

Life safety criteria for flood protection standards

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Abstract The Dutch flood protection standards originate from the 1960s. As a result of economic growth and increase of the population over the past decades, these standards have possibly become insufficient to achieve the desired level of safety. Moreover, the EU Floods Directive requires each Member State to evaluate and reduce the flood risk. In line with this Directive, a risk-based approach for flood protection is being developed in the Netherlands, with safety standards that are based on both economic cost-benefit and life safety criteria. In order to support this new policy, a probabilistic risk assessment was performed for the main levee systems. This paper focuses on the life safety aspect. Two loss-of-life risk indicators are considered: the individual risk and the societal risk. These indicators give insight to, respectively, the most hazardous locations and the probability of a given number of fatalities during a single flood event.

Key words flooding; risk; EU flood directive; individual risk; societal risk