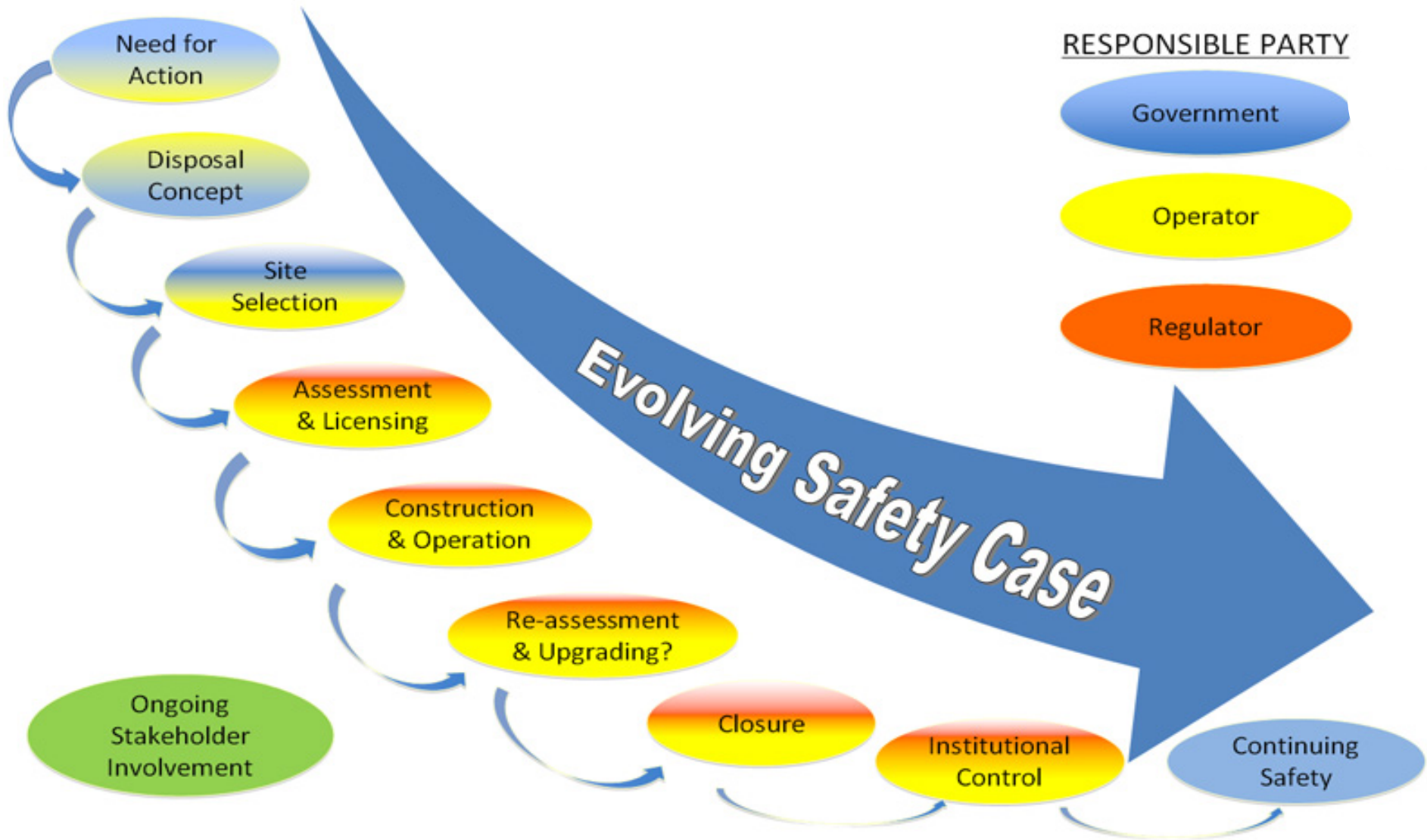


# *Scope of the PRISM Project*

- All types of near surface radioactive waste disposal facility, including
  - Very Low Level Waste (VLLW) facilities
  - Low Level Waste (LLW) facilities
  - Intermediate Level Waste (ILW) facilities
  - Boreholes facilities
  - Shallow caverns
  - Mining and mineral processing waste facilities
- Both new and existing disposal facilities

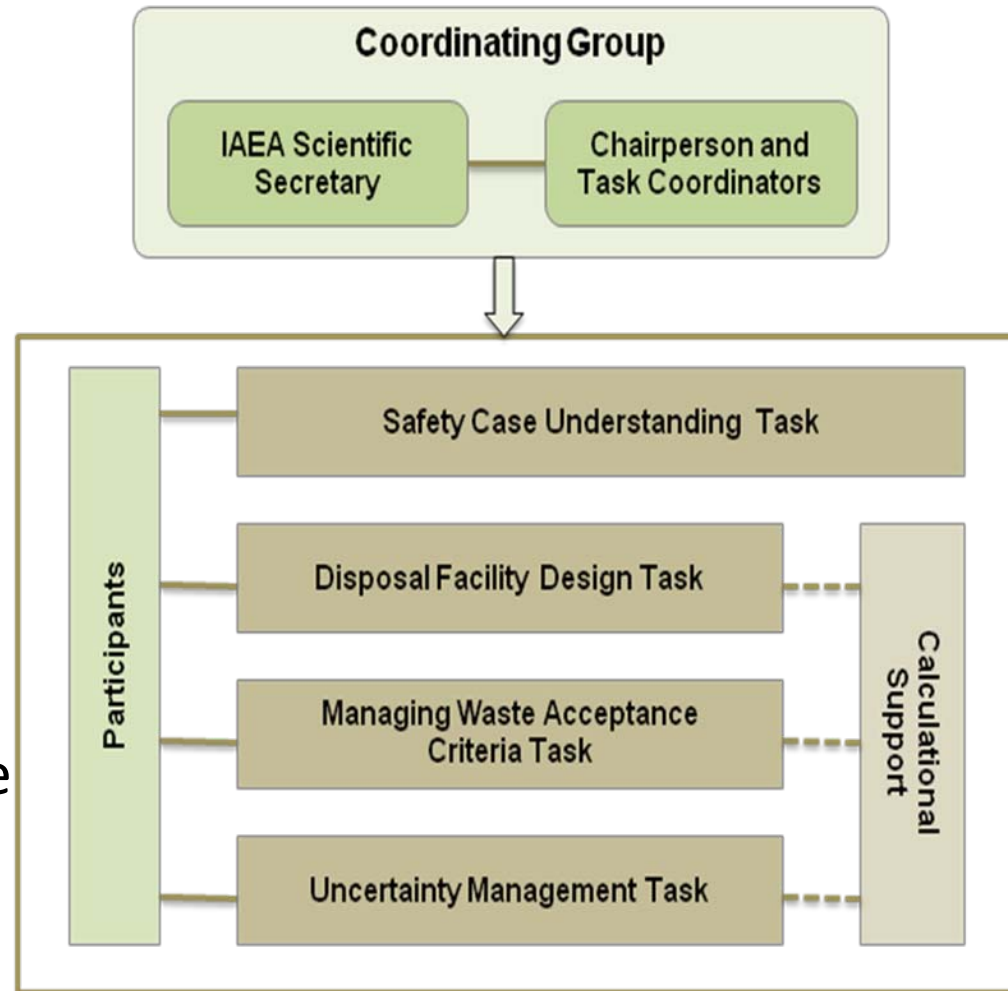
# *Scope of the PRISM Project*

- Participants provide experience
  - Wide range of facility designs, waste characteristics and regulatory frameworks, and different stages of development
- Considers the changing nature and use of the Safety Case over the lifetime of a disposal facility, specifically
  - The components and expectations of the safety case and their evolution over the lifecycle of a near-surface radioactive waste disposal facility
  - Decision making at different stages in the facility lifecycle, using the safety case



# Structure of the PRISM Project

- Coordinating Group
  - Chairperson
  - IAEA Scientific Secretary
  - Task Coordinators
- Four Task Groups
  - Safety Case Understanding
  - Disposal Facility Design
  - Managing Waste Acceptance Criteria
  - Managing Uncertainties



# *PRISM Structure*

- Dedicated Task Groups have been established to address specific issues. The Task Groups address the following areas of concern:
  - Task Group 1: Understanding the safety case
  - Task Group 2: Disposal facility design
  - Task Group 3: Managing waste acceptance
  - Task Group 4: Managing uncertainty
- In each of these tasks, the focus will be on the use of the safety case to take management decisions throughout the life cycle of the facility.
- A key project deliverable will be a project report based on the task group reports. In addition, a booklet, aimed at project managers responsible for implementing near-surface waste disposal, will be produced describing the use of the safety case in managing disposal at these facilities.

# *PRISM Project Timeline*

- The project started with a plenary meeting in March 2009
  - Project proposal discussed and accepted
  - Task Groups formed
- Task Group technical meetings conducted in 2009-2010
- Second Plenary meeting held September 2010
  - Task Groups presented progress and worked toward Task Group deliverables
- Additional task group and technical meetings planned
- Third Plenary targeted for Fall 2011