Nuclear Safety Standards Committee (NUSSC) 45th Meeting, 26 – 28 June, 2018

Agenda Item 2.2
DS481 – Draft Safety Guide
Design of Reactor Coolant System and Associated Systems in Nuclear Power Plant

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The current revision (DS 481) was initiated to update recommendations and guidance taking into account the latest IAEA requirements as reflected in SSR-2/1, Rev.1:

- Extension of the plant design envelope (inclusion of design extension conditions without significant fuel damage)
- Prevention and minimization of radiological releases in accident conditions without significant fuel damage (radioactive release would not require the implementation of off site protective actions)

The draft DS481 has got technical approval from Review Committees (44th NUSSC and 12th NSGC meetings, November 2017) for Technical Editing.
Overview of the Document

The scope of NS-G 1.9 remains essentially unchanged (Reactor Coolant Systems, Associated systems and Heat transfer chain to Ultimate Heat Sink), but:

- **Section 2:** Extent of Reactor Coolant Systems and Associated systems
- **Section 3:** Design Basis of Reactor Coolant Systems and Associated systems *(updated and enhanced)*
- **Section 4**  “Specific considerations in design” replaced by:
  - **Section 4:** ULTIMATE HEAT SINK AND RESIDUAL HEAT TRANSFER SYSTEM *(new and enhanced)*
  - **Section 5:** SPECIFIC CONSIDERATIONS IN DESIGN OF THE REACTOR COOLANT SYSTEM *(updated and enhanced)*
  - **Section 6:** SPECIFIC CONSIDERATIONS IN DESIGN OF THE ASSOCIATED SYSTEMS FOR PWR TECHNOLOGY *(new and enhanced)*
  - **Section 7:** SPECIFIC CONSIDERATIONS IN DESIGN OF THE ASSOCIATED SYSTEMS FOR BWR TECHNOLOGY *(new and enhanced)*
  - **Section 8:** SPECIFIC CONSIDERATIONS IN DESIGN OF THE ASSOCIATED SYSTEMS FOR PHWR TECHNOLOGY *(updated and enhanced)*
- **Guidance and recommendations** are now primarily provided on the basis of functions to be accomplished.
Status of the Document

- Review of Safety Guide NS-G-1.9 and decision to revise recommendations: DS481
- Draft DPP approved at 36th NUSSC and NSCG meetings (2013/11)
- Draft DPP approved at 35th CSS meeting (2014/04)
- 1st Review of draft DS481 by Review Committees (42th NUSSC and 10th NSGC meetings, November 2016)
- Soliciting comments from Member States (January 2017)
- 2nd Review of draft DS481 by Review Committees (44th NUSSC and 12th NSGC meetings, November 2017) and technical approval for Technical Editing
- Technical editing of the Draft Guide and submission to the Review Committees in May 2018
- Update of the Draft Guide after resolution of NUSSC members comments in June 2018

- 3rd Review of draft DS481 by Review Committees after Technical editing (45th NUSSC and 13th NSGC meetings, June 2018)
NUSSC Members Comments: Summary

• Comments from NUSSC Members (73):
  – Cambodia (9), Czech Republic (3), Finland (6), Germany (17), Japan (6), Pakistan (6), USA (23). ENISS (3).
  – Most of the comments made by the reviewers were mainly editorial comments.
  – A few recommendations were corrected.
  – All comments were addressed and no unresolved issues.
Requested Action

Approval by the NUSSC for submission to the CSS
Thank you!