

Working Life Assessment of Internal Load-Bearing Concrete Structures of Nuclear Power Plant

Robert Hince^{1, a)}, Vladimir Slugen^{1, b)}, Julius Dekan^{1, c)} and Branislav Stribrnsky^{1, d)}

¹*Faculty of Electrical Engineering and Information Technology, STU in Bratislava, Ilkovicova 3, 812 19 Bratislava, Slovak Republic*

^{a)} Corresponding author: robert.hinca@stuba.sk

^{b)} vladimir.slugen@stuba.sk

^{c)} julius.dekan@stuba.sk

^{d)} branislav.stibrnsky@stuba.sk

Abstract. Concrete construction works at the Slovakian Nuclear Power Plant Mochovce (NPP EMO) began almost 35 years ago (1988). The NPP concrete structure working life depends on correct design assumption, concrete works execution, working load conditions and the influence of the surrounding environment. In our contribution, we evaluated the available information on the concrete construction works and testing of concrete structures, available indicators of the environment and the influence of the operating load on the supporting concrete structures near the reactor shaft. We have shown that the used classes of concrete in the given conditions of load and influence of the environment, according to valid standards, correspond to the requirements for building structures with a working life of 100 years.