



ENSREG 1st TOPICAL PEER REVIEW

Action Plan

Abbreviations:

NACP: National Action Plan

OAMP: Overall Ageing Management Program

MS: Member State

1. INTRODUCTION

In 2014, the European Union (EU) Council adopted directive 2014/87/EURATOM amending the 2009 Nuclear Safety Directive to incorporate lessons learned following the accident at the Fukushima Daiichi nuclear power plant in 2011. Recognizing the importance of peer review in delivering continuous improvement to nuclear safety, the revised Nuclear Safety Directive introduced a European system of Topical Peer Review (TPR) commencing in 2017 and every six years thereafter. The purpose is to provide a mechanism for EU Member States to examine topics of strategic importance to nuclear safety, to exchange experience and to identify opportunities to strengthen nuclear safety. The process provides for participation, on a voluntary basis, of States neighbouring the EU with nuclear power programmes.

The 30th Meeting of the European Nuclear Safety Regulators Group (ENSREG) in July 2015 identified ageing management of nuclear power plants as the topic for the first Topical Peer Review. This selection was informed by a technical assessment performed by the Western European Nuclear Regulators Association (WENRA) in recognition of the age profile of the European nuclear reactor fleet and the safety significance of the topic. The Terms of Reference (ToR) and the Technical Specification (TS) of the first Topical Peer Review, as well as the Stakeholder Engagement Plan, were approved by ENSREG in January 2017 and published on the ENSREG Website in February 2017.

In the first phase of the TPR, national self-assessments were conducted against the WENRA TS. Results of the self-assessments were documented in the National Assessment Reports (NARs), published at the end of 2017. The national reports were peer reviewed through a process organised and overseen by ENSREG. The second phase started in January 2018 when the National Assessment Reports were made available for questions and comments from stakeholders. As an indication of the commitment to the Peer Review and the importance of the selected topic, this phase resulted in more than 2300 questions and comments. Subsequently, in May 2018, ENSREG organized a one-week workshop to discuss the results of the self-assessments, the questions and comments on the National Assessment Reports, as well as the replies to the questions, with a goal to identify and discuss both generic and country-specific findings on Ageing Management Programmes. In the third and final phase of the Topical Peer Review, a Topical Peer Review Report and country-specific findings have been compiled to provide input for national action plans and the ENSREG action plan. The TPR identified four challenges, which are common to many or all countries and are areas where action at a European level could help to increase available knowledge, drive consistency or produce beneficial new techniques or technology to assist in specific aspects of ageing management.

2. The follow-up of the first topical peer review

The ENSREG action plan will assist in assuring that the conclusions from the TPR are taken into account in improving nuclear safety across European nuclear facilities. It will also assist in ensuring that the recommendations and suggestions from the TPR are addressed by national regulators and ENSREG in a consistent manner.

The action plan should promote the role of Europe in enhancing standards for world-wide nuclear safety through continuous improvement, showing a clear commitment to openness and transparency. The follow-up process of the TPR should also use existing resources effectively.

The Topical Peer Review Follow-up process has the following objectives:

- to ensure that the identified areas for improvement related to ageing management activities are addressed by national regulators;
- to develop actions for the EU level challenges;
- to improve the next TPR process.

Member States' Actions

MS1. Each national regulator will consider the results of the TPR as they are published in the ENSREG Topical Peer Review Report and country specific findings reports by the end of September 2019. Each national regulator will develop and make public its national action plan (NAcP) associated with lessons learned and TPR review recommendations and suggestions. Preparation of the NAcPs by end of September 2019 for the part related to Nuclear Power Plants and Research Reactors. For the other Nuclear Installations, to report by the end of 2020 (or already in September 2019 on a voluntary basis).

MS2. Each national regulator will provide an updated NAcP including a summary of the implementation status of NAcP by end of May 2021 that will be used when preparing an ENSREG status report

MS3. Each national regulator will provide an update on the implementation status of NAcP by the end of 2023.

ENSREG General Actions

E1. ENSREG/WG1 will compile the feedback from the TPR Board and from ENSREG Members about the first TPR exercise and will draw some lessons for the next TPR, based on a questionnaire to be developed by October 2019, reporting them to ENSREG by end of May 2020.

E2. ENSREG/WG1 will draft a status report of implementation of the first TPR so that ENSREG can finalise it by end of 2021.

E3. ENSREG/WG1 will prepare summary report on the updated national action plans by end of May 2024.

3. ENSREG Special Actions on the EU level Challenges

Challenge on Overall Ageing Management Programmes (OAMPs)

TPR identified the following challenge related to effectiveness of the OAMP and use of performance indicators: *Indicators are considered important for the evaluation of the effectiveness of the OAMPs but no unified approach is available. Further development of improved performance indicators or other appropriate tools would enable consistent evaluation of the effectiveness of the OAMPs among NPPs.*

EC1.1. ENSREG/WG1 will contact IAEA/IGALL (IAEA Extrabudgetary Programme on International Generic Ageing Lessons Learned) to discuss the guidance on evaluation of effectiveness of OAMPs (including performance indicators) that is being developed in the IGALL programme. The timeframe will also be discussed.

EC1.2. ENSREG/WG1 will ask WENRA to discuss the topic in the frame of Reference Levels Review and to consider developing guidance on the use of performance indicators. The timeframe will also be discussed.

Challenge on Concealed pipework's

TPR identified the following challenge related to concealed pipework: *Non-invasive inspection methods for detection of local corrosion, suitable for use on long lengths or complex geometries of concealed piping, are not well established. Research and development of such methods would enhance the tools available for demonstrating the integrity of concealed pipework and increase the overall safety of nuclear installations.*

EC2.1. ENSREG/WG1 will contact IAEA/IGALL to discuss the proven practices collected in the IGALL programme related to ageing management of concealed pipework and to propose further tasks in the next phase of the IGALL programme, as appropriate. The timeframe will also be discussed.

EC2.2. ENSREG will recommend the EC to promote research on the application of NDT techniques to identify defects in long lengths of concealed pipework to address the topic in EU Framework Programme for Research and Innovation.

Challenge on Reactor Pressure Vessel

TPR identified the following challenge related to reactor pressure vessels: *NDE techniques are continuously developing and improving and it is a challenge for licensees to know the current state of the art in qualified RPV inspection techniques.*

EC3.1. ENSREG/WG1 will contact IAEA/IGALL to request to extend collection of proven practices within the next phases of the IGALL programme concerning state of the art new techniques and technologies for NDE. The timeframe will also be discussed.

EC3.2. ENSREG will recommend for EC to establish and maintain an up to date European catalogue of state of the art new techniques and technologies for Non Destructive Examination (NDE) of reactor pressure vessels in EU Framework Programme for Research and Innovation.

Challenge on Concrete Containment Structure

TPR identified the following challenge related to concrete structures: *It is difficult to define objective and comprehensive acceptance criteria for ageing management of concrete structures. The development of such criteria for a number of degradation mechanisms would improve the effectiveness of the AMPs.*

EC4.1. ENSREG/WG1 will contact NEA/CSNI/WGIAGE to discuss their ongoing activities and whether this topic is already addressed or should be addressed in their work. The timeframe will also be discussed.

EC4.2. ENSREG/WG1 will contact IAEA to initiate a review of acceptance criteria in the IGALL Ageing Management Programmes in the next phase of the IGALL programme. The timeframe will also be discussed.

EC4.3. ENSEG/WG1 will ask WENRA to discuss the topic in the frame of Reference Levels Review and consider to develop a guidance on using of acceptance criteria for ageing management of concrete structures.

EC4.4. ENSREG will recommend for EC to address the topic of ageing of concrete structures in EU Framework Programme for Research and Innovation.