
IAEA NHSI Industry Track Topical Group 2 – Common Practices on Codes and Standards

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The NHSI Industry Track is divided into 4 topical groups to foster initiatives in the industry that aim to facilitate global deployment of SMRs through standardization and harmonization.

Topic 1: *Harmonization of high-level user requirements*

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Topic 2: *Common Approaches on Codes & Standards*

Scientific Secretary: Christina Fischer
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NHSI IT

Topic 3: *Experimental Testing and Validation for Design and Safety Analysis Computer Codes*

Scientific Secretary: Eve-Lyne Pelletier
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Topic 4: *Acceleration of nuclear infrastructure implementation for SMRs and Microreactors*

Scientific Secretary: Seth Debrah
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Topic 2 - Common Approaches on Codes and Standards

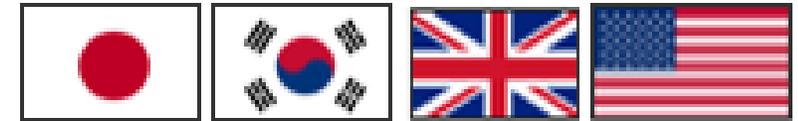
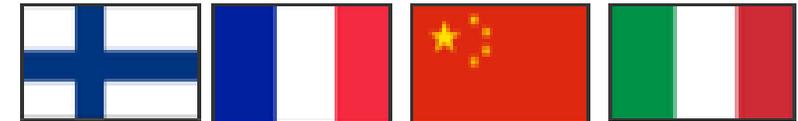
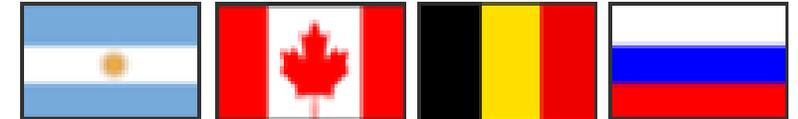
Mission & Vision with approaches on C&S:

- **Identify** similarities and differences
- **Understand** why they exist
- **Share information** on the findings
- **Develop common approaches**
- **Harmonize** where possible



#MakeNuclearSimpler

Now 44 participating organizations from 18 Member States with **WNA** as a key partner



“The more, the merrier”

NHSI Industry Track Topic 2

TG2 platform for information sharing

NHSI Topic Group 2

I. Codes & Standards

- A. QUALITY AND MANAGEMENT SYSTEM STANDARDS USED WIDELY IN THE MEMBER STATES (APPLICABLE TO SMRS)
- B. ENGINEERING STANDARDS FOR THE DESIGN AND CONSTRUCTION OF SMRS (WNA TO LEAD)
- C. EQUIPMENT QUALIFICATION STANDARDS FOR NUCLEAR (SMRS) FACILITIES
- D. C&S USED IN VARIOUS SMRS (AND THEIR PROJECTS)
- E. C&S FOR ADVANCE MANUFACTURING (AM) TO BE USED FOR SMRS (AND THEIR PROJECTS)

II. Oversight & Acceptance

- A. A USE OF STANDARD, PROVEN SERIALLY MANUFACTURED INDUSTRIAL/COMMERCIAL-GRADE ITEMS)
- B. NON-NUCLEAR CODES, STANDARDS, LAW AND REGULATIONS RELEVANT TO SMR DEPLOYMENT
- C. OVERSIGHT ACTIVITIES REQUIRED BY CODES, STANDARDS, LAW AND REGULATIONS
- D. LONG LEAD ITEMS

Nine topics covered during NHSI Phase II 2025-2026

II.D OVERSIGHT AND ACCEPTANCE ISSUES RELATED TO C&S

- **Probe Questionnaire with selected Regulators in 2023**
 - **TG2 Working Paper Issued in 2024: “Potential for Harmonization and Standardization in the Approval Processes for High Integrity Long-Lead Items”**
 - **Mapping Exercise for MS Practices (Questionnaire sent in Summer 2025, Analysis ongoing)**
 - **Final Analysis and Working Report expected in Q1 2026**
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- **Collaboration with NHSI RT and SMR RF on LLIs throughout 2026**

Long-Lead Items – Joint RT & IT activity

High-integrity long-lead items (LLIs) such as pressure vessels, piping and valves, transformers, heat exchangers etc. will present a challenge for the expedited deployment of SMRs – especially in areas of oversight and inspection

- Inspection requirements can vary greatly by jurisdiction or who is responsible
- Currently no mechanism for cross-jurisdictional approval of inspections or oversight
- Potential serial production of LLI at the same time, but for multiple customers

Joint NS-NE TECDOC on regulatory approaches for SMRs and microreactor long-lead items will seek to address these issues

- Collaboration between Regulatory Track and Industrial Track to harmonize deployment models and develop approaches that leverage regulatory oversight activities
- First consultancy meeting planned for Q1 2026
- Anticipated publication early 2027

Topic 2: Common Approaches on Codes and Standards – Achievements

IAEA TECDOC – “Suitability Evaluation of Commercial Grade Products for Use in Nuclear Power Plant Safety Systems”

Working Paper – “Why Serially Manufactured Industrial Products Are Crucial for Reliable Deployment of Small Modular Reactors”

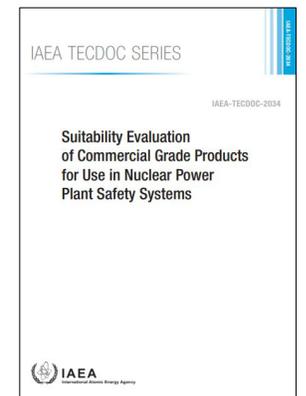
Working Paper – “Why Non-nuclear Codes and Standards Are Important for Harmonizing SMRs”

Working Paper – “Potential for Harmonization and Standardization in the Approval Processes for High Integrity Long-Lead Items”

Working Paper – “Why a consistent approach to nuclear codes and standards is crucial for the serial deployment of standardized SMRs”

Working paper on ISI C&S issued in Oct 2025

Harmonization of in-service inspection codes and standards to boost SMR exports



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2026 Schedule

Next activities

1. 7 – 8 May (**Hybrid**)
2. 1 – 2 October (**Hybrid**)
3. Separate activity calls for specific topics (**as needed**)
4. Interregional Workshop on C&S, Design Engineering, Testing&Manufacturing of Components and Supply Chain of SMRs and Microreactors, 11-15 May (**TBC**)
5. Technical Meeting on the current SC topics, 14 – 18 December 2026 (**TBC**)



IAEA Nuclear Supply Chain Management



NHSI SHARE in IAEA NUCLEUS CONNECT MSN/MSQC



JOIN MSQC BY USE OF THIS LINK!

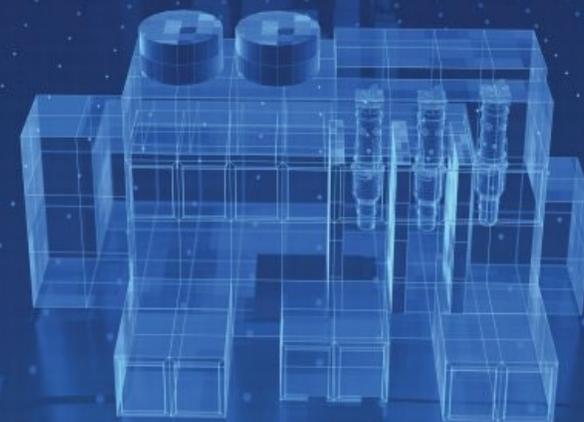
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THANK YOU FOR YOUR ATTENTION

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