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RISK ANALYSIS OF HYDRAULIC ENGINEERING CONSTRUCTIONS

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Abstract

Any hydraulic engineering construction project is a complex open system with large investment, long construction period, complex internal structure and numerous participants, subject to restrictions of time, resource, environment and other conditions. In this paper, the analytic hierarchy process principle and method were used to establish three-layer structure system of agricultural hydraulic engineering construction, while risks of some agricultural hydraulic engineering construction were analyzed through Monte Carlo simulation. The results show that risks of this agricultural hydraulic engineering construction mainly exist in dam body deformation, dam body leakage and dam foundation leakage and infiltration.
Therefore, reinforcement measures of strengthening dam body leakage prevention and deformation shall be taken for agricultural hydraulic engineering construction entailing social and ecological benefits, in order to reduce the engineering risks.

Key words: analytic hierarchy process method, hydraulic engineering, Monte Carlo simulation, risk analysis

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