DEVELOPMENT OF SELECTED RADIONUCLIDES IN SURFACE WATER IN THE VICINITY OF THE TEMELÍN NUCLEAR POWER PLANT IN THE PERIOD 1990—2016

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The paper presents results and interpretation of long-term monitoring of occurrence and behaviour of radioisotopes ^{3}H, ^{90}Sr and ^{137}Cs in surface water in the vicinity of the Temelín Nuclear Power Plant. ^{3}H, ^{90}Sr and ^{137}Cs originate predominantly from residual contamination due to atmospheric nuclear weapons tests and the Chernobyl disaster in the last century. The basic evaluated radioecological characteristics can be used in assessing the long-term kinetics of decline and behaviour of radionuclides and their potential release into the environment. A very slow decline in ^{3}H concentration at unaffected sites was observed. At sites downstream from the power plant the ^{3}H concentrations were significantly higher, an evident impact of the power plant operation. A decline in ^{90}Sr and ^{137}Cs concentrations was observed in all the monitored sites.