

# **SIMULATING EXPLOSIVE EVENTS IN THE AIR BLAST TUNNEL**

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The Air Blast Tunnel (ABT) is a facility designed to replicate the blast environment that would be created by a nuclear explosion. Its conical design enables the blast wave from a charge of no more than a few kilograms to be constrained and directed so as to generate a long duration blast pulse characteristic of a detonation of a few kilotonnes of TNT equivalent.

This paper summarises a series of trials conducted in 2011 with the purpose of determining if lower yield explosions could be simulated within the tunnel. To help achieve this purpose a set of target yields between 500kg and 25000kg (TNTe) at ground ranges of between 25m and 200m will be defined.

Modifications to the charge driver, designed so as to achieve a blast wave characteristic of the target yields and ground ranges will be explained. Overpressure pulse outputs from the ABT will be presented and matched to scaled blast parameters. Results will be summarised and conclusions will be drawn regarding the capability of the ABT to simulate the defined target yields and ground ranges.