عنوان مقاله:

Seismic safety aspects of gated spillways of large storage dams

محل انتشار:

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خلاصه مقاله:

Gated spillways of large storage dams must be operable after the safety evaluation earthquake (SEE) such that the reservoir level can be controlled and a moderate flood can be released safely. Consequently, the gates, motors, control units and power supplies including emergency power generators must be operable and the gates should not experience any inelastic deformations causing jamming of the gates. Moreover, the spillway piers shall not exhibit any inelastic deformation in the cross-river direction, which is the weak axis of typical spillway piers. The trunnions must be able to withstand the high hydrodynamic pressures acting on the gates. Thus these elements must be designed and checked for the SEE. Vulnerable to high seismic loads are gated crest spillways due to the amplification of the support motion with respect to the grormd acceleration on the rock smface. The possible seismic hazards, the seismic performance criteria of gates and electro-mechanical equipment and the dynamic analysis of spillway structures are discussed.

کلمات کلیدی:

Earthquake safety, dam safety, spillway gates, spillway pier, dynamic stability analysis

لینک ثابت مقاله در پایگاه سیویلیکا: