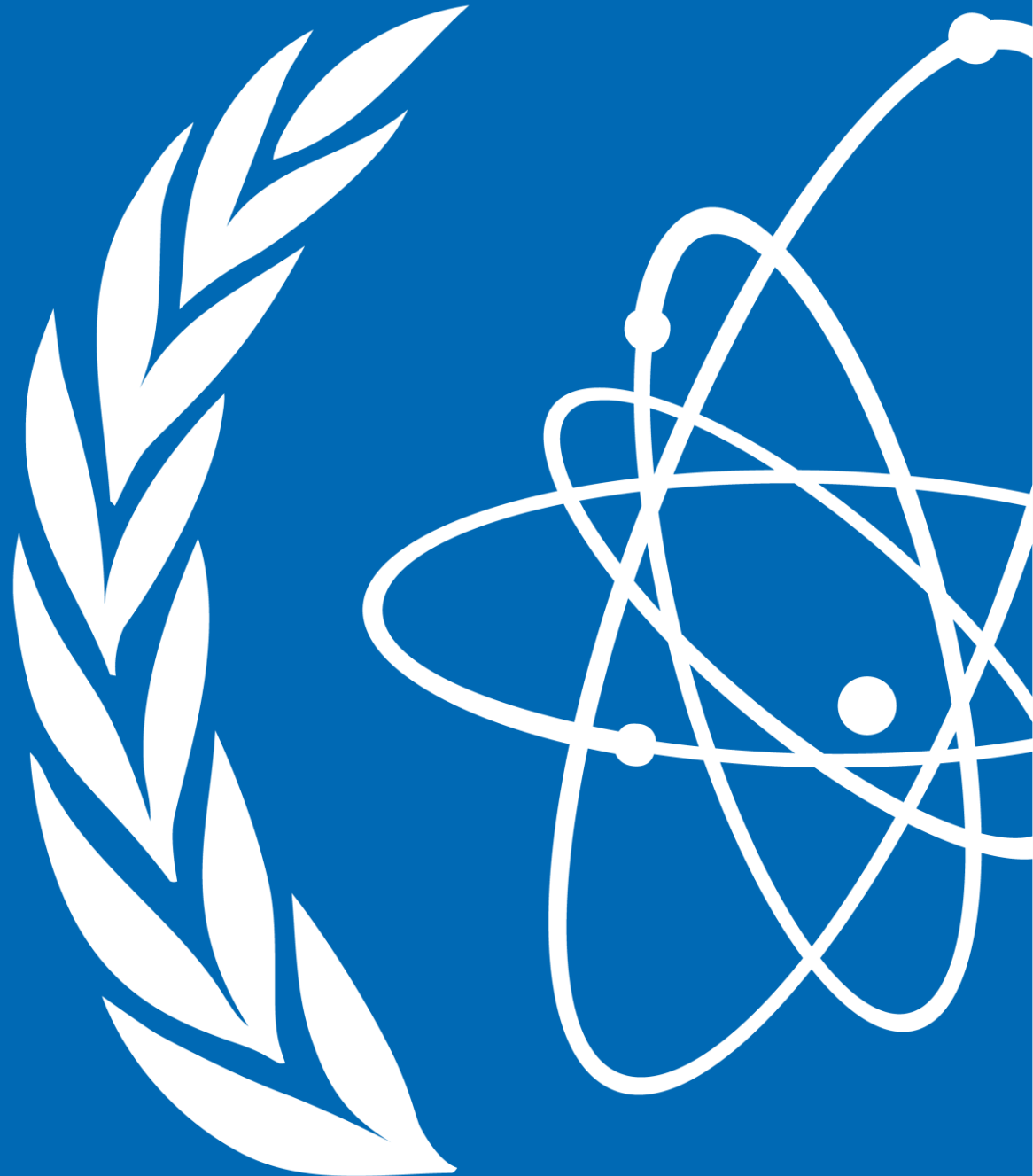


Summary of the workshop

Jorge LUIS HERNANDEZ / In Suk JANG





SUMMARY OF THE WORKSHOP



Meeting Objective

The purpose of the event was to **share knowledge and experiences of the safety benefits and challenges of small modular reactors** with the Asian Nuclear Safety Network's member countries.

The event provided participants with insights into licensing preparation and regulatory infrastructure by showcasing several real-world projects from the host country and other invited countries.

Furthermore, the event served as a forum for participants to exchange experiences with peers and experts, fostering discussions that enhance their understanding of current approaches to SMR deployment among member states of the ANSN and other Member States that have similar interest.

Summary of presentations

To achieve these objectives 23 presentations were delivered.

P1&P2: Summary of IAEA current and future activities and potential networking possibilities to support embarking countries on their nuclear power programmes and particularly for SMRs.

P3. Provided an overview of the organizations involved in the nuclear energy programme responsible for the design safety, research and development, fuel production, licensing and operation of NPPs and SMRs in Korea. The regulatory framework adopted for SMRs included:

- new regulatory guide for passive safety systems,
- combined regulatory approach,
- Standard Design Approval “graded”.

P4. Provided an overview of design steps for SMART and iSMR focusing on the iSMR development status, considering boron free core and helicoidal SG tubes, integrated common control room, fully passive safety systems. The presentation introduced the test facilities used to gain knowledge on the behaviour of passive safety systems.

Summary of presentations

P5. & P6. Description of the regulatory framework and licensing process in Czech Republic and Romania. Current activities related to their nuclear power programmes, including SMRs deployment were also presented.

The exchange of information among regulators is important during the general design review process, but it does not avoid the formal process of review during the licensing process by the national regulator.

P7. Present the current status of the development of i-SMR by KHNP. The pre-design review was described. Design development and submission for licensing is planned to start in 2025. The plans for integration of the i-SMR and the SMR Smart Net-zero City were presented.

P8. i-SMR passive safety systems. The expected performance of the passive safety systems for different accident conditions was presented. The integral and separate test facilities considered for the system performance validation were also presented.

Summary of presentations

P9. Plans for deployment SMR in Romania. The construction of the 2 additional CANDU PHWR reactors at the Cernavoda site. 3 SMR projects are currently considered, the NuScale SMR with 6 modules, the ALFRED lead cooled reactor and the Last Energy SMR (PWR of 20 MWe).

P10. Plans for deployment SMR in Czech Republic. The construction of the 2 additional units at Dukovany site PWR APR1000 is considered. 3 SMR projects are currently considered, RR SMR design, GE Hitachi BWR-300X and Westinghouse PWR.



Summary of presentations

P11. Siting considerations for SMRs.

P12. Safety standards for design safety and safety assessment

P13. Overview of requirements in SSR-2/1 (Rev.1) and main recommendations in SSG-51 for human factors engineering for NPPs related to design of control rooms.

P14. Development of SMART100. The historical development of SMART was presented from SMART to SMART100 and SMART-c. Explanation of main design features of SMART100 and the current status of approval of the design by the regulatory authority were presented.

P15. Licensing experience on the standard design approval of SMART100. An overview of licensing process in Korea for the SMART100 was presented.

P16. Safety considerations on the SMR siting.

Summary of presentations

P17. I&C design considerations for SMR provided an overview of the protection system and control rooms mentioning some differences with regard to I&C for large NPPs.

P18. KEPCO E&C's SMR BANDI provided first an overview of the current status of marine based SMR and the perspectives. Second an overview of BANDI SMR design considerations was provided such as soluble boron free, in-vessel CRDM and fully passive safety features.

P19. Development of the SFR (SALUS 100) in Korea provided an historical overview of the SFR designs in Korea. An overview of the technical features of the SALUS 100 design were presented.

P20. Possible challenges toward deployment of SMRs in Jordan, presenting a historical overview of the nuclear stakeholders. An overview of current nuclear facilities was also provided. Main challenges for the licensing process were discussed.

P21. Development of SMRs in Indonesia. Overview of current energy mix situation in Indonesia and plans. SMR plans in Indonesia were presented (HTGR and PeLUIt).

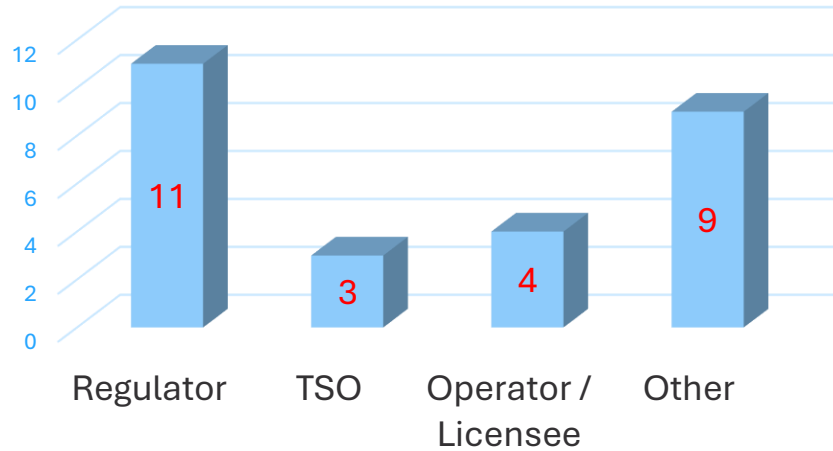
Summary of presentations

P22. Plans for deployment of SMR in Poland provided a description of Polish stakeholders. An overview of the current NPP projects under consideration (AP1000, HTGR-POLA, BWRX-300) was also presented. Current regulations for conducting the pre-licensing process to have a PAA president opinion were explained including its advantages and challenges. The licensing process in Poland, and the challenges were presented. Current international collaboration was presented.

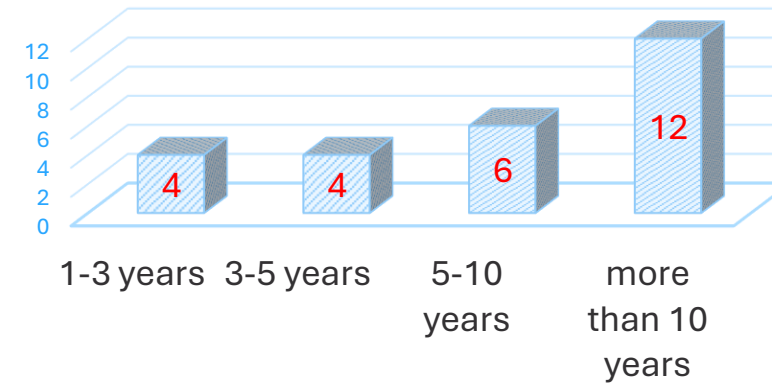
P23. Plans for deployment of SMR in Uzbekistan Current and plans for energy mix were presented. Current plans to deploy SMRs (6 units of RITM-200H, 55 MWe) were presented. Potential challenges related to access to the UHS were presented.

Questionnaire feedback

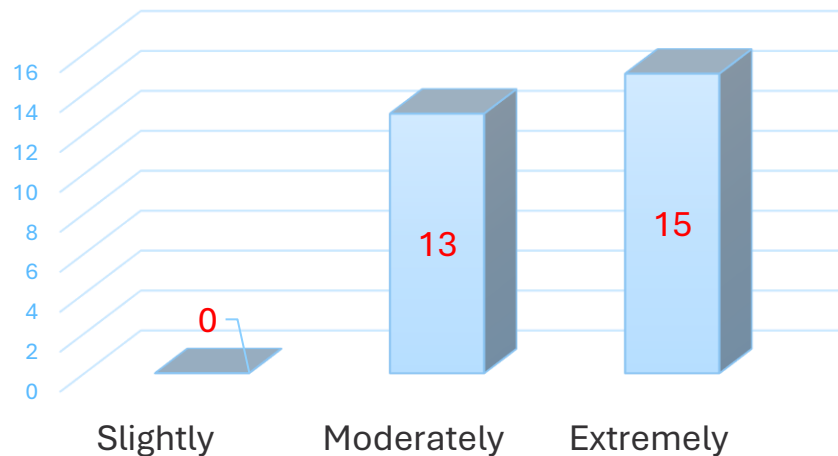
Organization



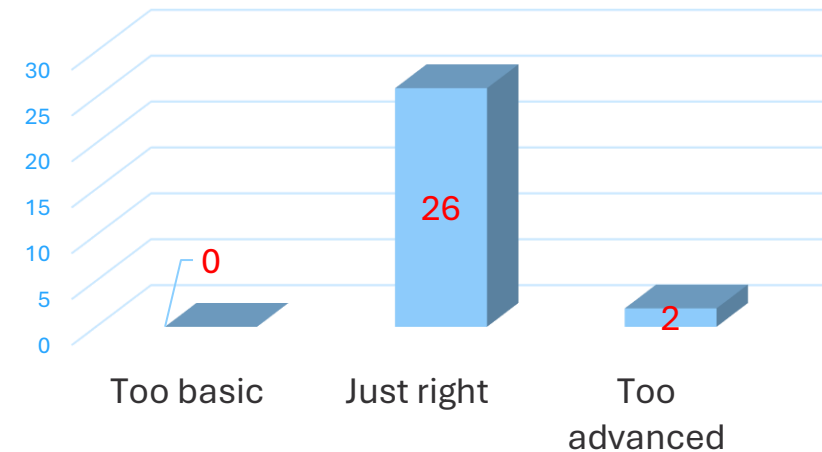
EXPERIENCE IN TECHNICAL FIELD



Relevance of content

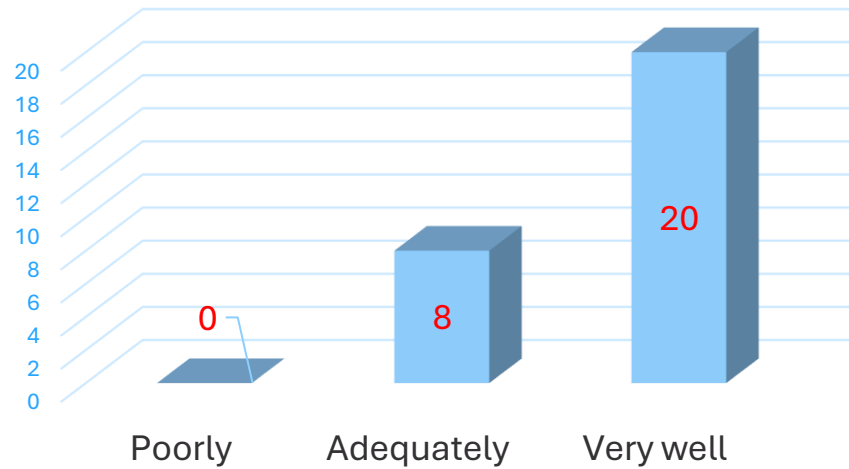


Content level

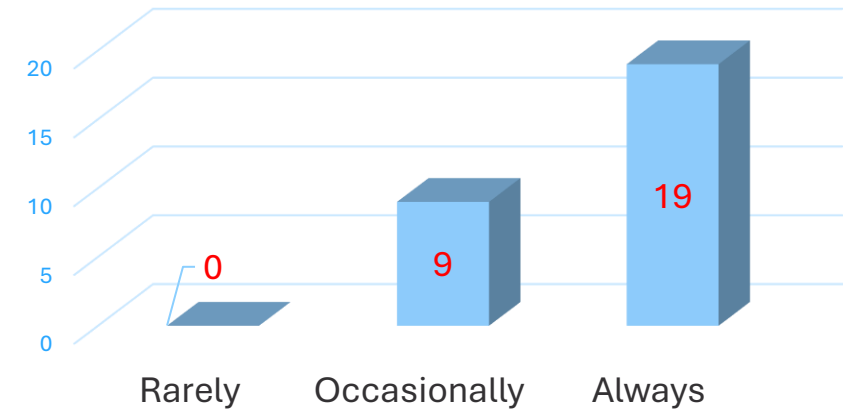


Questionnaire feedback

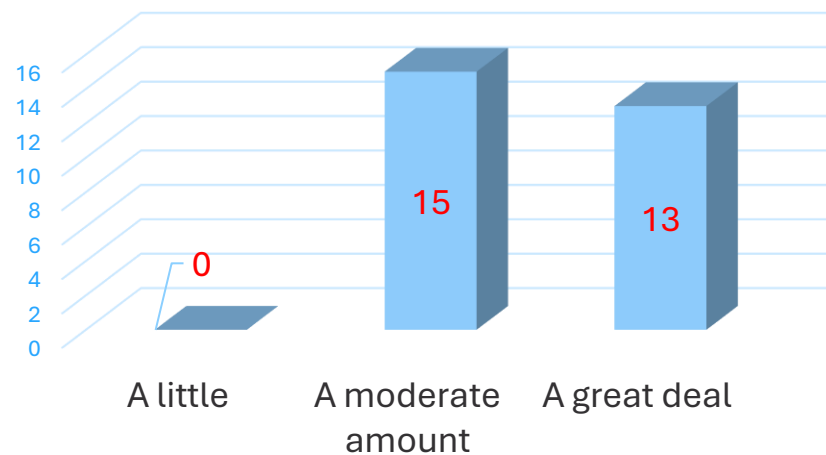
Structure of the event



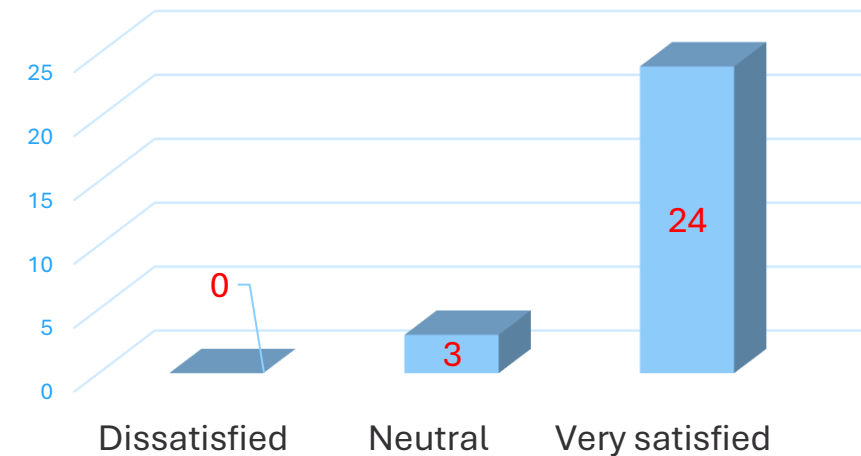
Opportunity to ask questions & interact with the lectures



Knowledge and skills acquired



Level of overall satisfaction



10





IAEA

**THANK YOU FOR
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PARTICIPATION**