STUDIES REGARDING THE SAFETY IN OPERATION OF THE NEGRENI RESERVOIR, BOTOȘANI COUNTY, ROMANIA

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Abstract

The dam of Negreni reservoir, located on the Bașeu River, is an earth dam with a maximum height of 12.4 m, which provides global retention to the crest of 25.869 million m^3. The Negreni reservoir is a part of the hydro-technical works set, that were built to protect against the floods the localities within the river Bașeu catchment area, in Botoșani county (Săveni, Știubeni, Petricani, Chișcăreni, Bozieni). The dam is of homogeneous type, made of clayey-dusty sands and it has several installations both for external stresses and for the response to stresses. Between the years 2008 and 2012 investment works were implemented, under the project „Safety re-inforcement of Cal Alb and Negreni reservoirs, located on Bașeu River, in Botoșani county". The project was set out to build the following works: rehabilitation of dam body (repairs to the concrete tiles on the downstream slope), rehabilitation of the hydromechanical equipments, rehabilitation of the bottom outlet, rehabilitation of the evaccuation channel of the surface outlet, installation of a water management information and warning-alarm system, rehabilitation of the behaviour monitoring system. The special events recorded during the execution of the dam and during its operation have imposed the implementation of a systematic behavior monitoring of the hydro-technic constructions at the Negreni reservoir. This paper presents a brief history of the dam in its construction and exploitation phases, focusing on aspects regarding the behavior monitoring of Negreni reservoir during the years 1997 – 2020.

Key words: safety re-inforcement, rehabilitation of hydrotehnic constructions, reservoir, hydrostatic level, behaviour monitoring