

Position Paper

Draft report : Small modular reactors – Committee on Industry, Research and Energy

The Potential Added Value of Technical Safety Organizations in Nuclear Safety Research for Small Modular Reactors and Advanced Modular Reactors (AMR)

The European Technical Safety Organizations Network (ETSON) is pleased to provide its insights and reactions to the draft report on Small Modular Reactors (SMR) proposed by the Committee on Industry, Research, and Energy (ITRE).

ETSON, established in 2006 and operating as an independent legal entity since 2011, comprises 15 members, primarily from the European Union. ETSON's primary mission is to serve as a conducive platform for voluntary exchanges, fostering collaborative initiatives in safety analyses and research and development within the domain of nuclear safety. Through the sharing of experiences and the exchange of technical and scientific perspectives, ETSON is dedicated to advancing the convergence of technical nuclear safety practices both within the European Union and on a global scale. Furthermore, ETSON strives to facilitate the effective implementation of the European directive on nuclear safety.

We would like to commend the ITRE for its comprehensive and well-articulated report, which underscores the paramount significance of research and training in ensuring the safety and regulatory compliance of SMR technologies. This focus on research and training is pivotal, given the increasing importance of SMRs and Advanced Modular Reactors (AMR) in the contemporary energy landscape.

ETSON, whose members represent technical safety organizations (TSOs), is keen to emphasize the vital role of TSOs in the development and advancement of SMR/AMR technologies. Collaborative efforts between TSOs, regulators, and technology designers are instrumental in nuclear safety research and the development of AMRs. By actively participating in the design phase, TSOs can anticipate key safety issues, address potential risks, and conduct the necessary research to support innovation and further industrial developments. Their interaction with designers, regulators, and other stakeholders is pivotal in enhancing the safety of these advanced nuclear technologies while contributing to a dynamic and well-informed science-based communication with society.

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1. **Expertise and Technical Assistance:** TSOs, as holders of extensive technical knowledge and experience, offer invaluable expertise in evaluating and enhancing the safety aspects of SMR/AMR technologies. Their support to regulators and interactions with designers ensures that these technologies adhere to rigorous safety standards and best practices.
2. **Risk Mitigation:** TSOs play a pivotal role in identifying and mitigating potential safety risks associated with SMR/AMR projects. Through their thorough safety analyses and research, TSOs contribute to the development of safer and more efficient nuclear technologies.
3. **Regulatory Alignment:** By collaborating closely with regulators, TSOs facilitate the alignment of regulatory requirements in a “bottom up” approach with the evolving landscape of SMR/AMR technologies. This synergy promotes regulatory clarity and consistency, ultimately streamlining the licensing process for these advanced reactors.
4. **Innovation and Research:** TSOs are key stakeholders in the research and development of innovative safety technologies and methodologies. Their involvement in research endeavors enriches the safety knowledge base and propels the nuclear industry forward.
5. **International Collaboration:** TSOs often operate on an international scale, allowing for cross-border collaboration and harmonization of safety standards. This global perspective ensures the exchange of best practices and the promotion of safety in the international nuclear community.

In conclusion, ETSON, on behalf of its member organizations, underscores the indispensable role of technical safety organizations in ensuring the safety and regulatory compliance of SMRs and AMRs. Collaboration between TSOs, support to regulators, and interactions with designers is paramount in achieving design standardization, risk mitigation, and the continual advancement of nuclear safety. ETSON remains committed to fostering this cooperation, and we welcome the opportunity to contribute our expertise and insights to further enhance the safety of SMR and AMR technologies.

By forging strong partnerships and emphasizing the importance of TSOs in the nuclear safety landscape, we can collectively work towards a safer, more sustainable, and advanced nuclear energy future.

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