عنوان مقاله:

(Rehabilitation of the sylvenstein dam, germany Success proof by major flood 2013 (f0011

محل انتشار:

چهارمین کنفرانس بین‌المللی رفتار بلندمدت و فن‌آوری‌های نوسازی سازگار با محیط زیست سدها (سال: 1396)

تعداد صفحات اصل مقاله: 7

نویسنده:

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خلاصه مقاله:

Preventing flood damages is a central role of dikes and dams. The Sylvenstein Dam designed to manage the water level in the Isar River by mitigating flood damages downstream, for adequate low-tide- heightening of the river for better navigability and to generate electrical energy was built in the south of Germany in the l950ies.The Dam, with some upgrades over the years, performed very well its designated purposes. Preparing for presumed increasing flood events due to the climate change with higher and sudden precipitation, a restoration design for the Sylvenstein Dam was implemented between 2012 and 2014. The significant renovation part was the installation of a plastic concrete cut-off wall through the embankment dam core and into the alluvium filling the gorge created by the Isar River. In 2012, the wall was executed and completed. The Reservoir was partly irnpounded during the installation of the new barrier wall. During heavy rainfalls in 2013, due to the flood retention capacity ofthe Sylvenstein reservoir, the peak discharge of the Isar River into the city of Munich cou.ld be sigr1ificantly reduced thus no significant damage could be observed along the Isar River. Due to the new cut-off wall, it was possible to store a maximum of water for a longer period reducing the outflow &om the dam essentially over the critical time- period, necessary, as dikes along the Danube were heavily burdened and even broke in two areas.

کلمات کلیدی:

Sylvenstein Dam, dam upgrading, dam rehabilitation, plastic concrete, concrete cut-off wall