

BURNUP CREDIT CALCULATIONS FOR CRITICALITY SAFETY JUSTIFICATION FOR RBMK-1000 SPENT FUEL OF TRANSPORT AND STORAGE SYSTEMS

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In present paper the burnup credit calculations for TK-8 transport container and SVJP-1 spent fuel storage facility of pool type with RBMK-1000 spent fuel during 100-years of cooling time were performed for criticality safety analysis purpose using MCNP and SCALE codes. Only actinides were taken into account for these critical systems. Two approaches were analyzed with isotopes distribution calculations along fuel assembly height and without it. The results show that subcriticality margin is increased considerably using burnup credit and isotopes distribution along fuel assembly height made this value more reasonable.

Keywords: spent fuel, SVJP-1 spent fuel storage facility, TK-8 transport container, burnup credit.