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Dynamic Analysis of Turbo Machinery Foundation for Different Rotating Speed

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Abstract : Turbo machinery Frame Foundation is very important for power generation, gas, steam, hydro, geothermal and nuclear power plants. The Turbo machinery Foundation system was simulated in SAP: 2000 software and dynamic response of foundation was analysed. In this paper, the detailed study of turbo machinery foundation with different running speed has considered. The different revolution per minute considered in this study is 4000 rpm, 6000 rpm, 8000 rpm, 1000 rpm and 12000 rpm. The above analysis has been carried out considering Winkler spring soil model, solid finite element modelling and dynamic analysis of Turbo machinery foundations. The comparison of frequency and time periods at various mode shapes are addressed in this study. Current work investigates the effect of damping on the response spectra curve at the foundation top deck, considering the dynamic machine load. It has been found that turbo generator foundation with haunches remains more elastic during seismic action for different running speeds.

Keywords : turbo machinery, SAP: 2000, response spectra, running speeds
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