



HARMONISED REQUIREMENTS FOR
NEW NUCLEAR POWER PLANTS

The EUR Association

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public website:

www.europeanutilityrequirements.eu

Presentation Outline

- 1. The EUR Association**
- 2. The EUR Document**
- 3. EUR Standard Design Assessments**
- 4. Challenges for the next years**

1. The EUR Association – Main objectives

- The EUR organisation created in 1991 is a group of European utilities which are considering nuclear new build.
- The main objectives of the EUR organisation are:
 - **To allow the development of standard designs**
 - ✓ To share experience in plant specification, design evaluation, licensing ...
 - ✓ To develop common specifications for the European Gen 3 LWR NPPs
 - ✓ To deal with the open European electricity market
 - **To reduce licensing risks**
 - ✓ Harmonised safety objectives
 - ✓ Seek for improved acceptance within Europe and, as far as possible, worldwide
 - **To increase plant competitiveness**
 - ✓ promoting cost-effective design features
 - ✓ establishing conditions for a fair competition between the vendors

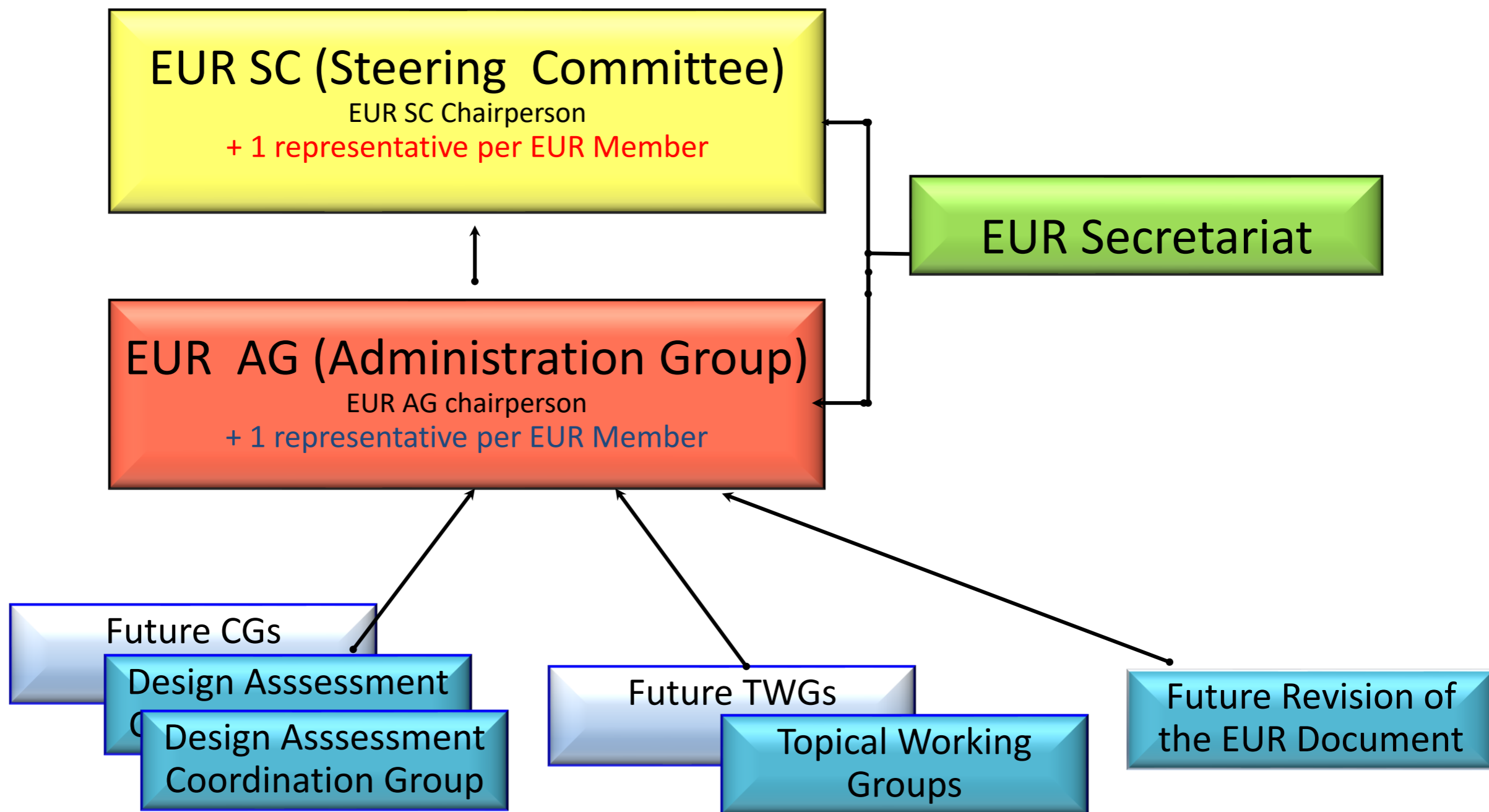
1. The EUR Association – Members

The EUR Association nowadays brings together **14 Members** representing companies involved in nuclear projects or in electricity generation from nuclear power in Europe.

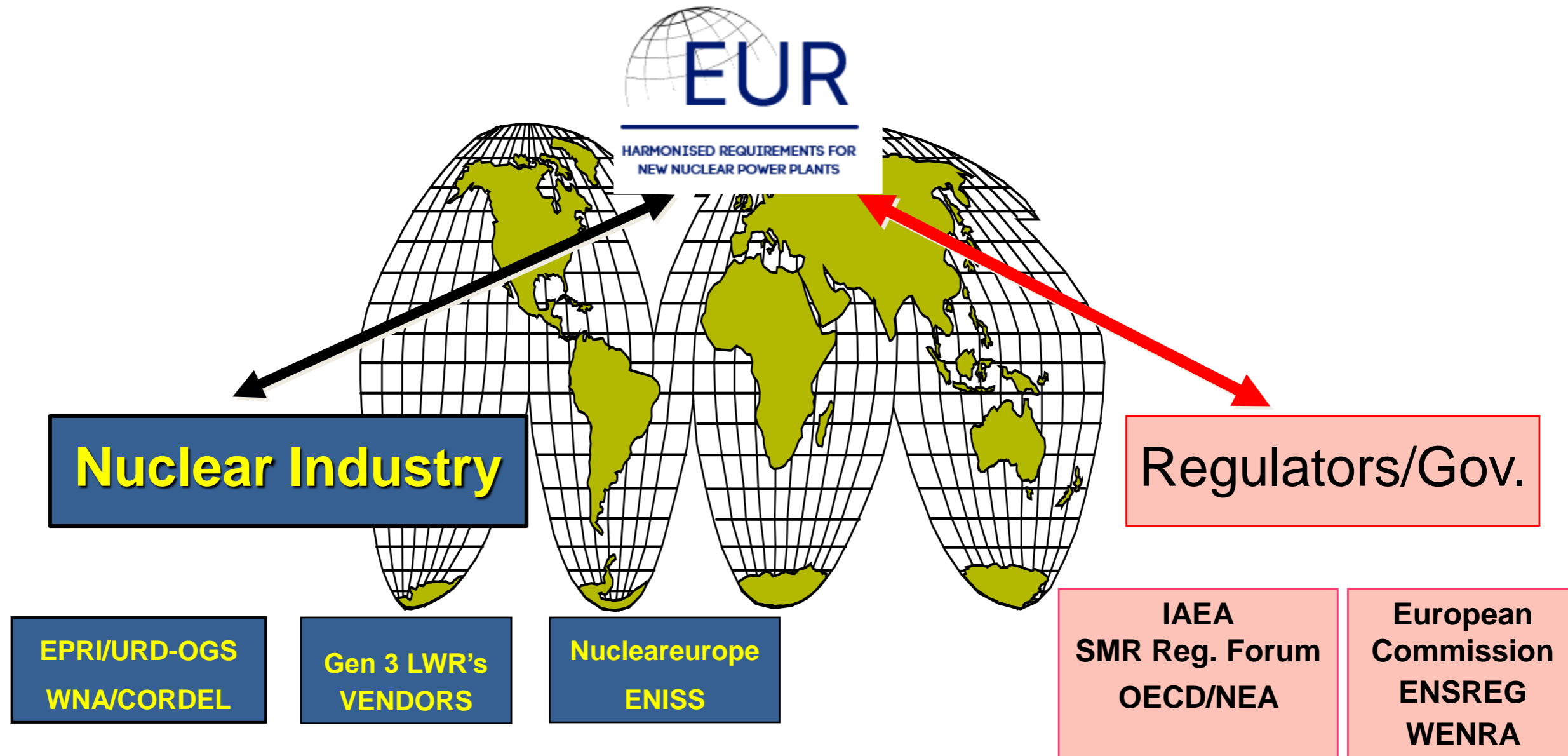
The EUR Association is open to non-European Utilities (e.g., TEPCO) considered as EUR “Observer” Members.

	✓ CEZ	(Czech Republic)		✓ IBERDROLA	(Spain)
	✓ EDF	(France)		✓ PAKS II.	(Hungary)
	✓ EDF Energy	(United Kingdom)		✓ PEJ	(Poland)
					
	✓ ENERGOATOM	(Ukraine)		✓ NRG	(Netherlands)
	✓ TUNAS	(Turkey)		✓ TVO	(Finland)
	✓ FORTUM	(Finland)		✓ TRACTEBEL	(Belgium)
	✓ GEN energija	(Slovenia)		✓ TEPCO (Observer)	(Japan)

1. The EUR Association - Structure



1. The EUR Association – Main Stakeholders



2 - The EUR Document – Purposes

- The EUR document is a generic GEN3 LWR specification written by investors and operators based on a wide experience from 14 European utilities & 7 different vendors.
- **It is not a regulatory document**
- **It is Open**
 - Design objectives and functional requirements
 - Not only safety, but also performance, competitiveness, constructability, etc...
 - Adaptable and versatile structure.
- **It applies to medium-large and large size ranges GEN3 LWR NPP, with either Pressurized Water Reactors (PWR) or Boiling Water Reactors (BWR).**
- **It is Technology-neutral**
 - Does not favour any specific design
 - Seldom forbids, except in case of a detrimental operation experience or an unacceptable industrial risk
- **It has been benchmarked with other specifications (EPRI-URD), regulatory documents (WENRA), international safety guides (IAEA) and European Commission position.**

2 - The EUR Document – Revision E

- REVISION E of the EUR Document was published end of 2016 with a major update of **safety requirements**:
 - An increased consistency with the WENRA Safety Objectives for new NPP, as well as with the new IAEA SSR-2/1 and SSR-2/2
 - A revised approach for safety classification, in line with the most recent IAEA and IEC standards
 - A revision of the radiological impact requirements in light of the new WENRA Safety Objectives
 - An integration of Fukushima lessons-learned.
- REVISION E2 of the EUR Document was published in May 2021 including the “**EUR Key Positions**” (high-level requirements) to be considered by a **Small Modular Light Water Reactors (SMLWR)** design to be built in Europe

3 - EUR Standard Design Assessments

- Designers or Vendors of LWR NPPs can apply for an assessment of one of their GEN III reactor designs against the current revision of the EUR Document.
- A positive assessment of compliance by the EUR Organisation provides a good confidence that the design complies with the European Utility's needs.
- Since the EUR Organisation was created, 12 design assessments of various LWR designs have been performed against the requirements of the Volume 2 of the EUR Document:
 - 5 designs assessed against Revision B: BWR90, EPP, EPR, ABWR, SWR1000
 - 3 designs assessed against Revision C: AP1000, AES-92, STD EPR
 - 3 designs assessed against Revision D: EU-APWR, EU-APR, VVER-TOI
 - 2 design assessed against Revision E: EU-HPR 1000, APR1000

4. Challenges for the next years

- **Update the harmonised requirements representing up-to-date European utilities concerns for LWR new build projects (including SMR) by preparing the Revision F of the EUR Document.**
- **Conduct and promote robust new LWR design assessments against the current Revision of the EUR Document, in particular SMRs ones.**
- **Strengthen the EUR Association to represent and promote nuclear utilities' voice with strong and efficient interactions with stakeholders (regulators, IAEA, vendors, utilities outside Europe, etc.).**



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Thank You for your attention!