International Conference on Topical Issues in Nuclear Installation Safety: Safety Demonstration of Advanced Water Cooled Nuclear Power Plants

Tuesday, 6 June 2017 - Friday, 9 June 2017

Vienna, Austria

Scientific Programme

Safety Assessment of Advanced Reactor Designs

- Use of advanced models and codes, their verification and validation

- Assessment of innovative design safety features, e.g. passive systems, in-vessel melt retention and ex-vessel corium cooling

- Safety assessment of small, medium and modular reactors

- Complementary and adequate use of deterministic and probabilistic safety analysis of plant design and operation

Design Safety Principles

- Design extension conditions (DEC) without significant fuel degradation and with core melting

- Practical elimination of early or large releases

- Margins regarding external hazards more severe than those selected for the design basis and avoidance of cliff edge effects

- Assessment of defence in depth, reliability of the provisions for each level and independence between different levels

Licensing of Advanced Reactor Designs

- Meeting the objectives of the Vienna Declaration

- Harmonization of approaches and methods applied, as well as safety and licensing requirements

- Licensing of passive systems, as well as digital instrumentation and control including DEC

- Licensing of small, medium and modular reactors, including considerations for remote installations and multiple-unit operation

Safety Reinforcement of Existing Installations

- Implications of the Vienna Declaration for existing nuclear power plants

- Periodic Safety Reviews

- Definition and use of safety goals

- Backfitting measures, particularly for coping with severe accidents

- Use of non-permanent equipment for accident conditions