



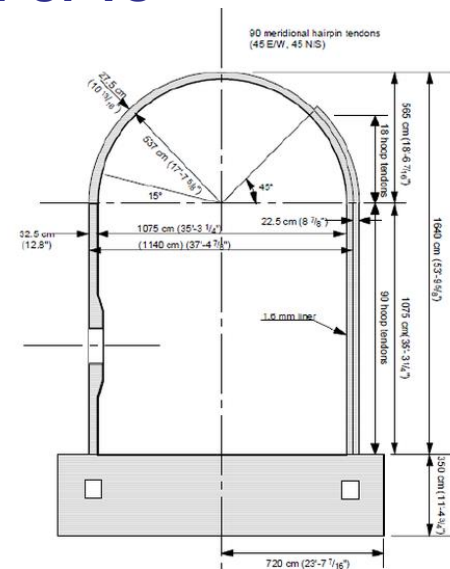
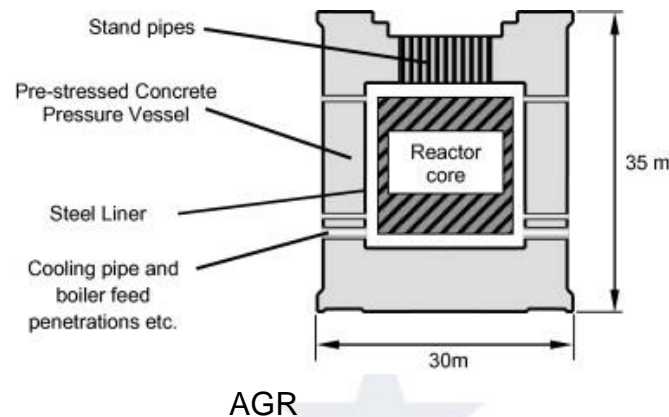
European Nuclear Safety Regulators Group

1st Topical Peer Review
Public event – 3rd May 2018
Brussels

Carlos Anta
Consejo de Seguridad Nuclear (Spain)

1st Topical Peer Review: WENRA TS 1/2

- The structure of the TS applies to both the concrete containment structures and the PCPVs
- Scope



PWR, CANDU, BWR, VVER,
RESEARCH REACTORS...

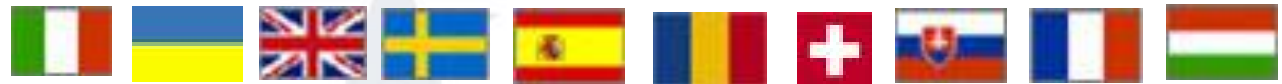
- Concrete structure itself
- Concrete structure that surrounds the preceding or a steel containment

1st Topical Peer Review: WENRA TS 2/2

- Aging assessment of each structure (mechanisms, acceptance criteria, R&D programs, Operating experience)
- Monitoring, testing, sampling and inspection activities (description, frequencies, acceptance criteria...)
- Preventive and remedial actions (criteria, procedures, actions to be taken)
- Licensee's experience on the application of the AMP for concrete structures.
- Regulator's assessment and conclusions on aging management of concrete structures.

1st Topical Peer Review: Working Group

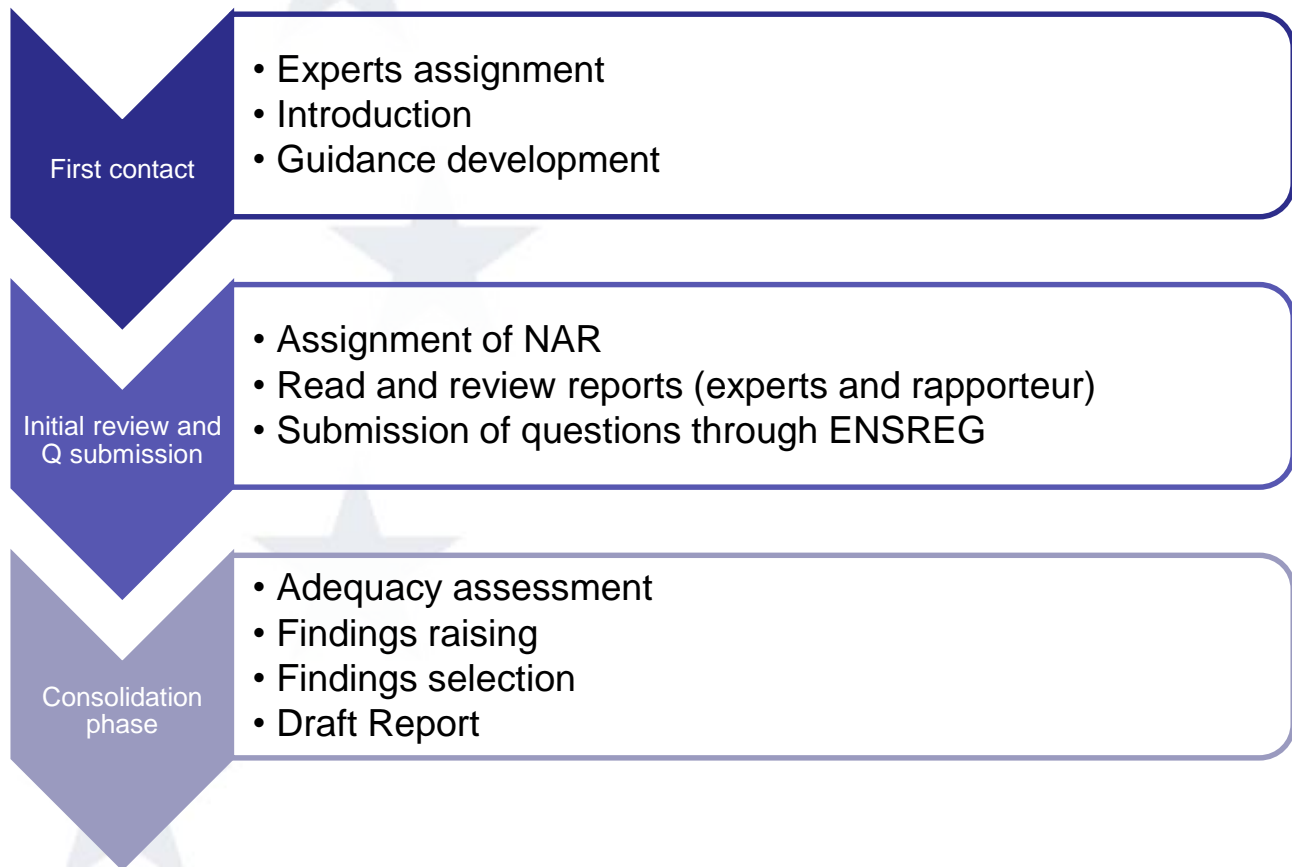
- Thematic review group: Concrete Containment and PCPV
- 9 Experts + Rapporteur + Project Manager
- From 10 nationalities



- From different backgrounds
 - Regulator
 - TSO
 - Independent engineering consulting company
- Review of the National Assessment Reports and the adequacy against the WENRA TS.
- Each NAR reviewed by at least two experts (not from their own country)

1st Topical Peer Review: Schedule

■ Milestones



1st Topical Peer Review: Results

- **251 Questions submitted to ENSREG from the expert group:**
 - All countries have been asked
 - Questions about NPP and research reactors
 - Including PCPVs (AGR reactors)
- **Documented assessment of the NAR. Input for the TPR report. First Draft ready.**
- **Findings (Areas for improvement, Challenges and Good practices)**
 - 155 preliminar findings identified by the experts.
 - 28 common findings selected according to their safety importance (might be applicable for more than one country)
 - 10 findings finally identified to be discussed during the thematic sessions in the workshop.

Monitoring, testing, sampling and inspection activities for concrete structures. Embedded instrumentation

Acceptance Criteria

Prestressing systems

Inaccessible Structures

Good communication between Licensees

Reactive AMPs/visual inspections

Concrete Degradation

AMP for Research Reactors

Degradation Mechanisms. Operational Experience
--



European Nuclear Safety Regulators Group

Thank you for attention

1st Topical Peer Review: List of acronyms

- **AGR- Advanced Gas-cooled Reactor**
- **AMP- Aging Management Program**
- **BWR- Boiling Water Reactor**
- **CANDU- CANada Deuterium Uranium**
- **NAR- National Assessment Report**
- **NPP- Nuclear Power Plant**
- **PCPV- Prestressed Concrete Pressure Vessel**
- **PWR- Pressurized Water Reactor**
- **R&D- Research and Development**
- **SSC- Structures Systems and Components**
- **ToR- Terms of Reference**
- **TPR- Topical Peer Review**
- **TSO- Technical Safety Organization**
- **TS- Technical Specification**
- **VVER- Water-Water Energetic Reactor**