

Blue Peacock the British Army's Forgotten Weapon

Visitors to AWE's Historical Collection are often puzzled and intrigued by one of the first exhibits they see in the display devoted to Britain's nuclear weapons. At first glance the robust drab-green cylinder standing more than two metres high and mounted on massive cart springs seems to have little in common with the sleek exhibits elsewhere in the Collection.

Closer examination, however, reveals it to be one of the most fascinating items on display. Until recently, its very existence was a closely guarded secret. Now, papers released to the Public Record Office allow the story to be told. Known as Blue Peacock, this massive object is, in fact, the prototype of the British Army's 'atomic demolition munitions', a nuclear land mine which was conceived in the early days of nuclear deterrence.

A War Office specification for an atomic land mine first surfaced late in 1954. Almost immediately, a series of progress meetings was held at the Armament Research and Development Establishment at Fort Halstead in Kent, a site where, in 1947, Britain's nuclear



David Hawkins kneeling in front of the Blue Peacock exhibit in the AWE Historical Collection.

weapons programme had been set up under the codename of High Explosives Research. By mid 1955, the Army's Engineer in Chief was able to define the operational policy for a novel type of weapon: "The large scale destruction caused by the explosion of an atomic

charge makes an atomic mine particularly suitable for use in demolitions. A skilfully sited atomic mine would not only destroy facilities and installations over a large area, but would deny occupation of the area to an enemy for an appreciable time due to contamination."

The policy paper went on to suggest that suitable targets might be irrigation and hydroelectric systems, industrial plants, oil refineries, railway junctions and canals. The Engineer in Chief recognised that owing to the shortage of fissile material, the Army weapon would be developed from the bombs currently in service. In 1955, that meant the Army's mine would have to be based on the Blue Danube free-fall bomb then in service with the RAF.

Blue Danube was itself based on the device successfully detonated in Britain's first nuclear test, Operation Hurricane, in 1952. It was a single-stage atom bomb comprising a plutonium core surrounded by a sphere of high explosive, with a number of detonators spread evenly across its surface. For safety reasons, the fissile core was built into a tube assembly and would have been inserted through the explosive into the centre of the weapon before the aircraft left the ground.

This system was to have been at the heart of Blue Peacock. With an all-up weight of sixteen thousand pounds (over 7 tonnes), it was a massive weapon, with the bulky warhead and twin firing units accommodated in a protective casing, or 'boiler' as the original drawings described it. Other than supplying the specification and requirements for the warhead, Aldermaston had little involvement in the design of the weapon: a plate inside the door of the device proudly

commemorates the men who made it. Despite the secrecy surrounding the weapon, its size meant that some testing had to be done in public places, pressure testing of the 'boiler' being carried out in a flooded gravel pit near Sevenoaks. The 'cover story' was that an insulated container was being tested, and if a nuclear association was suspected, that it was to house 'an atomic power unit for troops in the field'. The test was of course related only to the steel casing and no radioactive material was involved.

By July 1957, the Army Council had decided to acquire ten Blue Peacock mines and to station them with the British Army of the Rhine in Germany. If a Soviet invasion seemed likely, the weapons would be transported to the target area, where they could be deployed either on the surface, buried, or submerged in a river or lake. Detonation could be either by wire from a command post up to three miles away, or by an eight-day clockwork timer. Anti-handling devices included a pressure hull and a simple tilt switch. If the pressure were lost, for example if gunfire pierced the hull, or the weapon was moved or filled with water, it would detonate in ten seconds.

The whole operational scenario appeared somewhat theatrical: the nuclear warhead had to be kept within a specific temperature range, but environmental trials suggested it might not have survived the rigours of a

mid-European winter. Keeping Blue Peacock warm involved swathing it in glass fibre pillows.

Assuming everything went to plan, the instruction manual predicted a yield of 10 kT, producing a crater 375 feet in diameter from a surface burst, or 640 feet if buried 35 feet below the surface.

By October 1957, the design of Blue Peacock was nearly complete, but at headquarters, reservations were now being voiced. The weapon was too large and heavy, and lighter warheads (such as Red Beard) were on the way; the fallout hazard was unacceptable; pre-positioning a nuclear weapon in an allied country was politically flawed and the weapon could not be stored in peacetime near to where it would be needed in war.

The writing was on the wall. In February 1958 the MoD Weapons Policy Committee decided that work on Blue Peacock should cease, but that the two inert prototypes should be retained. One is thought to have been tested to destruction; the other, having languished for many years at an RAF station, now has pride of place in AWE's Historical Collection, where it remains as striking testimony to the part played by the British Army in the development of our nuclear arsenal.

This article was written by David Hawkings, a regular contributor to Discovery, who was the manager of AWE's Historical Collection until his retirement in 2001.