

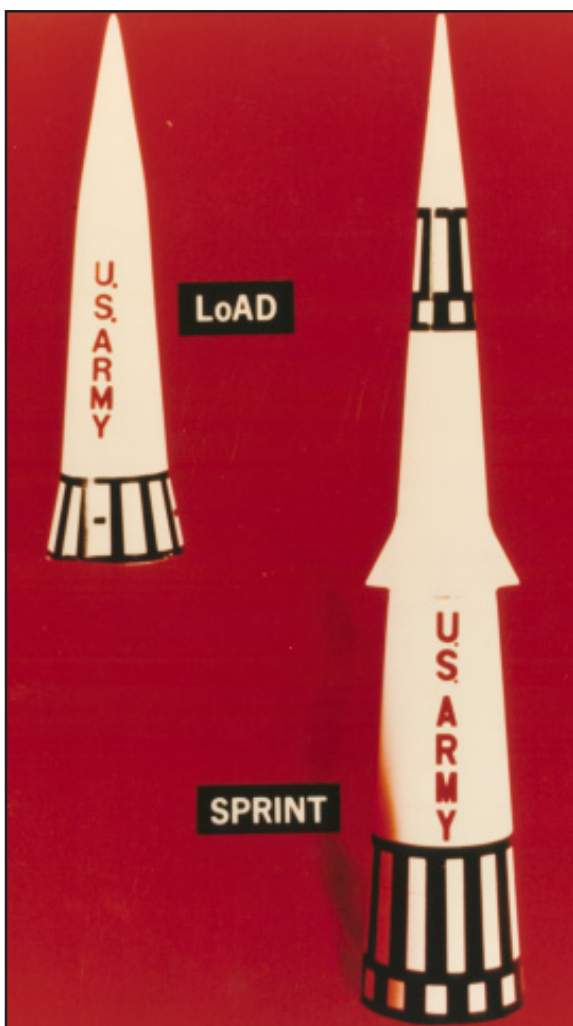
From LoAD to Sentry: Defense of the MX

SMDC/ARSTRAT Historical Office

In the 1970s, the Air Force developed a new ICBM — the Peacekeeper — known then as the MX.¹ In 1979, the Carter administration selected a unique horizontal multiple protective shelter basing mode and moved forward with full-scale development. The concept called for the deployment of 200 MX missiles in 4,600 hardened concrete shelters. The theory was that if the Soviets could not determine which silos held the 200 missiles, they would need to target all 4,600. To add to this the missiles and decoys would be mobile, periodically moving between shelters in the missile cluster.²

The Army proposed two alternatives to provide protection for the new deployment — the Low Altitude Defense or LoAD missile defense system and the Overlay. The Overlay designed for exoatmospheric intercepts could be deployed with an endoatmospheric or Underlay system to create a layered defense. The Overlay however was still in a technology exploration stage, with no detailed system design. The LoAD meanwhile was in a preprototype demonstration/technology development stage designed to determine the feasibility of low altitude BMD system concepts to provide point defense.

In contrast to earlier systems, i.e. NIKE-ZEUS and SAFEGUARD, the LoAD would track and engage the target below 50,000 feet.³ The proposed LoAD was composed of nuclear-armed interceptors designed to fit into the MX shelters and look like an MX or a decoy. One defensive unit (a missile, data processor and a phased array radar), would be hidden in each MX/decoy cluster. Strategists theorized that the enemy would need to target two warheads at each MX to counteract the potential intercept by the LoAD. Thus, the LoAD would require the attacker to target 46 reentry vehicles at each cluster of 23 shelters. To achieve these goals, the LoAD would need to be an integral part of the mobile MX system, indistinguishable from the MX itself, capable of operating in a nuclear effects environment.



Comparison of the LoAD to the SPRINT

In October 1981, the new Reagan administration revised the MX program to speed up deployment. President Reagan canceled the mobile basing plan and opted to limit the number of MX missiles and recommended using existing Titan II or Minuteman silos.

In the meantime, the LoAD progressed to the next phase and was redesignated the Sentry in 1982. The Sentry development program was developed to resolve key issues in system and subsystem design and verify the feasibility of the integrated system, assuring that the system could be developed and deployed rapidly if needed. The short term goal was to support all MX basing options. The long-term focus was to pursue endo-atmospheric non-nuclear kill capabilities. The BMD program was further defined by the Secretary of the Army John O. Marsh, in an action memo dated Aug. 2, 1982. In it he defined the two major elements of the BMD Program: (1) a steady research and development program and (2) to develop a defense for the MX missile system — the primary mission.

A significant change came on Nov. 22, 1982, in President Reagan's address to Congress and the Nation on the Deployment of the MX Missile. He specified a closely spaced basing system of 100 missiles in pre-existing silos at the F.E. Warren Air Force Base, Wyo. At the same time, the president stated "we do not wish to embark on any course of action that could endanger the current ABM treaty so long as it is observed by the Soviet Union." As a result, "we do not wish to build even the minimal ABM system allowed us by the treaty, even though the Soviets have done so."

As the debates continued in Congress and special commission reports, the first flight test for the MX came on June 17,



U.S. Army photo

Peacekeeper Reentry Vehicles descending over Kwajalein.

1983. During this test, the missile traveled 4,190 miles and delivered six unarmed re-entry vehicles on target sites in the Kwajalein Missile Range. Ultimately, 50 Peacekeepers were deployed at F.E. Warren Air Force Base with full operational capability in 1988.

In February 1983, however, the Sentry Interceptor Program, closely tied to the MX deployment, was terminated. Work on the data processing system and radar continued. The radar system, later renamed the Terminal Imaging Radar, was a predecessor to the current X-band radar. This was not the end for missile defense, however. One month later, President Reagan announced his concept for the Strategic Defense Initiative and ballistic missile defense entered a new chapter.

Footnotes:

1-The MX or Missile Experimental was a four-stage ICBM, measuring 70 feet long and 198,000 pounds, capable of carrying up to eleven independently-targetable reentry vehicles, but restricted by treaty to ten.

2-Each missile cluster would include 1 MX, 22 decoys, 23 shelters, a large transporter truck and 1 maintenance facility.

3-In comparison, the endoatmospheric interceptor operates between 100-300,000 feet altitude.

SMDC/ARSTRAT 50th Anniversary Reunion Picnic

SMDC/ARSTRAT Public Affairs

REDSTONE ARSENAL, Ala. — In honor of the U.S. Army Space and Missile Defense Command/Army Forces Strategic Command (SMDC/ARSTRAT)'s 50th Anniversary, the command is hosting a reunion picnic on July 11 at the NASA picnic Area here. The event will include games — such as softball, volleyball, horseshoes, and bingo — beginning at 9 a.m. A barbecue luncheon, catered by Gibson's, starts at 11 a.m.

The picnic is part of a yearlong celebration of 50 years of outstanding work in missile defense that SMDC/ARSTRAT has been coordinating through monthly events. Though the command's name has changed often, the dedication of its employees to the mission has not. The command wants to celebrate our 50th Anniversary with all of those who helped make it a success. Any employee who worked for the Redstone Anti-Missile Missile System Office, NIKE-ZEUS, NIKE-X,

SENTINEL, SAFEGUARD, Strategic Defense Command, Space and Strategic Defense Command, or the current SMDC/ARSTRAT is invited to attend the July picnic.

The cost of the luncheon is \$6.50 for adults and \$4.50 for children. The adult menu includes pork or chicken, coleslaw, baked beans, potato salad, rolls, and beverages. The children's menu offers the option of chicken fingers.

To order tickets, contact SMDC/ARSTRAT at P.O. Box 1500, ATTN: SMDC-FW (Kimbrough), Huntsville, Ala., 35807-3801. Please make checks payable to SMDC Fund and include a self-addressed stamped envelope. Deadline for ordering tickets is June 29.

We hope you will join SMDC/ARSTRAT in celebrating 50 years of excellence in missile defense, and we look forward to seeing you at the picnic!

For additional information, please contact Phil Patterson at (256) 955-1746 or pattersonp@smdc.army.mil.