

عنوان مقاله:

Design Optimum Earthing System with New Shape of Electrode and Backfill Material in Practical Case Study

محل انتشار:

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خلاصه مقاله:

This paper presents methods to reduce earth resistance with aim of the reduction of running cost of earthing system. This research is performed in Dezful, a city of Khuzestan province which soil resistivity is high. In order to reduce earth resistance with aim of the costs reduction in this city, two solution is proposed. First, in this research, coil electrode instead of plate electrode to reduce earth resistance. The second method, a new method of using backfill material such as bentonite is presented. In this method mud of bentonite for using rod electrode is used. The results of coil electrode are compared to plate electrode and rod electrode with backfill material is compared to existing rod electrode in the test field. Results show that the proposed method is successful in reducing earth resistance with aim of the reduction of costs of earthing system. Using coil electrode could lessen more than 50% of costs and this value for rod electrode with backfill material is 75%. However, the coil electrode has less success in compare to plate electrode in reducing earth resistance.

کلمات کلیدی:

earth resistance, electrode, backfill, cost

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