

EXECUTIVE SUMMARY

At the invitation of OKG AB, the IAEA conducted a Pre-SALTO (Safety Aspects of Long Term Operation) mission at Unit 3 of the Oskarshamn Nuclear Power Plant in Sweden from 28 November to 6 December 2017.

The plant is owned and operated by Uniper and Fortum where Uniper is the majority shareholder. Operation started in 1985. The unit will achieve its original design life time of 40 years of operation in 2025 and the owners intend activities to extend the unit's lifetime by 20 years.

This SALTO mission focused on the status of activities for the Long Term Operation (LTO) assessment of the plant. The review team consisted of two IAEA staff members, six external experts and three observers, covering all areas of the standard scope of a SALTO mission.

The team reviewed the completed, in-progress and planned activities related to LTO, including Ageing Management (AM) of the Systems, Structures and Components (SSCs) important for safety and revalidation of Time-Limited Ageing Analyses (TLAAs).

Through the review of available documents, presentations and discussions with counterparts and other members of the plant staff, the team concluded that the plant has made progress in the field of ageing management in recent years and has initiated many activities to prepare for safe LTO. The plant's LTO project addresses several topics as recommended by the IAEA.

The team found the plant staff to be professional, open and very receptive to suggestions for improvement. Walk-downs showed that the plant is in a very good condition. The team concluded that the plant management is committed to improving ageing management and plant preparedness for LTO. In addition, the team noted good performances in the following areas:

- Periodic management reviews of major tasks including ageing management (area A);
- Use of a comprehensive in-service-inspection management database (area C);
- A long term contract for certain electrical spare parts (area F).

The team recognised that the plant approach to and preparatory work for safe LTO partially follows the IAEA Safety Standards and international good practices.

The team identified several areas for further improvement. Nineteen issues were raised:

- Available documentation, both provided by the regulatory authority and developed by the plant, does not provide all necessary guidance on ageing management and the assessment of safe LTO;
- A clear and consistent process to demonstrate preparedness for safe LTO is not in place;
- The plant organization for ageing management is not completely adequate to ensure safe LTO;
- The methodology for scope setting is not consistently used for LTO;
- The identification of SSCs within the scope for LTO assessment is inadequate;
- Current commodity groups do not fully support ageing management for LTO;
- The effectiveness and coordination of the plant programmes have not been demonstrated for the entire period of LTO;

- The water chemistry programme does not ensure effective management of potential ageing effects for LTO;
- Data management of mechanical components is not adequate for ageing management;
- Ageing Management Reviews (AMR) of mechanical components for LTO are not adequately performed;
- The implementation of ageing management programmes for mechanical components is incomplete;
- Identification and revalidation of TLAAs of mechanical components for LTO is incomplete;
- The scoping of electrical and Instrumentation & Control (I&C) components for LTO is incomplete;
- The qualified status of SSCs important to safety is not sufficiently demonstrated;
- Ageing management programmes for electrical and I&C components are not adequate for LTO;
- Ageing management of civil structures is not adequate;
- Revalidation of TLAAs of civil structures for LTO is not adequate;
- The human resources policy and strategy for LTO are incomplete;
- Knowledge management and knowledge transfer for LTO are neither formalized nor implemented in the organization.

A summary of the results was presented to plant management during the exit meeting held on 6 December 2017. The plant management expressed a determination to address the areas identified for improvement, and indicated the intention to invite a second 'Pre-SALTO Peer Review Mission for Oskarshamn Nuclear Power Plant Unit 3' in first quarter of 2020 to review the progress in ageing management and LTO activities.