

RESPONSE OF SHIPS'MASTS UNDER BLAST LOADING - EVENT DICE THROW

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This paper summarizes the results of structural response tests of Canadian ships masts to blast loading in event Dice Throw, a 600-ton explosive trial carried out in the United States in October, 1976.

The test structures were a) a 30 ft Antenna Lattice Mast at 10 psi overpressure, b) a UHF Polemast Antenna at 7 psi and, c) 35 ft Whip Antennas at 7, 10 and 12.1 psi. In addition, aerodynamic drag was measured on cylinders of 3.5, 9.5 and 18 inch diameters at 7, 10 and 20 psi. All structures were analyzed prior to test and response predictions made for comparison with field test results.

A total of free-field overpressure gauges were distributed in the target area to provide blast wave data. Instrumentation for the structures included high-speed cameras, strain gauges and accelerometers.