



Atomic Annie

Introduction

On May 25, 1953, during the Operation Upshot-Knothole test series at the Nevada Test Site, now known as the Nevada National Security Site (NNSS), a milestone occurred in ordnance development. A 280-mm cannon, nicknamed Atomic Annie, fired the first and last nuclear projectile as part of the Grable test. The MK-9 artillery shell was propelled a distance of seven miles. It exploded in the air and had a yield of 15 kilotons (15,000 tons of TNT).



A 280 mm cannon nicknamed Atomic Annie fires a 15 kiloton nuclear projectile, which detonated 524 feet above Frenchman Flat. The familiar mushroom cloud occurred seven miles to the north of the cannon.

Deployment

Two 280-mm cannons were shipped by rail from Fort Sill, Oklahoma, to Las Vegas, Nevada, along with a twenty-eight man artillery crew. The cannons were transported to the Nevada Test Site, about 65-miles northwest of Las Vegas, where crews spent a month conducting firing practice before the nuclear projectile was actually fired.

According to Charles Ball, an Army Private at the time, "the two cannons were emplaced side by side just east of the Mercury Highway, about seven miles to the south of Frenchman Flat. Prior to our arrival, engineers had bulldozed a packed dirt road to take the weight of the two cannons. That was one of the drawbacks of the 280-mm cannon. Because it weighed 88 tons, it could only be driven on normal roads, or prepared surfaces."



One of the two 280 mm cannons fires a practice round at the Nevada Test Site.

Test Grable

Grable was the tenth test of Operation Upshot-Knothole. The nuclear projectile was detonated at 8:30 a.m. (PDT) on May 25, 1953. The projectile detonated 524 feet above Frenchman Flat. It is the only nuclear device ever fired from a cannon. After the test, the cannons and gun crews returned to Fort Sill.



Conclusion

Twenty cannons were eventually made, but over the years, the value of the 280-mm atomic cannon and the artillery shells it fired diminished appreciably. The military value of the enormously heavy cannon was limited because the cannon was confined to only the best paved roads. Also, the quick development of atomic capability in several smaller calibers (8 inch and 155mm) made the weapon obsolete.

Today, four cannons still exist. In addition to the original Atomic Annie at Fort Sill, three others can be seen at the National Atomic Museum, Albuquerque, New Mexico; Fort Riley, Kansas, and Aberdeen Proving Ground, Maryland.



One of the 280 mm cannon's is shown completely assembled at Nellis Air Force Base on May 18, 1953, where it had just arrived by rail from Fort Sill, Oklahoma. Although it weighed 88 tons, its carriage was an ingenious foundation carried between two wheeled transporters, which were capable of speeds up to 40 miles per hour.

Why a Cannon?

During World War II, the U.S. Army voiced a need for a mobile, long-range heavy artillery weapon capable of attacking enemy communication centers, field fortifications and as counter-battery fire on enemy long-range artillery. After the war, it became apparent that a cannon meeting such capabilities could have its firepower greatly enhanced with the simultaneous development and deployment of an atomic warhead artillery shell. The difficulty of the task was reducing an atomic device to fit a cannon.

In 1952, the largest piece of mobile artillery ever constructed in the United States was ready. The \$800,000 280-mm Atomic Cannon weighed 88 tons and was moved on a carriage fitted between two transporters capable of being driven at 40 miles per hour. The cannon could be set-up and ready to fire in 10 to 15 minutes.

For more information, contact:
U.S. Department of Energy
National Nuclear Security Administration
Nevada Field Office
Office of Public Affairs
P.O. Box 98518
Las Vegas, NV 89193-8518
phone: 702-295-3521
fax: 702-295-0154
email: nevada@nnsa.doe.gov
<http://www.nv.energy.gov>

