

A Hybrid Approach for Estimation of Design Flood for Hydraulic Sizing of Spillways in Hydro-Power Projects

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Abstract

An attempt to explore the possibility of using a hybrid approach by combining results from at-site and regional flood frequency analysis using the method of L-Moments vis-à-vis the commonly recommended approach of using the Probability Maximum Flood (PMF) such that spillway sizing for large reservoirs can be done adequately. For this, a case study has been undertaken using at-site and regional flood information at and around the Tehri dam site and design flood estimates for some of the commonly used recurrence intervals (viz: 20, 50, 100, 1000 and 10000 years) have been estimated which can be used for hydraulic sizing of spillways for hydro-power projects as an alternate approach to the PMF.