3rd Multinational Design Evaluation Program (MDEP) Conference on New Reactor Design Activities

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Chair of Digital I&C Working Group (DICWG)

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Overview of DICWG

• Current Participants
  - Canada, Finland, France, India, Japan, People’s Republic of China, Republic of Korea, Russian Federation, Republic of South Africa, Sweden, United Arab Emirates, United Kingdom, United States

• Collaboration with
  • IAEA
  • IEC
  • IEEE

• NEA providing technical secretariat support
Key Objectives

• Enhance regulatory cooperation and knowledge transfer among members

• Identify similarities and differences

• Collaborate towards harmonization of standards

• Develop generic common positions to address issues related to DI&C systems
Accomplishments

- Published 9 common positions
- Identified and progressing on the remaining 3 positions in accordance with approved program plan
- Collaborated with IAEA, IEC and IEEE to identify common issues, influence standard revisions, and encourage joint-logo standards
- Performed study of the various I&C safety classifications
- Collaborated among members on approaches to resolve I&C issues and shared regulatory experiences
- Established and maintained the MDEP library for the DICWG
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<td>2. Software Tools for the development of software for safety systems</td>
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<td>3. Verification and Validation throughout the life cycle of digital safety systems</td>
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Challenges

- Agreement on common terminology
- Differences in regulatory practices, standards, regulations, reactor designs, and experience
- Differences in classification schemes and overall approach to demonstrate safety
Feedback from Members

• Survey results demonstrate that the member countries found the common positions useful for new reactor regulatory work.

• Several member countries stated that the CPs will be directly incorporated or referenced in the regulatory framework of their country. Examples include:
  • Canada-All CPs will be referenced in the new CNSC I&C regulatory document.
  • South Africa- Recent regulatory position paper incorporated all CPs.
  • Russia-All approved CPs are being incorporated into new and old Federal codes and regulations.
Feedback from Members

• Member countries found that additional topics could be addressed by the DICWG. Examples include:
  • Control room issues (e.g. human factors, digital displays with soft controls)
  • Hazard analysis
  • Equipment and Environmental Qualification
  • Reliability
  • Quality

• Member countries generally found that their organization is very supportive of their continued involvement in the DICWG beyond 2015.
Path Forward

• Continued development of generic common positions in accordance with publicly available program plan

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

• Continued coordination with Standards organizations and other stakeholders to promote convergence and harmonization of standards

• Execute DICWG Transition Plan
DICWG Transition Plan

- Maintain current schedule of three meetings each year through the end of calendar year 2015 to complete and publish remaining common positions.
- Conduct program reviews in Q4 2015 and in 2016, to address the maintenance of existing GCPs, guidance from STC, and potential new issues.
- By Q4 2016, commence an orderly closure of all activities and potential transition of all MDEP work to another international organization, to be determined.
QUESTIONS/CONTACTS

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MDEP url for generic common positions, http://www.oecd-nea.org/mdep/working-groups/dicwg.html