SMR Regulators’ Forum

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IAEA Workshop on Small Modular Reactor Safety and Licensing, held in Hammamet, Tunisia 12 – 15 December 2017
Purpose of Forum

• Identify, understand and address key regulatory challenges that may emerge in future small modular reactor (SMR) regulatory discussions
Members

- Argentina
- Canada
- China
- Finland
- France
- Korea
- Russia
- Saudi Arabia
- United Kingdom
- United States
Objectives

- Share regulatory experience amongst forum members preparing to license SMRs
- Capture good practices and methods
- Interact with key stakeholders
- Propose changes, if necessary to requirements and regulatory practices
Structure for Pilot Project

• Steering Committee
• Working Groups
  – Graded Approach
  – Defence-in-Depth
  – Emergency Planning Zone Size
Graded Approach
Working Group

• Developed a detailed survey for forum members on national approaches
• Analyzed survey results and discussed common positions
• Reviewed IAEA documents and considered recommendations
Graded Approach – Main Findings

• Graded approach can enhance regulatory efficiency without compromising safety
• Starting point for SMRs should be requirements for Nuclear Power Plants (NPPs)
• Need to determine what is necessary to demonstrate “proven-ness”
• IAEA should lead development of technical guidance on graded approach for NPPs
Defence-In-Depth Working Group

• Identified key regulatory challenges with respect to DiD that may emerge in future SMR regulatory activities.

• Also developed a detailed survey on national approaches

• Analyzed survey results and unique features of SMRs
Defence-in-Depth – Main Findings

• Defence-in-depth (DiD) concept should be fundamental for design and safety demonstration of SMRs

• SMRs raise questions regarding application of DiD in several areas

• Further guidance to help safety assessment of DiD applied to SMRs is needed
EPZ Size Working Group

• Established an understanding of each member’s regulatory views on EPZ size

• Shared technical basis for EPZ size decision

• Discussed what evidence SMRs would need to present to regulators to justify smaller EPZs
**EPZ – Main Findings**

- EPZ is required but may be scalable
  - Novel features and technology
- IAEA safety requirements and methodology for EPZ size are applicable
- Same SMR design may result in different EPZ size in different countries
  - Dose criteria
  - Policy factors
  - Public acceptance
Pilot Project Report

• Summarize accomplishments of the Forum
  – Common positions
  – Working Group reports
  – Recommendations for future activities

• Will be published as IAEA report in 2017
New Issues under Consideration

• Licensing Issues
  – Examine nature of evidence available and impacts on use of a graded approach

• Design and Safety Analysis
  – Follow-up on recommendations from DiD WG and support IAEA work on Graded Approach

• Manufacturing, Commissioning and Operation
  – Examine implications of shift from construction to manufacturing and modular designs
Want to learn more?

Thank you for your attention!