

عنوان مقاله:

Seismic Response of Underground Openings: with an Insight into Siah Bisheh Caverns

محل انتشار:

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خلاصه مقاله:

Response of underground structures exposed to seismic loading is a concern for designers, especially in large span opening. Siah Bisheh is one of the largest power plant projects in Iran that has three main caverns and is located in Alborz seismo-tectonic region, with high risk of seismic events. Seismic response of these caverns is considered in this study. For this purpose, the result of a probabilistic seismic hazard analysis that has been conducted in this region is used to determine the maximum design earthquake in the studied site. Numerical analyses are performed in three different media: continuum, semi-continuum and discontinuum media using two different software. PHASE2 V.5 software was used for modeling of the first and the second media, while UDEC software was applied for the third media simulation. The obtained results show that the discontinuum modeling, as compared to the continuum modeling, exhibits a good agreement with monitoring data in the static modeling. Furthermore, the wall between the Guard Gate cavern and the Power House cavern would be in the risk of instability.

کلمات کلیدی:

Seismic Response, Cavern, Siah Bisheh, Discontinuum Modeling, Numerical Modeling

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