Modeling of Tent Response to Blast Loads to Support Siting in Accordance with API RP 756

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Abstract

The performance of a pole tent is investigated. An Arbitrary Eulerian Lagrangian (ALE) finite element model and a simplified approach are used to evaluate the suitability of the tent in compliance with the requirements of API RP 756 – Management of the Hazards Associated with Process Plant Tents (due for release in the 2nd quarter, 2014). The ALE calculations are compared to the response predicted by using the simplified approach in the RP when they are applied to the same tent. The presentation addresses the factors influencing the effective blast loading on the tent, and methods for increasing the capability of a pole tent to resist blast loads.

Keywords

Facility siting, risk assessment, finite element analysis and management