

RESEARCHES OF WWER-1000 PRESSURE VESSEL IRRADIATION DEPENDENCE FROM NUCLEAR FUEL BURN-UP

V. L. Dyemokhin, O. V. Gritzenko, V. N. Bukanov, S. M. Pugach

To investigate the influence of fissile nuclide concentrations in the core of WWER-1000 type reactor on calculation outcomes of RPV radiation exposure the series of calculational testings were done. The representation of the neutron spectra parameters was carried out under various approximations of the nuclear fuel burn-up accounting down to pin-to-pin at other things being equal. To define the spectra it was applied a specially designed procedure, where the contributions of various fissile nuclide spectra are determined depending on fuel sorts and burn-up depths. It was shown that neutron spectra change due to burn-up is necessary to account under an assembly approximation to determine the radiation exposure correctly.