NSNI Priorities related to Advanced Nuclear Plant Designs

Vesselina Ranguelova
Head, Safety Assessment Section
Division of Nuclear Installation Safety
Department of Nuclear Safety and Security

14th GIF-IAEA Interface Meeting, VIC, 8 July 2020
NSNI Priorities on Advanced NPP: 2020 and beyond

- SMR Regulator’s Forum
- Review of current Safety Standards framework
- Launching SMR Technical Safety Reviews – Design/ Safety Assessment
- Application of SEED (Site and External Event Design) Safety Review Services to innovative reactors
- Develop new safety framework for implementation of risk informed and performance based methods considering **site-installation** interactions
- Preparing next Conference on topical Issues in Nuclear Safety: Progressing from Evolutionary to Innovative Reactor Designs, 18-21 Oct 22
- Cooperation with NEA & GIF
Safety of Innovative Reactors: IAEA Safety Standards

- Holistic Technology Neutral Safety and Licensing Framework: safety goals-setting hierarchy of regulations and requirements

- TECDOC “Approach and Methodology for the Development of Regulatory Safety Requirements for the Design of Small Modular Reactors” – under preparation

- TECDOC “Framework for the application of site safety requirements considering the safety features of nuclear installations” – under preparation

- Applicability of IAEA SS for siting and design safety of SMRs and other Innovative Technologies:
  - TECDOC on Applicability of Design Safety Requirements SSR-2/1 (Rev.1) to SMRs (under publication)
  - TECDOC on Design Robustness of nuclear installations against external hazards (under publication)
  - Review of specific systems design guides

- Safety & Security & Safeguards by design – is it possible?

- Launching SMR Technical Safety Reviews services – Review of Innovative Designs
- Application of SEED (Site and External Event Design) Safety Review Services

- Cooperation with NEA WGRISK, IAGE, WGAMA, WGRNR, GIF RSWG on application of IAEA safety standards to Innovative technologies
Safety of SMRs: SMR Regulators’ Forum

Members
• Canada
• China
• Finland
• France
• Republic of Korea
• Russian Federation
• Kingdom of Saudi Arabia
• United Kingdom
• United States of America

Observers
Euratom
OECD / NEA

Pilot Phase (2015-2017) with 3 WGs: graded approach; defence in depth and emergency planning arrangements

Phase 2 (2018-2020) with 3 new WGs: licensing / design safety and safety analysis / manufacturing, commissioning and operation

Phase 3 – beyond 2020: mutual recognition of regulators’ assessment/Security by design, interface with safety/organizational stakeholders’ capabilities

Next SMR Forum meeting: 9-13 November 2020

Share SMR regulatory knowledge and experience among members and other stakeholders to facilitate international cooperation among regulators performing SMR-related assessments