

# LONG TIME OPERATION (LTO) – CURRENT RESEARCH DIRECTIONS

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## ABSTRACT

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Safe extension of the lifetime of nuclear power plant components is one of the most important activities after the construction and operation of the power plant. Nowadays, when the construction of new nuclear sources is very complex, this importance is amplified. At the Řež Research Center, we participate with other important European research centers in the DELISA LTO European project, which is aimed at expanding the knowledge of thermal aging of components and obtaining new databases for more accurate and comprehensive simulations of the degree of damage and the behavior of such damaged components. In addition, we are preparing a very extensive project to create a set of knowledge, verified calculations and simulations, a database with verified data and overall verification of testing of radiation-damaged concrete structures of biological shielding of nuclear power plants of the VVER 440 type. The motivation, scope and purpose of these two projects will be presented.

**Keywords:** long term operation