

**USE OF A FOAM HEST TO SIMULATE LOW YIELD NUCLEAR OVERPRESSURES**

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A series of nine Foam HEST experiments have been conducted. These tests were used to produce simulated nuclear overpressure environments in a research program to investigate the vulnerability of shallow-buried structures (SBS). The SBS program is jointly sponsored by the Defense Nuclear Agency and Office, Chief of Engineers. These Foam HEST tests utilized charge densities varying from 0.43 to 3.6 lb/ft<sup>3</sup>, producing overpressures from a low of approximately 800 psi to a maximum of approximately 17,000 psi. Weapon simulation was determined by comparing the measured airblast data records to theoretical airblast records and choosing the best fit in a least square sense. Weapons simulated varied from 0.08 kt to approximately 8 kt.