

EXECUTIVE SUMMARY

Upon request from Ukrainian government and the state owned operational organization (NAEK) EnergoAtom, a peer review mission on plant Long term Operation (LTO) and Ageing Management of South Ukraine Nuclear Power Plant was provided under IAEA Technical Cooperation Programme TC UKR 4013.

The state owned operational organization (NAEK) EnergoAtom is responsible for operation of all Nuclear Power Plants in Ukraine. The fleet of units is mainly based on standard power unit of WWER 1000 with exemption of two Units of WWER 440/213 at Rovno site. Taking into account decades of the operational lifetime and license conditions valid for the oldest units relicensing and connected phenomena of ageing and obsolescence are becoming an urgent issue.

The South Ukraine NPP (SUNPP) units are so-called pilot units concerning future relicensing and LTO for all the Ukrainian units of WWER 1000 type. New parts of SUNPP technical support activities are functions with focus on reliability and life time extension as well as modernization and reconstruction. The newly established programme is in the beginning phase of the process of creating a structured system for ageing management with an aim to prepare all the important data necessary for relicensing of the SUNPP Units, in case of Unit 1 in 2012. Therefore, it was decided to support SUNPP in this initial stage of preparatory work by a specific expert mission of peer-review type. The aim is to assist the NPP on structure and methodologies of the work with ageing assessment and overall LTO in the preparation phase for relicensing and give practical advice how conduct the activities in good agreement with the best international practices.

The mission reviewed activities performed by the plant related to ageing management and safe LTO. The IAEA team was composed of two staff members (E. Liszka, T. Inagaki) and five international experts: Mr. Stephen Gosselin (USA), Mr. Adam Letzter (Sweden), Mr. Louis Van der Wiel (The Netherlands), Mr. Jong-Seog Kim (Republic of Korea) and Mr. Jan Gustafsson (Sweden).

Through the presentations provided by the plant and subsequent discussions, the IAEA team confirmed that there is organizational structure established at SUNPP to deal with issues connected to ageing management and preparation for relicensing and long term operation of SUNPP Units. The current situation is showing that some of the activities in the scope of AMP and LTO are in a very initial stage. It will require additional efforts to be able to serve data and information needed for overall reassessment and evaluation. SUNPP showed good basic understanding of the processes to be necessarily performed concerning understanding of ageing mechanisms and overall view of reliability and safety assessment of SSCs in connection to licensing renewal and long term operation.

On the other hand, the team recognized several issues in some areas and raised the recommendations related mainly to establishment of scoping and screening processes and evaluation of ageing degradation mechanisms for SSCs in particular.

The summary conclusions of the review were presented to the SUNPP Chief Engineer and plant management as well as the technical counterparts of South Ukraine NPP at the exit meeting 23 March 2007.

This report includes the detailed recommendations issued by the Team.