



## **Seismic risk assessment for Poiana Uzului (Romania) buttress dam on Uz river**

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The most important specific requirements towards dams' safety is the seismic risk assessment. This objective will be accomplished by rating the dams into seismic risk classes using the theory of Bureau and Ballentine, 2002, and Bureau (2003), taking into account the maximum expected peak ground motions at dams' site, the structures vulnerability and the downstream risk characteristics. The maximum expected values for ground motions at dams' site have been obtained using probabilistic seismic hazard assessment approaches. The structural vulnerability was obtained from dams' characteristics (age, high, water volume) and the downstream risk was assessed using human, economical, touristic, historic and cultural heritage information from the areas that might be flooded in the case of a dam failure. A couple of flooding scenarios have been performed. The results of the work consist of local and regional seismic information, specific characteristics of dam, seismic hazard values for different return periods and risk classes. The studies realized in this paper have as final goal to provide in the near future the local emergency services with warnings of a potential dam failure and ensuing flood as a result of a large earthquake occurrence, allowing further public training for evacuation.

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