

## **LARGE SCALE HEIGHT OF BURST SIMULATION (PRE-DIRECT COURSE/DIRECT COURSE)**

FLORY,R.A.

In past large-scale high explosive blast simulators there has been an extremely limited and sporadic history of height-of-burst events. Small-scale HOB events (less than 1,000 lbs) have revealed very interesting flowfield phenomena not found in surface detonations. Further, HOB flow-field, when created in a dusty environment, may produce drastically increased dynamic pressures when compared to a non-dusty environment.

In 1982 DNA investigated experimental techniques that would be adaptable to a large-scale (600 ton) HOB event. Operational feasibility and cost effectiveness were stressed however blast fidelity at high overpressures was also a requirement.

A preliminary event titled Pre-DIRECT-COURSE was detonated on 7 October 1982 at White Sands Missile Range NM. This event consisted of 23 tons of ANFO placed in a fiberglass sphere which was supported by a steel and fiberglass tower with the charge center 57 feet above the ground surface.

The operational and engineering aspects of fielding the Pre-DIRECT COURSE event are discussed including implications for the full-scale 600 ton DIRECT COURSE event scheduled for September 1983. The scientific merits of the Pre-DIRECT COURSE event are critiqued in a companion paper by G.W.Ulrich.