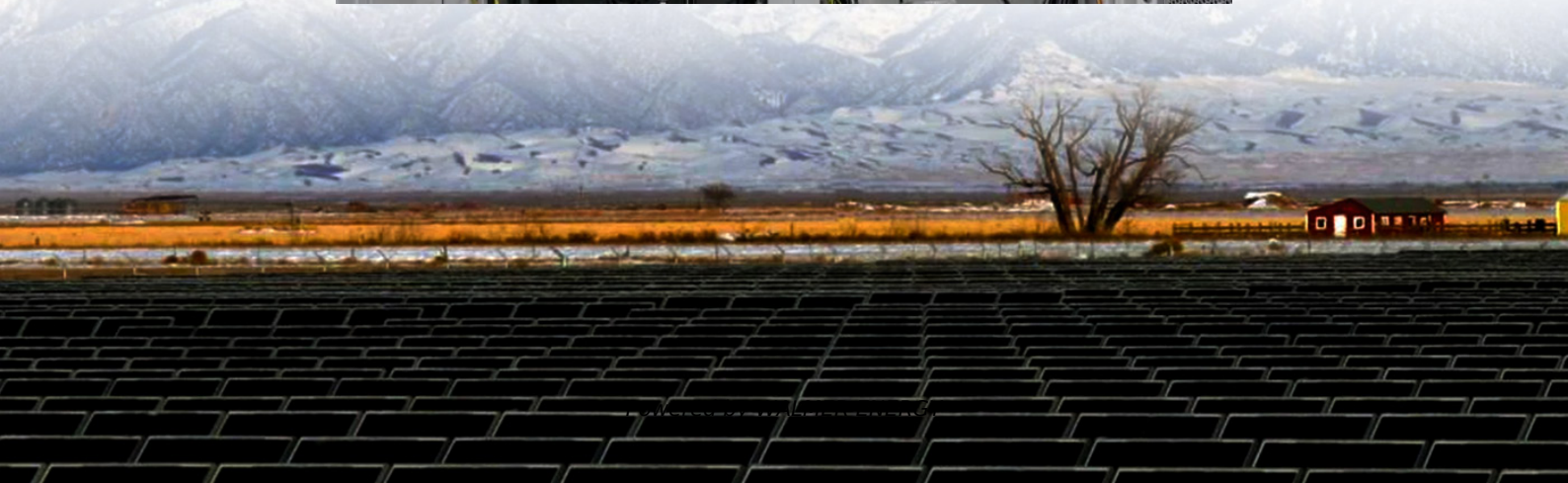


Guide to Seismic-Resistant Energy Storage Containers for Resorts





Overview

Is a fluid storage tank a non-structural element under seismic loads?

Research on the coupling effects of a fluid-storage tank as a non-structural element supported by a structural frame or building system under seismic loads is quite scarce , , .

How does damping affect the seismic response of fluid storage tanks?

The fluid domain is governed by fluid dynamics equations that are presented usually by Navier-Stokes, One of the key factors that considerably affects the seismic response of fluid storage tanks is the effect of damping on the dynamic responses of the coupled fluid-tank system.

What forces are developed in fluid storage tanks during seismic ground motions?

Important types of forces and stresses that are developed in fluid storage tanks during seismic ground motions are base shear, overturning moment, hoop stress, axial compressive stress, and bending stress.

Why do industrial buildings and plants need seismic design considerations?

Industrial buildings and plants demand a higher level of seismic design considerations as any damage to them can cause large-scale socioeconomic and environmental impacts. Such plants most often include liquid storage tanks containing a variety of fluids that could be flammable, pollutant, etc., and be mounted over a steel frame/rack.



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Seismic Design of Structures According to ASCE/SEI 7-22

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