Multinational Design Evaluation Programme (MDEP)

4th conference

Digital Instrumentation & Control Activities & Challenges

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Nuclear Energy Agency

Multinational Design Evaluation Programme

TECHNICAL EXPERT SUBGROUPS (TESG)

Digital Instrumentation and Controls
- Probabilistic Safety Assessment
- Severe Accidents
- Commissioning Activities

Accidents and Transients
- Severe Accidents

Instrumentation and Controls
- Severe Accidents

EPR Working Group

AP1000 Working Group

APR1400 Working Group

VVER Working Group

ABWR Working Group

Digital Instrumentation and Controls Working Group

Mechanical Codes and Standards Working Group

Vendor Inspection Co-operation Working Group

ISSUE-SPECIFIC WORKING GROUPS: CONVERGENCE

MDEP Library
DICWG Activities

- Continue development of generic CPs in accordance with publicly available programme plan

- Continue timely sharing of information and cooperation among members including frequent interactions with other MDEP working groups, and STC

- Continue coordination with standards organizations and other stakeholders to promote convergence and harmonization of standards

- Transition to a permanent organization within the NEA
EPR DI&C TESG Activities

- Developing an interim technical report on the EPR I&C system designs
  - Aim for public release after completion of its review by member regulators

- Focused on several issues including spurious actuations due to software failures
  - Updating the EPR I&C CP based on completion of the DICWG work in this area

- Also focused on equipment qualification

- Construction lessons learnt report will be launched by 2018
DI&C TESG Activities

- **AP1000** - Planning for a joint MDEP DICWG meeting during the fall 2017 in China
- **ABWR** - No ongoing activities as the DI&C TESG was disbanded in late 2016
Challenges

- The continual evolution in digital I&C technology which results in DICWG-related activities such as
  - Development of guidance on the qualification process of the hardware and software of I&C platforms for systems important-to-safety at nuclear power plants
  - Updates to existing CPs based on latest technical guidance in areas such as communications independence
  - Potential development of guidance for performing DI&C system or equipment inspections during the early phases of its life cycle activities
Challenges (Cont.)

- Differences in areas such as regulations, regulatory practices, and standards
- Reaching agreement on common terminology
Questions/Contacts

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