

First Topical Peer Review (TPR)

First topical peer review (2017-2019) on ageing management of nuclear power plants and research reactors above 1 MWth

Ageing management was chosen by ENSREG as the topic for the first TPR, given the age profile of nuclear power and research reactors in Europe, and the implications for safety. The review **focused on licensees' ageing management programmes** and, more specifically, **on the effects of ageing on specific structures, systems and components** (reactor pressure vessels, electrical cables, concealed pipework and concrete containment structures).

Key figures

- 16** EU Member States involved
- 3** other countries participated
- 153** nuclear power reactors
- 16** research reactors
- more than 50** experts
- 2 300** review questions
- 140** participants in the peer review workshop
- 2** public meetings

All countries with nuclear power plants have ageing management programmes in place. However, for research reactors, these programmes are not regulated. Nor are they implemented as systematically and comprehensively as for nuclear power plants. The **TPR identified four challenges** (overall ageing management programmes, concealed pipework, reactor pressure vessel and concrete containment structure), where European-level action could help address specific aspects of ageing management. Work is under way to address these general challenges.

Four general challenges identified

National action plans to address the findings from self-assessments and peer review

Measures in the national action plans include:

- a more formal definition of ageing management by research reactor licensees;
- adapting in-service inspections of civil structures based on latest international standards;
- additional monitoring, testing, and inspection activities for concealed pipework;
- assurance of cable performance under extreme conditions, as may occur in accidents;
- defining a set of specific ageing management performance indicators;
- applying ageing management practices to new constructions.

FOLLOW-UP PROCESS

The peer review enabled participating countries to review their ageing management programmes and to share good practices.

The follow-up process aims to:

- address areas for improvement identified in the national action plans;
- develop actions for EU-level challenges; and
- improve the next TPR process.

The participating countries documented their follow-up actions in their 2019 national action plans. Updates on implementation are scheduled for 2021 and 2023, all of which will be published on the ENSREG website

‘We encouraged Member States to share good practices and to learn from each other.’

Petteri Tiippana, Chair of the 1st TPR

The Council of the European Union **‘highlights the importance for Member States to draw lessons from this first TPR, and provide feedback to the Commission, ENSREG and its relevant Working Groups to improve the efficiency and effectiveness of future peer reviews and the involvement of the relevant stakeholders’.**

Council conclusions on the first European topical peer review for nuclear safety