

Peacekeeper (MX) Tests

Introduction

The Peacekeeper (MX) is a four-stage intercontinental ballistic missile capable of carrying up to ten independently-targetable reentry vehicles with greater accuracy than any other ballistic missile. Its design combines advanced technology in fuels, guidance, nozzle design, and motor construction with protection against the hostile nuclear environment associated with land-based systems. Several Air Force Peacekeeper research and testing experiments took place from 1978 through 1982 in Area 25 of the Nevada Test Site.



Left, a mock 195,000-pound simulated MX missile, without propellents starts its 300-foot ascent from its launch tower. Middle, the missile continues its ascent. Right, the protective pads begin to fall away, the mock missile will soon start its descent into a large earthen pit about 100 feet downrange.

First Experiments

One of the first MX projects was the Vertical Shelter Ground System Definition Program which required construction of an 18-foot diameter, 130-foot deep vertical silo for missile loading and egress (exit) tests.

The egress mechanism was built to thrust a 348,000-pound simulated missile and canister out of the silo to a height of 40 feet above ground after it burst through a 50,000-pound layer of soil.

In addition, an extensive network of experimental roads was built to evaluate construction methods in native desert soils. Scientists needed to ensure the roads would accommodate the heavy loads associated with transporting 200 MX missiles among 4,600 shelters. These tests were part of the Multiple Protective Shelter System (more commonly referred to as the "shell game system" or "race track model"). This concept, if implemented, would have the missiles deployed over a rectangle encompassing about 42,000-square miles of Nevada and Utah.



The MX Canister Assembly Launch Test Program (CALTP), another experiment, was designed to test MX missile launch parameters. This program required extensive rehabilitation and modification to the research and development facilities in Area 25.

Construction to support the tests involved constructing a 125-foot assembly and launch tower, camera towers, auxiliary test pads for gas generator tests and missile component handling, and installation of a 200-ton, stiff-leg crane to support the project operations.

Rocket Launches

In the first of five launches in January 1982, a 71-foot-long, 92-inch-diameter, 195,000-pound missile, without propellants, was thrust more than 300 feet into the air at a 5-degree angle and nearly 100 feet down range into a large earthen pit.

The development program for the missile proceeded very rapidly. The inertial guidance system adopted for the missile (the AIRS) had already been under development for several years, and solid fuel engine technology had reached a high state of development. By late 1982 all four stages had been successfully tested on the ground.

Peacekeeper Retires

Due to arms reduction agreements between the U.S. and Russia, the range of the Peacekeeper missile was reduced below that originally planned. The Strategic Arms Limitation Talks II imposed weight restrictions which required removing some missile propellant, reducing the Peacekeeper's range. The Peacekeeper, as deployed, failed to achieve the program's range objectives.

Under the terms of the Strategic Arms Reduction Treaty (START) II (January 1993) all Peacekeeper missiles must be retired by 2004. Russian President Boris Yeltsin pledged that all of Russia's giant SS-18 ICBMs would be dismantled in exchange for retirement of the Peacekeepers.

The Air Force plans to extend the dismantlement of the missiles until 2007, removing one missile at a time. The 10 highly accurate and nuclear-hardened warheads from each missile are shipped to the Pantex Plant in Texas for storage, to join an ever-growing strategic reserve.



Above: A 340,000-pound simulated missile and cannister is thrust 40 feet above the ground after cutting through a layer of soil weighing 50,000 pounds.

Below: The top part of the cannister containing the simulated MX missile falls to the desert floor.



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