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SEISMIC PERFORMANCE EVALUATION CHARTS FOR GRAVITY TYPE QUAY WALLS

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More than two hundred cases of effective stress analyses with variation of seismic coefficients and liquefaction resistance were conducted. Among the parameters considered in this study, the most sensitive parameter affecting the wall displacement under a prescribed level of shaking is the SPT N-value of subsoil below and behind the wall. With the results of parametric calculations, a simple procedure and charts are propsed to evaluate the order-of-magnitude displacement of a quay wall. It demonstrated the capability to evaluate a wide range of displacements, ranging from the displacement in the order of onetenths of meters to those with one order higher.

Key Words: quay wall, liquefaction, deformation, seismic coefficient, seismic performance

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To cite this article:

Koji ICHII, Susumu IAI, Yukihiro SATO and Hanlong LIU; "SEISMIC PERFORMANCE

EVALUATION CHARTS FOR GRAVITY TYPE QUAY WALLS", *Structural Eng./Earthquake Eng.*, Vol. 19, No. 1, pp.21s-31s, (2002) .

Japan Science and Technology Information Aggregator, Electronic