

P. Kovtonyuk¹, O. Sevbo², V. Nevmerzhytskiy¹, V. Okhrimchuk¹, O. Ochakovskaya¹

¹Rivne Nuclear Power Plant, Kuznetsovsk, Ukraine

²State Scientific and Technical Center for Nuclear and Radiation Safety, Kyiv, Ukraine

Assessing Influence of the Auxiliary Emergency Feedwater System on Rivne-1, 2 WWER-440/213 Core Damage Frequency

The influence of the auxiliary emergency feedwater system on Rivne-1&2 core damage frequency is assessed in this paper. The influence is assessed by means of probabilistic safety analysis methods. Results of preliminary and already implemented designs of the system are compared. Besides, the paper presents specifics of modeling the system elements.

Keywords: power unit safety analysis, WWER-440, multiple equipment failures, “superpipe” concept, probabilistic safety analysis, core damage frequency, auxiliary emergency feedwater system, initiating events, event tree, fault tree.