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Work title: Calculation of steam generator for NPP with VVER-1000
Annotation:
This paper is devoted to the reliability modeling of compensator pressure control system using dynamic fault tree (DFT) and introduces DFT to analyze the reliability of steam generator water level control system (SGWLCS). Taking the failure of SGWLCS liquid level control under high load conditions as the main event and the failure of key equipment such as main processor, main power supply, AI/AO board and main water supply valve as the lower event corresponding to the dynamic event, a failure tree model is constructed. By using Markov model, its reliability is analyzed and design defects of SGWLCS main equipment are identified to improve the reliability of the system. The VVER-1000 steam generator is calculated and its characteristics are determined. The paper studies the causes of aging of steam generators and searches for possible and existing methods of detection and methods of monitoring of steam generators.