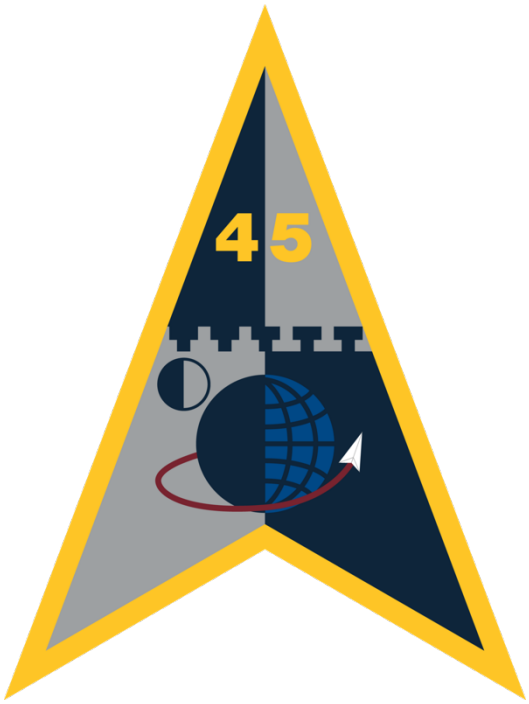
SPACE LAUNCH DELTA 45



MISSION

LINEAGE

Air Force Division, Joint Long Range Proving Ground established and organized, 1 Oct 1949
Redesignated Long Range Proving Ground Division, 16 May 1950
Redesignated Air Force Missile Test Center, 30 Jun 1951
Redesignated Air Force Eastern Test Range, 15 May 1964
Inactivated, 1 Feb 1977
Redesignated Eastern Space and Missile Center and activated, 1 Oct 1979
Redesignated 45 Space Wing, 12 Nov 1991
Redesignated Space Launch Delta 45, and concurrently changed status from a unit of the United States Air Force to a unit of the United States Space Force 11 May 2021

STATIONS

Patrick AFB, FL, 1 Oct 1949-1 Feb 1977
Patrick AFB, FL, 1 Oct 1979

ASSIGNMENTS

Headquarters Command, USAF, 1 Oct 1949
United States Air Force, 16 May 1950
Air Research and Development (later, Air Force Systems) Command, 14 May 1951
National Range Division, 15 May 1964
Air Force Systems Command, 1 Feb 1972-1 Feb 1977
Space and Missile Test Organization, 1 Oct 1979

Space Systems Division, 1 Oct 1989
9 Space Division, 1 Oct 1990
Air Force Space Command, 1 Oct 1991
Fourteenth Air Force, 20 Sep 1993
United States Space Force (later, Space Operations Command), 20 Dec 2019
Space Systems Command, 13 Aug 2021

COMMANDERS
Col Harold R. Turner, 1 Oct 1949
Maj Gen William L. Richardson, 10 Apr 1950
Maj Gen Donald N. Yates, 1 Aug 1954
Maj Gen Leighton I. Davis, 31 May 1960
Brig Gen Harry J. Sands Jr., 2 Jan 1964
Col Elmer W. Richardson, 17 Jul 1964
Maj Gen Vincent G. Huston, 12 Aug 1964
Maj Gen David M. Jones, 5 May 1967
Maj Gen Kenneth R. Chapman, 1 Jun 1973
Brig Gen James H. Ahmann, 25 Aug 1974
Col Dan D. Oxley, 25 Feb 1975
Brig Gen Don M. Hartung, 6 Apr 1975-1 Feb 1977
Col John S. Burkland, 1 Oct 79
Col Marvin L. Jones, 1 May 1981
Brig Gen Nathan J. Lindsay, 14 Dec 1984
Col John W. Mansur, 25 Jun 1986
Col Lawrence L. Gooch, 13 Aug 1987
Col Roy D. Bridges Jr., 23 Mar 1989
Col John R. Wormington, 27 Jan 1990
Brig Gen Jimmey R. Morrell, 23 Sep 1991
Maj Gen Robert S. Dickman, 30 Jun 1993
Brig Gen Donald G. Cook, 24 Jan 1995
Brig Gen Robert C. Hinson, 28 Aug 1995
Brig Gen F. Randall Starbuck, 27 Mar 1997
Brig Gen Donald P. Pettit, 20 Aug 1999
Brig Gen J. Gregory Pavlovich, 7 Jun 2002
Col Mark H. Owen, 26 Aug 2004
Brig Gen Susan J. Helms, 21 Jun 2006
Brig Gen Edward L. Bolton, Jr.
Brig Gen Anthony J. Cotton, Aug 2011

HONORS
Service Streamers

Campaign Streamers

Armed Forces Expeditionary Streamers

Decorations
Air Force Outstanding Unit Awards
1 Dec 1979-30 Nov 1981
1 Oct 1991-30 Sep 1992
1 Sep 1993-30 Aug 1995
1 Oct 1995-30 Sep 1996
1 Sep 1997-31 Aug 1998
1 Sep 1998-31 Aug 2000
1 Oct 2002-30 Sep 2004
1 Oct 2003-30 Sep 2004
1 Oct 2004-30 Sep 2005
1 Jan-31 Dec 2005
1 Oct 2005-30 Sep 2006
1 Dec 2006-30 Sep 2008
1 Oct 2008-30 Sep 2010

Air Force Organizational Excellence Awards
1 Jun 1986-31 Dec 1987
1 Oct 1988-30 Sep 1990
1 Oct 1990-30 Jun 1991

Meritorious Unit Commendation (Navy)
1 Jul 1967-26 Jul 1969

EMBLEM

Long Range Proving Ground Division emblem: On 16 March 1951, the Long Range Proving Ground Division received official approval for the use of its emblem. A shield of azure blue was emblazoned with a long-range guided missile of argent silver, spouting a flaming tail of red and

yellow hue. The blue represented the stratosphere and the guided missile, traveling with great speed and accuracy, denoted the mission of the Long Range Proving Ground Division.

Air Force Missile Test Center emblem: On 30 June 1951, the Division was redesignated the Air Force Missile Test Center. No official action was taken with respect to changing or redesigning the emblem, but several unofficial variations of the original emblem continued in use until a new emblem was approved for the Air Force Eastern Test Range on 19 July 1967. Symbolizing the changes that had occurred on the Eastern Range over the previous 17 years, the new Air Force Eastern Test Range emblem was a shield bordered in gold and divided into ultramarine blue and gold quadrants. Blue was used to symbolize the sky and space, and gold was used to symbolize the excellence required to conduct successful range operations.

Air Force Eastern Test Range

Air Force Eastern Test Range emblem: Dividing the shield horizontally, across its right half, was a line of "Ts" representing continuous testing of space vehicles. In the center of the shield, a large aquamarine and light blue globe represented Earth. A smaller globe, in the same colors, symbolized the moon and other planets. Nine pimento red flight arrows indicated the normal equatorial departure routes for missiles and space vehicles on the Eastern Range. They also symbolized travel to other planets, as depicted by the smaller globe. Red was chosen for the flight arrows to indicate the stresses of launch and space flight and the heat of reentry into Earth's atmosphere. A string of white "clouds" across the center of the large globe represented abnormal conditions weather and radiation with which range personnel had to contend. The cloud symbol was also interpreted as the string of radomes and theodolites located throughout the Eastern Range.

Eastern Space and Missile Center

On 16 March 1951, the Long Range Proving Ground Division received official approval for the use of its emblem (shown opposite). A shield of azure blue was emblazoned with a long-range guided missile of argent silver, spouting a flaming tail of red and yellow hue. The blue represented the stratosphere and the guided missile, traveling with great speed and accuracy, denoted the mission of the Long Range Proving Ground Division.

On 30 June 1951, the Division was redesignated the Air Force Missile Test Center. No official action was taken with respect to changing or redesigning the emblem, but several unofficial

variations of the original emblem continued in use until a new emblem was approved for the Air Force Eastern Test Range on 19 July 1967

Symbolizing the changes that had occurred on the Eastern Range over the previous 17 years, the new Air Force Eastern Test Range emblem was a shield bordered in gold and divided into ultramarine blue and gold quadrants. Blue was used to symbolize the sky and space, and gold was used to symbolize the excellence required to conduct successful range operations

Eastern Space and Missile Center : Per pale argent (silver gray) and or in dexter chief a planet and nine mullets argent and in sinister chief a satellite with contrail argent (silver gray) detailed white, issuing from base a demisphere per pale dark green outlined and grid-lined light green and light green outlined and grid-lined argent; over all a deltoid palewise per pale argent and azure all within a diminished bordure or. **SIGNIFICANCE:** The blue and white deltoid represents the military and civilian space programs supported by the Range. The globe indicates the readiness of the Range to support worldwide operations on a 24-hour basis. The yellow field symbolizes the radar operations of the Range for both launch operations and tracking of earth-orbiting satellites. The silver field symbolizes telemetry support provided by the Range during launch and on-orbit operations. The stars and planet allude to the exploration of space supported by the Range--past, present, and future. (Approved, 21 April 1987)

45 Space Wing emblem: The blue is used to symbolize the sky and space, while the gold is used to symbolize the excellence required to conduct successful range operations. Dividing the shield horizontally, across its right half, is a line of "Ts", which were adopted from previous patches reflecting the history of the wing's installations as a test center for missiles and space vehicles. In the center of the shield, a large aquamarine and light blue globe represents Earth. A smaller globe, in the same colors, symbolizes the moon and other planets. Nine pimento red flight arrows indicated the normal equatorial departure routes for missiles and space vehicles on the Eastern Range. They also symbolize travel to other planets, as depicted by the smaller globe. Red was chosen for the flight arrows to indicate the stresses of launch and space flight and the heat of re-entry into Earth's atmosphere. A string of white "clouds" across the center of the large globe represent abnormal conditions, weather and radiation with which range personnel have to contend. The cloud symbol is also interpreted as the string of radomes and theodolites located throughout the Eastern Range.

Space Force emblem approved, 8 Nov 2023.

MOTTO
DE ASTRA--From the Stars

OPERATIONS
In October 1946, the Joint Research and Development Board (under the Joint Chiefs of Staff) established the Committee on the Long Range Proving Ground to study possible locations for the Joint Long Range Proving Ground. The committee considered northern Washington state (with a range along the Aleutian Islands), El Centro California (with a range down the coast of Baja California), and the Banana River Naval Air Station (with launching sites at Cape Canaveral and a range over the Bahamas). The idea of an Aleutians range was rejected very quickly it would be too cold, too remote and too difficult to support. After weighing all the options, the committee selected El Centro as its first choice for the Joint Long Range Proving Ground. Cape Canaveral was offered as the committee's second choice. The choices were approved in September 1947, and the Joint Long Range Proving Ground Group was created to carry out the committee's recommendations.

The California range would have been very convenient for American aerospace contractors, but it had to be abandoned as an option after Mexico's President Aleman refused to allow missile flights over Baja California. The British, on the other hand, were willing to allow missile flights near the Bahamas, and they later agreed to lease land to the Americans for their range stations. As a potential hub for missile launching operations, the Cape was remote from heavily populated areas, but it was accessible and supportable by road, waterway and railway transportation. Aside from bouts of wet weather and thunderstorms, the climate was generally sunny and warm. The Banana River Naval Air Station was only 20 miles from the Cape, and it would make an excellent support base for the Eastern Range.

While negotiations with the British continued, enabling legislation for the Joint Long Range Proving Ground was passed by the 81st Congress and signed by President Truman on 11 May 1949. The Bahamian Agreement, which allowed the establishment of range stations in the Bahamas, was signed by the British on 21 July 1950. Anticipating those developments, the Navy transferred the Banana River Naval Air Station to the Air Force on 1 September 1948. The station remained in standby status, but it was renamed the Joint Long Range Proving Ground (JLRPG) Base on 10 June 1949. On 1 October 1949, the Advance Headquarters, Joint Long Range Proving Ground and the Air Force Division, Joint Long Range Proving Ground were established. On the same date, the Joint Long Range Proving Ground Base was transferred from Air Materiel Command to the Air Force Division of the Joint Long Range Proving Ground.

In the spring of 1950, the Defense Department announced the re-delegation of guided missile test centers from joint service commands to separate branches of the military service. As a result of that decision, the Air Force Division, Joint Long Range Proving Ground was redesignated the Long Range Proving Ground Division on 16 May 1950. The Long Range Proving Ground Division replaced the JLRPG Command, and it gained jurisdiction over the launching area at Cape Canaveral and the Bahama downrange facilities. The Long Range Proving Ground Division was given major air command status, and, as such, it reported directly to the Chief of Staff of the Air Force. Its mission was to establish, operate and maintain the Long Range Proving Ground.

On 9 May 1950, work began under a contract with the Duval Engineering Company (Jacksonville, Florida) to build the Cape's first paved access road and its first permanent launch site. Construction on Port Canaveral got underway in July 1950. The Bahamian Agreement was signed by the British on 21 July 1950, and that agreement permitted construction on the Eastern Range's first island stations. By July 1954, Cape Canaveral Auxiliary Air Force Base had missile assembly buildings, a central control station and four launch complexes to support MATADOR, BOMARC, SNARK and REDSTONE missile flights. Jupiter Auxiliary Air Force Base had been developed south of Patrick to help guide MATADOR flights downrange. By the end of 1954, the Eastern Range had an operational tracking station on Grand Bahama Island, and other stations were under construction on the islands of Eleuthera,, San Salvador, Mayaguana and Grand Turk. Range stations were also being built in the Dominican Republic and Puerto Rico, approximately 1,000 miles southeast of the Cape.

On 14 May 1951, the Long Range Proving Ground Division was relieved as a separate operating agency under Air Force Headquarters, and it was assigned to the newly created Air Research and Development Command (ARDC). As such, the Division was equivalent to a numbered air force. In addition to staff agencies for personnel, materiel and finance, the Division had the Directorate of Technical Operations (manned principally by civilian technicians, but reinforced with one Air Force squadron). The Division also had the 6555th Guided Missile Wing and the Base Commander's organization.

The Division was redesignated the Air Force Missile Test Center (AFMTC) on 30 June 1951. Over the next two months, the Center was reorganized to conform to ARDC guidelines. By early September 1951, AFMTC was composed of a headquarters and six wing-level organizations. The resources and functions of the old Directorate of Technical Operations were used to create three new wing-level organizations: 1) the 6541st Missile Test Wing, 2) the Technical Training Division and 3) the Technical Systems Laboratory. The Technical Training Division was discontinued on 1 February 1952, and the Technical Systems Laboratory was discontinued on 1 April 1954.

Though Air Force personnel operated tracking systems on the Eastern Range through December 1953, cost comparison studies undertaken two years earlier pointed out the desirability of letting contractors operate the Cape and the downrange stations. The first range contract was signed with Pan American World Services on 31 December 1953. Pan American signed its own contract with RCA to make the latter responsible for operating and maintaining range stations and tracking systems as of 28 February 1954. The Air Force Missile Test Center began transferring property and equipment to Pan American at the end of 1953.

The Air Force Eastern Test Range supported a wide variety of missile and space programs in the 1960s, but the demise of the APOLLO space program and the end of land-based ballistic missile development at the Cape signaled a downturn in AFETR's fortunes. While range support for the U.S. Navy's submarine ballistic missile programs continued, a dramatic shift in AFETR's responsibilities occurred on 1 February 1977. On that date, AFETR was inactivated and the 6550th Air Base Group assumed host responsibilities for Patrick AFB as the 6550th Air Base Wing. The Air Force Eastern Test Range's other resources were consolidated as Detachment 1 of the Space and Missile Test Center (SAMTEC). Detachment 1 became a tenant unit at Patrick, and it reported to SAMTEC at Vandenberg AFB, California.

Detachment 1 took no part in the 45 Space Wing's heritage, and it may be viewed as a short-term organizational experiment in an era of budget austerity. The Eastern Space & Missile Center succeeded Detachment 1 on 1 October 1979. The new center reported to the Space and Missile Test Organization (SAMTO) at Vandenberg. It was formed by gathering AFETR's splintered resources and adding the 6555th Aerospace Test Group as a subordinate organization. Under ESMC, the 6550th Air Base Wing's resources were reconstituted as the 6550th Air Base Group. Detachment 1's resources became a new group-level Eastern Test Range organization not to be confused with AFETR. The new ETR organization requested a group-level emblem in August 1986, and the Eastern Test Range shield was approved in April

1987.

During 1991, ESMC, the 9th Space Division, AFSPC and USAF Headquarters worked out the details of ESMC's transformation into an operational wing. Following the final resolution of loose ends, the new wing organization was approved. It was activated as the 45 Space Wing on 12 November 1991. Under the objective wing concept, the 45 Space Wing had four groups to carry out operations, support, logistics and medical functions.

The 45 Space Wing began implementing a new standard wing organization in October 2002. Effective 1 October 2002, the 45 Logistics Group became the 45 Maintenance Group, and the 45 Support Group became the 45 Mission Support Group.

In order to handle space operations more effectively, senior officials at Air Force Space Command, 14th Air Force, the 30th Space Wing, and the 45 Space Wing agreed to fine tune the new standard wing organization in 2003. Following approval, an organizational transformation was implemented on 1 December 2003. As a result of the transformation, the 45 Maintenance Group was inactivated, and the 45 Launch Group was constituted and assigned to Air Force Space Command with further assignment to the 45 Space Wing.

The 45th Space Wing at Patrick Air Force Base, Fla., provides space launch and tracking facilities, safety procedures and test data to a wide variety of users. The wing also provides launch operations and management of DOD space programs, as well as launch and tracking facilities for NASA, foreign governments, the European Space Agency and various private industry contractors. The wing launches a variety of expendable vehicles, including the Delta II, Atlas II and Titan IV, and provides support to the space shuttle program. It also operates Cape Canaveral Air Force Station, Fla., and the Eastern Range.

Patrick operates the Eastern Range, 15 million square miles (five times the size of the continental United States) of land, air and sea space through which launch vehicles must pass to reach orbit Operating the range entails managing the many resources used to provide safe passage to space. This includes range instrumentation used for tracking and command destruct, providing for personnel safety both on the ground and in the air and managing and directing all wing communications and scheduling operations.

The men and women of the 45 SW also provide significant safety, range and contingency support to NASA and the space shuttle/International Space Station programs, as well as providing logistics support to the Naval Ordnance Test Unit's missile tests and submarine operations at Cape Canaveral.

The wing's more than 9,000 government and contractor personnel are located at Patrick AFB, Cape Canaveral AFS, the Malabar and Jonathan Dickinson Missile Tracking Annexes in Florida, Antigua Air Force Station in the Caribbean and Ascension Auxiliary Air Field off the coast of Africa.

The 45 SW provides combat effects to warfighters by launching various payloads to their required orbits on Delta II, Delta IV and Atlas V boosters. The Atlas V and Delta W family of Evolved Expendable Launch Vehicles, known as EELVs, are part of a new era of spacelift vehicles that will serve as the primary vehicles to lift national military space assets along with civil, commercial and scientific payloads into space for the foreseeable future from Cape Canaveral AFS. EELVs are designed to improve the United States' access to space by making space launch vehicles more affordable and reliable.

DEPARTMENT OF THE AIR FORCE UNIT HISTORIES
Created: 10 Sep 2011
Updated: 17 Jan 2024

Sources

Air Force Historical Research Agency. U.S. Air Force. Maxwell AFB, AL.