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Thor/DMSP: Photograph courtesy of the Space and Missile
Heritage Center, Vandenberg Air Force Base, CA.

Space Launch Complex 10

A National Historic Landmark

Vandenberg Air Force Base

Origins

Space Launch Complex 10 (SLC-10) is one of three Thor launch complexes built on Vandenberg Air Force Base (VAFB) in the late 1950s. SLC-10 initially provided support to the Royal Air Force (RAF) Thor intermediate-range ballistic missile (IRBM) training program. As that program began to wind down in the early 1960s, the Air Force dismantled and transported the three pads at SLC-10 to Johnston Island in the Pacific to support nuclear testing activity and research into an operational anti-satellite system (ASAT) known as Program 437.

In 1963 SLC-10 was rebuilt on its original site at VAFB using equipment from dismantled Thor IRBM sites previously located in England. One rebuilt pad, known as SLC-10 East, supported crew training exercises. Another pad, SLC-10 West, initially supported missile testing and was later modified to support satellite launches. The third pad, designated LE-8, was intended to support space launches although the complex was never used.

Program 437

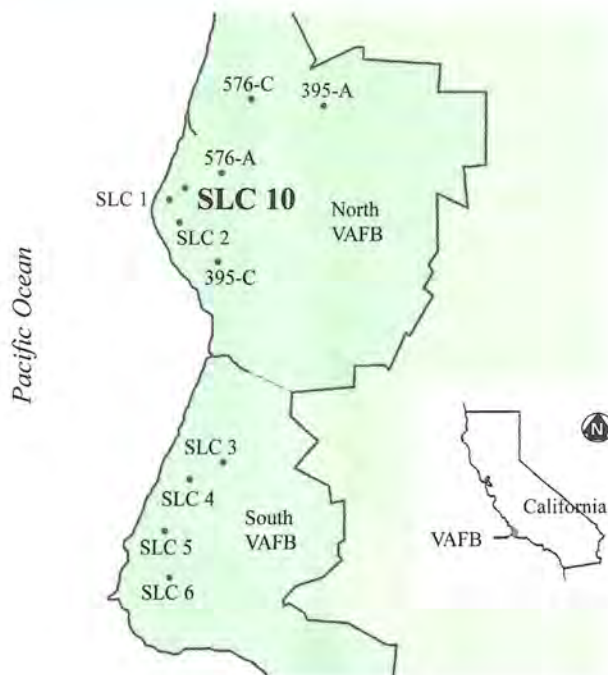
In the early 1960s, the Soviet Union was developing a capability of placing orbital nuclear weapons into space. This frightening prospect prompted the Air Force to begin Program 437, an effort to develop a system capable of destroying hostile enemy satellites and orbiting weapons. By June of 1963, the Air Force maintained two nuclear-armed Thor missiles at launch complexes on Johnston Island. Crews on 24-hour alert stood ready to launch these missiles against any hostile orbiting weapons. The training of these crews took place at the east pad of SLC-10.

As a classified effort, Program 437 was initially kept secret from the public. This changed when President Lyndon Johnson disclosed the existence of the Thor ASAT program while refuting claims that he was ignoring the threat posed by Soviet space weapons.

Program 437 was officially terminated on April 1, 1975 after the United States and the Soviet Union agreed to ban the orbiting of any nuclear weapons. Activities at SLC-10 East ceased when Program 437 ended.

Satellite Launches

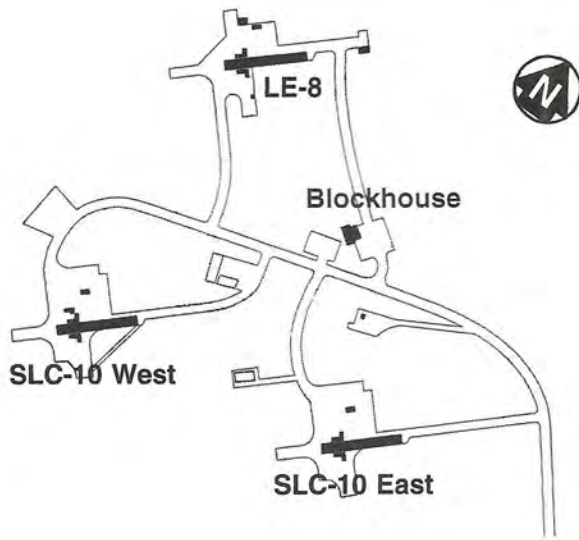
While SLC-10 East was supporting Program 437, SLC-10 West was busy supporting the Air Force satellite program. Many satellites launched from SLC-10 West by Thor boosters supported the Defense Meteorological Satellite Program (DMSP). DMSP satellites provide data to the entire Department of Defense and to the National Oceanic and Atmospheric Administration (NOAA). Weather information obtained from these satellites supported U.S. military planning and assisted in the detection and tracking of tropical storms. SLC-10 West supported military satellite launches until 1980. In July of 1981, the Air Force terminated the Thor space program and disbanded its launch crews.



A National Historic Landmark

The National Historic Preservation Act of 1966 (NHPA) recognized the need to identify and protect historic resources throughout the United States, and authorized the establishment of a National Register of Historic Places (NRHP). Particularly important properties are listed on the NRHP as National Historic Landmarks.

In 1984, the National Park Service (NPS) visited Vandenberg Air Force Base as part of a nationwide survey of military installations that played an important role in aerospace history. They were searching for sites that could be considered for inclusion in their "Man In Space" National Historic Landmark theme study. Initially, the NPS selected Vandenberg's Space Launch Complex-2 (SLC-2), the site of the first Thor launches, for designation as a National Historic Landmark (NHL). Further research showed, however, that SLC-2 had been radically altered from its original configuration. SLC-10 was put forward as an alternative site and, in 1986, the NPS voted to designate the complex a NHL as "the best surviving example of a launch complex built in the 1950s at the beginning of the American effort to explore space." That same year saw the establishment of the Vandenberg Space and Missile Heritage Center at SLC-10. The museum seeks to educate the public about the history of SLC-10 as well as the Cold War Legacy of Vandenberg Air Force Base.



Layout at SLC-10



Thor IRBM ready for launch

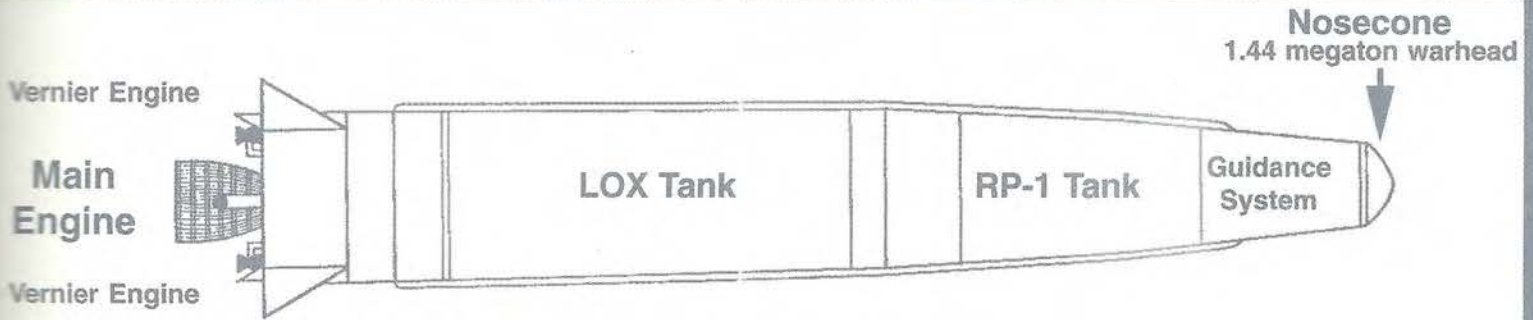
Thor Firsts:

- First operational ballistic missile in the free world
- First missile to be launched from Vandenberg Air Force Base
- First booster to launch a spacecraft into polar orbit
- First booster to launch a payload recovered from orbit
- First booster to launch a communications satellite
- First booster to launch a meteorological satellite
- First booster to launch a navigational satellite
- First long-range vehicle to record 100, 200, 300 and 400 launchings
- First missile system to have female launch crew members

Thor SM-75 IRBM

The Thor SM-75 intermediate range ballistic missile (IRBM) is 63 feet long and 8 feet in diameter at its base. The booster's fuel of RP-1 (high-grade kerosene) and LOX (liquid oxygen) make the liftoff

weight 109,000 pounds, of which 98,000 pounds are propellants. The Thor was designed to deliver a nuclear warhead to targets 300 to 1500 miles distant.



Blockhouse at SLC-10



SLC-10 Launch Shelter



Technicians at consoles inside SLC-10 Blockhouse



Workers preparing DMSP satellite inside Launch Shelter