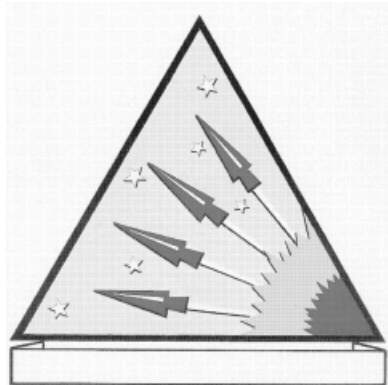


# **46<sup>th</sup> AIR DEFENSE MISSILE SQUADRON (BOMARC)**



## **LINEAGE**

Organized 1 JAN 1959

46<sup>th</sup> Air Defense Missile Squadron (BOMARC)

## **STATIONS**

HURLBURT FIELD, FL

McGuire AFB, NJ, 1 Jan 1959-31 Oct 1972

## **ASSIGNMENTS**

## **WEAPON SYSTEMS**

BOMARC

## **COMMANDERS**

LTC Ernest B. Shepard, #1960

## **HONORS**

**Service Streamers**

**Campaign Streamers**

**Armed Forces Expeditionary Streamers**

**Decorations**

## **EMBLEM**

## **EMBLEM SIGNIFICANCE**

## **MOTTO**

## **NICKNAME**

## **OPERATIONS**

Organized on paper 1 January 1959, the 46th Air Defense Missile Squadron became a reality on 25 March 1959, when the Commanding Officer, Lt. Col. Ernest B. Shepard and other key personnel arrived at Hurlburt Field, Florida. The new squadron was composed of cross-trainees, factory trainees, retrainees, and a few other strains. The Unit Training Program, with the 4751st Air Defense Missile Squadron technicians acting as instructors, was established for a four months duration. The training program was divided into three phases. During the first phase, the new "Cadre" missilemen were indoctrinated in the Air Defense structure of which the Bomarc IM-99A Weapons System would become an integral part, and delved into the varied aspects of missile operations. Detailed explanation was given of the SAGE, (the controlling agency), Bomarc maintenance and supply concepts, health hazards, and ground safety. In the second phase, the men of the 46th entered into "Team Training" with their 4751st counterparts; working side by side to obtain specific job knowledge of the complex systems. The third and final phase unfolded when Major James C. Cuddington, 46th ADMS Executive Officer, received a Flag Order directing the 46th to accept, maintain, and process four Bomarc missiles into a firing configuration. The successful completion of this final phase culminated the training program at Hurlburt Field, and demonstrated the new squadron's ability to function as a Tactical Unit.

Now, the 46th has set up housekeeping in a seventy-five acre patch about 12 miles east of McGuire AFB; 7 miles west of Lakehurst, N. J. The site is composed of missile support buildings, an administration building, and the Launch Area. The launch area, or firing line, contains 4 rows of 14 concrete shelters. In each of the shelters lies a dormant Bomarc Missile, requiring periodic maintenance checks to insure its rapid firing capability. Now, just barely a year old, the 46th numbers over 300 officers and airmen. The squadron has met or surpassed every operational requirement placed upon it by higher headquarters this far, and has assumed an enviable position in the weapons family of the Air Defense Command.

The article on 1950s Air Force missiles in the May 2004 issue of *Airpower* evoked a number of memories and stimulated my digging into newspaper clippings and magazine articles about what could have been a nuclear nightmare. On the afternoon of Tuesday, June 7, 1960 I returned home from high school to find my mother with a worried look on her face. She did not want to scare me, but told me that a radio bulletin had just hinted that there was "a nuclear explosion in New Jersey." Having heard my parents retell the story of how, in 1938, Orson Welles' radio adaptation of the science fiction novel *The War Of Worlds*, set in Gravers Mill, New Jersey, had stimulated mass hysteria, I was quite skeptical that the radio station had gotten the story right.

Fortunately, by late that evening, the facts began to emerge. At 3:15 pm, a fire broke out in a Bomarc missile launch shelter located in an annex of McGuire Air Force Base. At the time of the fire the IM-99A Bomarc-A missile was armed with a 10 kiloton W-40 nuclear warhead. The Bomarc-A employed an Aerojet General LR59-AJ-13 liquid-fueled booster and two Marquardt RJ43-MA-3 ramjets for sustained flight. The liquid-fueled booster rockets used hypergolic fuel, meaning that the red fuming nitric acid oxidant and aniline fuel spontaneously explode when mixed. The fuels were stored on board the missile and a helium tank was pressurized at the time of alert during the 15 seconds it took to erect the missile into a vertical launch position. Every 90 days, the missiles were de-fueled, decontaminated and then re-fueled using pressurized helium to

'push' the propellants out of their tanks.

McGuire Air Force Base was honored as being the first of 10 Bomarc missile sites built to defend the eastern United States, and their 46th Air Defense Missile Squadron was activated in September 1959. The 46th ADMS had a complement of 60 Bomarc-A missiles and 56 launch shelters, each containing a fueled, nuclear-armed IM-99A missile. McGuire was one of three sites that later gained a complement of longer-range, solid booster, Bomarc-B (IM-99B) missiles, housed in 28 shelters, just north of the Bomarc-A site.

On that balmy spring afternoon in 1960, the Bomarc-A in launch shelter No. 204 suffered a failure of the pressured helium tank. The ensuing pressure shock ruptured propellant tanks causing their contents to spontaneously ignite, and the fire caused the remaining fuel to explode. The explosion sent shrapnel flying and blew off the shelter's corrugated steel roof and steel blast doors. The fire burned fiercely, spewing 20-foot-long blowtorch like flames and black smoke drifted southward, but fortunately there was no telltale 'mushroom cloud'. The intense fire lasted about 45 minutes, destroying the missile and its launch equipment, and melting the shelter's steel structural beams so that they sagged. Unfortunately, when the fire first erupted, an Air Police sergeant stationed at the Plumsted, NJ base excitedly reported the incident to State Police, possibly using the term "atomic explosion," although the exact words spoken were lost in the ensuing commotion. The next day, the commander of the New York Air Defense Sector offered his personal apology for the miscue.

The fire was confined to that one shelter, and none of the neighboring shelters about 30 feet away were affected. It was the fail-safe design of the missile, which prevents the unintentional arming of the nuclear warhead on the ground, that saved New Jersey (and perhaps the eastern part of the United States) from a nuclear disaster. In addition, the bravery and swift response of the McGuire AFB, Fort Dix and local volunteer fire fighters, as well as the Military Police, New Jersey State Police and local emergency personnel, isolated the area to prevent any spread of the fire and potential radiation despite their own potential radiation exposure.

Firefighters continued to pump water on shelter 204 throughout the night to cool down the remains and allow inspection by Air Force and Atomic Energy Commission experts. They found that the fire had caused the missile's aluminum structure to melt and more surprisingly, the nuclear warhead fell into the conflagration and it too was partially melted! By examining the remains of the warhead, the radiation and weapons specialists determined that between 2 and 11 ounces of oxidized plutonium were unaccounted for. Amazingly, a tank of tritium, a heavy hydrogen isotope used to trigger the nuclear reaction, was recovered intact.

Inside the shelter, inspectors needed special suits with respirators to protect them from plutonium's alpha radiation, which registered over 2 million counts per minute. In order to further contain the radiation, the remaining shelter structure and floor were sprayed with a special, thick paint that effectively formed a barrier to the alpha radiation (a far less strong penetrator than the gamma radiation emitted if the warhead had actually detonated). In addition, four inches of concrete was poured on the apron surrounding the entrance to shelter 204. Subsequent exterior measurements showed almost 0 counts per minute. The area around the shelter was fenced off and the McGuire Bomarc base remained active until all Bomarc missiles were decommissioned in 1972.

There still are ramifications from this Cold War incident felt today. The water used to cool the smoldering shelter ran off into a drainage ditch, and although the level of radiation in the surrounding area is higher than normal, it is not particularly hazardous. The Air Force has contracted for the demolition of shelter 204, the digging up of the ground around the shelter to a depth of 20 feet, and the excavation of the drainage ditches and runoff area. As this is being written, work continues on the nearly 9,000 cubic yards of slightly radioactive debris which is being trucked to nearby Lakehurst NAS and loaded onto railcars for shipment to a nuclear waste site in Utah.

46th Air Defense Missile Sq (BOMARC): activated 1 Jan 59 at McGuire AFB, NJ, assigned to the NY ADS; transferred to the 21st AD 1 Apr 66; reassigned to the 35th Air Division 1 Dec 67; reassigned to the 21st AD 19 Nov 69; inactivated 31 Oct 72 3 Aug 72.

Bomarc A Units  
McGuire AFB, NJ 46th ADMS  
Bomarc B Units  
McGuire AFB, NJ 46th ADMS

46th Air Defense Missile Squadron  
McGuire AFB  
CIM-10 Bomarc 1959-1972  
1959-1972

Both first and last operational BOMARC squadron. Re-designated as the 46th Tactical Missile Squadron on 19 September 1985 while remaining inactive.



46 TROOP CARRIER SQ

The squadron was inactivated on 31 October 1972, one of the last two BOMARC missile squadrons inactivated.[3]

The BOMARC missile site was located 4 miles (6.4 km) east-southeast of McGuire AFB at

40°02′06″N 074°26′29″W. Although geographically separated from the base, it was an off base facility of McGuire and the squadron received administrative and logistical support from McGuire.[7]

[edit] Consolidation

The 46th Troop Carrier Squadron and the 46th Air Defense Missile Squadron were consolidated on 19 September 1985 as the 46th Tactical Missile Squadron while remaining inactive.[6]

[edit] Lineage

46th Troop Carrier Squadron

Constituted as the 46th Transport Squadron on 30 May 1942[1]

Activated on 15 June 1942[1] Redesignated as the 46th Troop Carrier Squadron on 4 July 1942[1] Redesignated as the 46th Troop Carrier Squadron (Medium) on 10 August 1948[1] Inactivated on 1 April 1949[1] Consolidated with the 46 Air Defense Missile Squadron on 19 September 1985

46th Air Defense Missile Squadron

Constituted as the 46th Air Defense Missile Squadron (BOMARC) on 10 Dec 1958 Activated on 1 Jan 1959[3] Inactivated on 31 Oct 1972[3] Consolidated with the 46 Troop Carrier Squadron on 19 September 1985

[edit] Assignments

317th Transport Group (later Troop Carrier Group), 15 June 1942[1]

Fifth Air Force, 18 August 1948 - 1 April 1949 (attached to 317th Troop Carrier Wing, 18 August 1948, 6146th Station Group, 1 October 1948, 374th Troop Carrier Group, 5 March 1949 - 1 April 1949[1])

New York Air Defense Sector, 1 Jan 1959[3]

21st Air Division, 1 Apr 1966[3]

35th Air Division, 1 Dec 1967 - 1 Oct 1972[3]

[edit] Stations

Duncan Field, Texas, 15 June 1942[1]

Bowman Field, Kentucky, 19 June 1942[1]

Lawson Field, Georgia, 10 October 1942[1]

Laurinburg-Maxton Airport, North Carolina, 3–12 December 1942[1]

Garbutt Field, Australia, 23 January 1943[1]

Port Moresby Airfield Complex, Papua New Guinea, 1 October 1943[1]

Finschhafen Airfield, Papua New Guinea, 19 April 1944[1]

Hollandia Airfield Complex, New Guinea, 5 July 1944[1]

Tanauan Airfield, Leyte, Philippines, 19 November 1944[citation needed]

Clark Field, Luzon, Philippines, March 1945[1]

Kadena Airfield, Okinawa, 19 August 1945[citation needed]

Seoul Airport, Korea, 19 October 1945[1]

Tachikawa Airfield, Japan, 19 January 1946[1]

Kimpo Airfield, Korea, 10 July 1946[1]

Matsushima Air Field, Japan, 1 August 1948[1]

Tachikawa AB, Japan, 1 October 1948-1 April 1949[1]

McGuire AFB, New Jersey, 1 Jan 1959-1 Oct 1972[3]

[edit] Awards

Distinguished Unit Citation[1]

Papua New Guinea, 30 January 1943 - 1 February 1943 Philippine Islands, 16 February 1945 - 17 February 1945

Philippine Republic Presidential Unit Citation[1]

Asiatic Pacific Theater[1]

Campaigns

Papua New Guinea Northern Solomons Bismark Archipelago  
Western Pacific Leyte Luzon Southern Philippines

World War II Army of Occupation[8]

[edit] Aircraft and missiles

C-47 Skytrain, 1942–1945

C-46 Commando, 1945–1949

IM-99 (later CIM-10) BOMARC, 1959-1972



---

Air Force Order of Battle

Created: 3 Aug 2011

Updated:

Sources

Unit History. New York Air Defense Sector. 1960