

Telecommunication Network Availability after Hydroelectric Power Plant Reservoir Dam Incident

Zhebka, V.^a, Anakhov, P.^b, Aronov, A.^a, Sokolov, V.^c, Skladannyi, P.^c

^aState University of Information and Communication Technologies, Kyiv, Ukraine

^bNPC Ukrenergo, Kyiv, Ukraine

^cBorys Grinchenko Kyiv Metropolitan University, Kyiv, Ukraine

Abstract

To ensure the availability of the telecommunication network in the event of an incident at the dam of a hydroelectric power plant reservoir, the hydrological hazards provoked by incidents and the results of their action have been investigated. The method of ensuring the availability of the telecommunication network for protecting the telecommunication network from natural hazards of global warming has been modified to the method of ensuring the readiness of the hybrid telecommunication network in the event of incidents at a hydroelectric power station dam. It has been used the modified method, to systematize measures to ensure the availability of the telecommunications network, which can be used for floods in flood zones. A formal description of the relationship between the coefficients of connectivity and telecommunication network readiness has been developed. © 2026 IEEE.

Author keywords

breakthrough wave; flood zone; groundwater; hybrid network; hydrological hazard;
pore water pressure

About this paper

<https://ieeexplore.ieee.org/document/11536714>

Online ISBN: 979-831954201-4

DOI: [10.1109/ESS70338.2026.11536714](https://doi.org/10.1109/ESS70338.2026.11536714)

EID: [2-s2.0-105042161240](https://ieeexplore.ieee.org/document/11536714)

First Online: 1 June 2026

Original language: English

Publisher: IEEE Inc.