

**sac**

**missile**

**chronology**

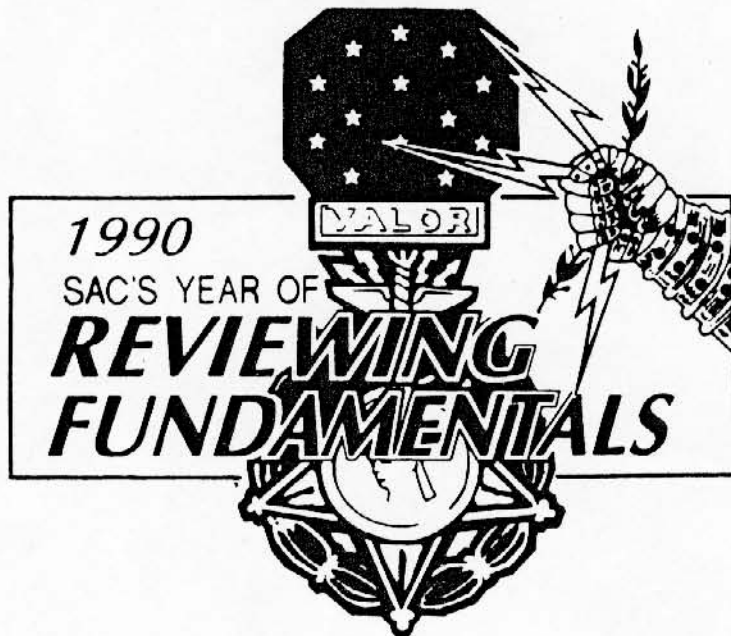
1990  
SAC'S YEAR OF  
**REVIEWING  
FUNDAMENTALS**



**1939 - 1988**

OFFICE OF THE HISTORIAN  
HQ STRATEGIC AIR COMMAND  
OFFUTT AFB, NEBRASKA

# SAC MISSILE CHRONOLOGY 1939 - 1988



1 MAY 1990  
OFFICE OF THE HISTORIAN  
HEADQUARTERS STRATEGIC AIR COMMAND  
OFFUTT AIR FORCE BASE, NEBRASKA

## MISSILE CHRONOLOGY OF THE STRATEGIC AIR COMMAND

### 1939

1 July           The Committee on Army Air Corps Research of the National Academy of Sciences sponsored a \$10,000 research program at the California Institute of Technology's Rocket Research Project for the development of rockets for aircraft assisted takeoffs.

### 1940

28 May           Dr. Robert H. Goddard, the American rocket pioneer, offered all of his research data, patents, and facilities for use by the military services at a meeting with representatives of Army Ordnance, Army Air Corps, and the Navy's Bureau of Aeronautics. Nothing resulted from this meeting except an expression of interest on the part of the military representatives of the possible use of rockets for aircraft assisted takeoffs.

July             The National Defense Research Committee established the Jet Propulsion Research Committee at the Naval Powder Factory, Indian Head, Maryland, to conduct fundamental research on rocket ordnance, Mr. C. N. Hickman, who had worked with Dr. Goddard during World War I, was named as head of the new committee.

### 1943

September       The Rocket Development Branch of Army Ordnance was created to direct and coordinate the development of rockets for military use.

November         Dr. Theodore von Karman, Director, Guggenheim Aeronautical Laboratory, California Institute of Technology (Cal Tech), submitted a proposal to Army Ordnance for the development of long-range, surface-to-surface missiles.

November         In response to known German advances in rocketry, General Henry H. "Hap" Arnold, Chief of the Army Air Forces, directed that emphasis be given to the research, development, and procurement of guided missiles.

### 1944

1 January         At the request of Army Ordnance, Cal Tech's Guggenheim Aeronautical Laboratory stated a research and development program on long-range missiles (Project ORDCIT). This eventually resulted in the development of Private "A" and Corporal missiles.

1944

- July Northrop Aircraft Inc. received a contract from the Army Air Forces to develop a jet-propelled pilotless wing type aircraft (JB-1) superior to the German V-1 in range, accuracy, and bomb load.
- 8 September The first prototype of the JB-2, essentially a copy of the German V-1, was assembled at a plant of the Republic Aviation Corporation.
- 2 October Lieutenant General Joseph T. McNarney, Army Deputy Chief of Staff, approved a War Department General Staff policy statement allocating development responsibilities within the guided missile field to the Army Air Forces, the Army Service Forces, and the Army Ground Forces. Under the provisions of this policy statement, soon known as the McNarney Directive, the Army Air Forces was assigned development responsibility for surface-launched missiles that depended primarily upon momentum for sustained flight. Both the Army Air Forces and the Army Service Forces would be responsible for the development of their own integral missile components such as propulsion and control subsystems. The Army Service Forces technical services, however, would be used by both organizations to develop warheads, non-integral launching devices, and ground portions of the control system. The Army Ground Forces would prepare statements of guided missile military characteristics in accordance with what it deemed its requirements. It would then, in turn, ask either the Army Air Forces or Army Service Forces to develop the missile. For the time being, the Army Chief of Staff would make no operational responsibility assignments until a missile approached operational status.
- October Flight testing of JB-2s began at Eglin Field, Florida.
- October General Arnold ordered the production of enough JB-2s to permit a launch rate of 1,000 per month. This order was countermanded by the War Department General Staff because of the disruption it would cause in the production of essential war materiel.
- 1 November The nation's first center devoted to the research and development of rocket propulsion systems, founded at Cal Tech in 1936, was reorganized and renamed the Jet Propulsion Laboratory (JPL).
- 1-16 December Only 11 months after the start of Project ORDCIT, 24 Private "A" rockets were launched by the JPL at Camp Irwin, California. The private "A", a solid fuel rocket, was the first U.S. military ballistic missile.

1944

7 December Flight testing of the JB-1 was initiated by Northrop Aircraft Inc.. An improved version of the JB-1, the JB-10, was developed and tested in 1945.

1945

June The Army Ground Forces Equipment Review Board recommended that increased emphasis should be placed on the development of guided missiles.

August The first successful chemical-gas, generator-driven, turbo-pump fed, regeneratively-cooled rocket engine (XCALT-6000) was delivered to the Army Air Forces by the Aerojet-General Corporation.

15 September Production contracts for the JB-2 were terminated after 1,391 had been delivered to the Army Air Forces.

26 September The first development flight of an Army WAC Corporal missile took place at the White Sands Proving Ground, New Mexico. Built by the Douglas Aircraft Company and Aerojet-General Corporation under the supervision of the Jet Propulsion Laboratory, it was the first liquid-propellant rocket developed with U.S. Government funds.

October-December The Army Air Forces Air Technical Service Command solicited proposals from between 15 and 30 contractors on a ten-year research and development program for four categories of missiles, including long-range strategic missiles.

1946

9 January Northrop Aircraft Inc. proposed to the Army Air Forces to conduct a research study of a subsonic surface-to-surface air-breathing, six-turbojet missile with a range of about 3,000 miles.

26 January The First Experimental Guided Missiles Group was created by the Army Air Forces to develop and test missiles at Eglin Field, Florida.

21 March The Strategic Air Command was established as one of the three major combat commands of the United States Army Air Forces. General Carl Spaatz, Commanding General of the Army Air Forces, defined the new command's first mission as follows:

1946

"The Strategic Air Command will be prepared to conduct the long range offensive operations in any part of the world either independently or in cooperation with land and naval forces; to conduct maximum range reconnaissance over land or sea either independently or in cooperation with land and naval forces; to provide combat units capable of intense and sustained combat operations employing the latest and most advanced weapons; to train units and personnel for the maintenance of the Strategic Forces in all parts of the world; to perform such special missions as the Commanding General, Army Air Forces may direct."

Creation of the new command was achieved by redesignating Headquarters Continental Air Forces, Bolling Field, Washington, D.C., as Headquarters Strategic Air Command. On 21 October 1946, Headquarters SAC was relocated from Bolling Field, Washington, D.C., to Andrews Field, Maryland.

- 28 March           The Army Air Forces awarded a contract to Northrup Aircraft Inc. for one-year study and research project on both a subsonic (SNARK) and supersonic (BOOJUM) medium to long-range (1,500 to 5,000-mile) surface-to-surface missile.
- 29 March           The Army Air Forces awarded a one-year research and study contract to North American Aviation Inc. for a 175 to 500-mile range surface-to-surface missile. Eventually, after many revisions, this program concentrated on the development and production of the Navaho missile, a 5,500-mile range supersonic surface-to-surface missile which utilized both rocket and ramjet engines.
- March               The Army Air Forces cancelled the JB-1 and JB-10 programs after determining that technical and tactical considerations did not warrant their continued development.
- 19 April           The Army Air Forces awarded a research and study contract to the Consolidated Vultee (Convair) Aircraft Corporation for a 1,500 to 5,000 mile range surface-to-surface missile in both a subsonic and supersonic version. This program laid the groundwork for the eventual development of the Atlas intercontinental ballistic missile (ICBM).
- 29 April           The Bell Aircraft Corporation was awarded a contract by the Army Air Forces to conduct a research and design study for a 100-mile range subsonic air-to-surface missile later designated the Rascal.

1946

30 April A standard system for designating guided missiles and assigning them popular names was adopted by the Army and the Navy. The basic designation that was adopted was a three-letter combination of the four letters-- A (air), S (surface), U (underwater), and M (missile). The first letter would indicate the origin of the missile, the second letter would indicate its objective, and the third letter, "M", would identify it as a missile. Thus, a surface-to-air missile would be designated "SAM".

22 May The first WAC Corporal E was launched at White Sands, New Mexico. This was the first U.S. ballistic missile to use a guidance system (a radar, ground controlled system).

1947

June As a result of a tremendous reduction in its missile development funds in December 1946, the Army Air Forces cancelled many of its missile research and study contracts, including the one with Consolidated Vultee (Convair) Aircraft Corporation for a 1,500 to 5,000-mile range surface-to-surface missile in both a subsonic and supersonic version. However, the Army Air Forces did allow Convair to use the remaining unexpended funds to complete and flight test three rocket research test vehicles then under construction and to continue studies on guidance and nose-cone reentry.

26 July President Harry S. Truman signed the National Security Act of 1947 which created a Department of the Air Force, coequal with the Army and the Navy, and established a National Military Establishment (NME) under the control and direction of the Secretary of Defense.

15 September Under the provisions of the "Army-Air Force Agreements as to the Initial Implementation of the National Security Act of 1947," approved by Secretary of Defense James V. Forrestal on 14 October 1947, the Air Force was given control over all surface-to-surface "pilotless aircraft" and strategic missiles. The latter were defined as missiles employed against targets whose destruction would not directly affect Army tactical operations. The Army, in turn, was assigned control of all tactical missiles, defined as those missiles supporting land operations and used against targets whose destruction would directly affect Army tactical operations. With regard to surface-to-air missiles, the Air Force would control all area air defense missiles while the Army would control all missiles used to protect Army field forces from air attack.

1948

- 10 February Major General Clements McMullen, SAC Deputy Commander, decided that the Assistant Chief of Staff/Supply and Maintenance (A-4) should be the monitoring agency for all guided missile programs.
- 13 May First Bumper-WAC missile launched at White Sands, New Mexico. It was the first U.S. built two stage rocket.
- 26 May The first Navaho research test vehicle (NATIV) was successfully launched at the White Sands Proving Ground, New Mexico.
- 13 July The first of three rocket research test vehicles constructed by the Consolidated Vultee (Convair) Aircraft Corporation under its now-cancelled research and study contract with the Army Air Forces was successfully launched. It was the first demonstrated use of gimballed engines and design features later incorporated in the Atlas ICBM. The other two Convair research test vehicles were successfully launched on 27 September and 2 December 1948.
- 9 November Headquarters Strategic Air Command moved from Andrews AFB, Maryland, to Offutt AFB, Nebraska.

1949

- 11 May President Truman signed a bill providing for the creation of a 5,000 mile guided missile test range which was subsequently established at Cape Canaveral, Florida. Initially designated the Atlantic Missile Range on 1 May 1958, and redesignated again, this time to Eastern Test Range, on 15 May 1964.

1950

- 21 March Secretary of Defense Louis A. Johnson approved the recommendations of the Joint Chiefs of Staff on missile operational responsibility assignments. These recommendations were (1) that the Army and Navy be given operational responsibility for surface-to-air missiles which extended the range of antiaircraft artillery and short-range surface-to-surface missiles used in place of field artillery and naval guns, (2) that the Air Force and Navy be given operational responsibility for air-launched missiles and for surface-to-air missiles which supplemented interceptor aircraft, (3) that the Navy be given operational responsibility for surface-to-surface missiles that replaced naval aircraft. (4) that the Army and



1950

Air Force be given operational responsibility for surface-to-surface missiles that replaced close support aircraft, and finally, (5) that the Air Force be given operational responsibility for surface-to-surface missiles that replaced aircraft other than close support aircraft.

- 3 May First flight test of North American Aviation's Mark X-1 inertial guidance system for Navaho in a C-47. It was the first U.S. inertial guidance system tested.
- 24 July First missile launched from Cape Canaveral, Florida. It was a V-2 with a WAC Corporal upper stage.
- Fall Headquarters SAC created a position in the Programs Division of the Directorate of Plans for a guided missile project officer who had as his principal function the monitoring of the Air Force Guided Missiles Program as it pertained to SAC.

1951

- 16 January Headquarters USAF directed the Air Materiel Command to establish a study project (later designated Project Atlas) with the Consolidated Vultee (Convair) Aircraft Corporation for an intercontinental rocket missile with a minimum range of 5,500 miles, a minimum speed of Mach 6 over the target, a circular error probable (CEP) of 1,500 feet, and a nuclear warhead. Convair was officially awarded the study contract on 23 January 1951.
- April Headquarters SAC published Preliminary Plans for Activation and Employment of USAF Guided Missile Units.
- 16 April The first successful sled launch of a Snark research test vehicle took place at Holloman AFB, New Mexico.
- September Headquarters USAF directed that all work on Project Atlas be directed towards the development of a rocket-powered ballistic missile rather than a rocket-powered glide missile. The decision to go ballistic rather than glide on the intercontinental missile was made for reasons of performance and cost.

1952

- 28 July SAC representatives presented a "general operational concept of operations and maintenance" for Snark, Rascal, and Navaho at a conference at HQ USAF.

1952

- August                    Headquarters USAF established a requirement for a radar-busting air-to-surface missile later designated the Crossbow.
- 30 September            The first successful powered flight of a Rascal research test vehicle took place at Holloman AFB, New Mexico.
- 13 October                The Strategic Air Command submitted a requirement to Headquarters USAF for an air-launched decoy missile capable of confusing, diluting, saturating or otherwise degrading an enemy's radar defenses. Headquarters USAF, in turn, directed the Air Research and Development Command (ARDC) to initiate a study exploring the technological feasibility, costs, and other pertinent features of such a proposed weapon system. This laid the groundwork for the eventual development of the Quail missile.
- 26 November             The first successful test launch of a Snark research test vehicle from a zero-length launcher took place at Cape Canaveral, Florida. A zero-length launcher was a launcher too short to affect a missile's flight path, but long enough to hold it in launch position.

1953

- January                    Headquarters USAF awarded a research and development contract to Northrop Aircraft Inc. for the Crossbow missile.
- 6 August                    A Snark research test vehicle of the N-69A configuration was flight tested for the first time at Cape Canaveral, Florida. The N-69A configuration incorporated design changes necessary to meet new Air Force specifications for increased range and warhead payload. The missile was lengthened from 50 to 68 feet, and the flying gross weight was increased from 28,000 to 49,000 pounds.
- 31 October                Mr. Trevor Gardner, Special Assistant to the Secretary of the Air Force for Research and Development, asked eleven prominent scientists to form a committee (later designated the Strategic Missiles Evaluation Committee) to review and evaluate the Air Force missile programs. At the same time, Gardner engaged the newly-established Ramo-Woldridge Corporation to provide the committee with administrative support and perform technical studies in the areas of missile guidance, propulsion, and warhead reentry.

1954

- 8 February A RAND Corporation study entitled A Revised Program for Ballistic Missiles of Intercontinental Range, prepared by Dr. B.W. Augenstein, indicated that an Initial Operational Capability (IOC) for the Atlas ICBM could be attained by the early 1960s if performance characteristics were relaxed and increased funds and a higher national priority were given to the program.
- 10 February The Strategic Missiles Evaluation Committee, headed by Dr. John von Neumann, reported the possibility of a major technological breakthrough on nuclear warhead size and the probable resolution of other technical problems associated with the development of ICBMs within a few years. It recommended that a special Air Force development-management group be established to accelerate the ICBM program.
- 26 February Headquarters USAF awarded a contract for the MA-2 propulsion system for the Atlas ICBM to the Rocketdyne Division of North American Aviation Inc. Rocketdyne already possessed invaluable propulsion system experience derived from its development of the regeneratively-cooled engine employed on the Navaho missile.
- 1 July The Air Research and Development Command created the Western Development Division at Inglewood, California, under the command of Brigadier General Bernard A. Schriever. The Western Development Division was assigned specific responsibility for, and authority over, the Atlas ICBM development program.
- 21 July The United States Air Force Atlas Scientific Advisory Committee recommended that a second airframe configuration (different from Atlas) be developed for an intercontinental ballistic missile. This laid the groundwork for the eventual development of the Titan ICBM.
- 11 August Headquarters USAF issued General Operational Requirement (GOR) 21 for the Atlas ICBM.
- 2 December Headquarters USAF issued General Operational Requirement (GOR) 50 for the Thor intermediate-range ballistic missile (IRBM).

1955

- January The Air Force and the Convair Division of General Dynamics signed a production contract for the Atlas D, the first operational version of the Atlas ICBM.

1955

- 4 January The Aerojet-General Corporation began research and development of the rocket engines and associated ground support equipment for the second airframe configuration (Titan) for an ICBM.
- 14 February The Technological Capabilities Panel of the Science Advisory Committee, Office of Defense Management, issued a report on its findings and recommendations concerning the nation's current defense measures. This study or Killian Report, recommended that the National Security Council (NSC) and the President recognize the Air Force ballistic missile program as a national effort of the highest priority. In addition, the report also strongly urged the concurrent development of 1,500-mile intermediate-range ballistic missile (IRBM).
- 10 May Headquarters USAF issued General Operational Requirement (GOR) 91 for a surface-launched, turbojet subsonic decoy missile designed to simulate a B-47 or B-52 on enemy radar screens. This missile was later designated the Goose.
- May The General Electric Company began research and development of a reentry vehicle (Mark II) for the Atlas ICBM.
- June The Rascal missile program underwent a major reorganization. The B-36 was eliminated from planning as a carrier of the Rascal, the missile's warhead requirements were revised, and all inertial guidance capability for the missile was deleted.
- 12 July Headquarters USAF issued Specific Operational Requirement (SOR) 104 for the Atlas and Titan ICBMs.
- 8 September President Dwight D. Eisenhower assigned the highest national priority to the ICBM research and development program.
- 27 October Headquarters USAF awarded a research and development contract to the Glenn L. Martin Aircraft Company for the Titan ICBM.
- October Headquarters USAF awarded a development contract to Fairchild Aircraft Division, Fairchild Engine and Airplane Corporation, for the Goose missile.
- 8 November Secretary of Defense C. E. Wilson established the Office of the Secretary of Defense/Ballistic Missile Committee (OSD/BMC) and assigned it exclusive Defense Department

1955

- authority to review and approve all ballistic missile program requirements. In addition, Wilson added IRBM #1 (Thor) to the Air Force missile program and assigned it a priority equal to the ICBM.
- 8 November Secretary of Defense Wilson approved the development of the Army's Jupiter IRBM primarily as a ship-launched IRBM and secondarily as an alternate (IRBM #2) to the Air Force's Thor IRBM (IRBM #1).
- 14 November Secretary of the Air Force Donald A. Quarles created the Air Force Ballistic Missile Committee as the single point of contact and decision-making body for the Air Force ballistic missile program. The committee consisted of the Secretary of the Air Force, the Assistant Secretaries of the Air Force for Research and Development, Financial Management, and Materiel, and the Air Force Assistant Chief of Staff for Guided Missiles.
- 18 November Headquarters USAF placed the responsibility for establishing an Initial Operational Capability (IOC) for ICBMs on the Air Research and Development Command, in cooperation with the Strategic Air Command. ARDC's Western Development Division would have command jurisdiction until the completion of the IOC, then it would be transferred to SAC.
- 26 November A Snark research test vehicle of the N-69D configuration was flight tested for the first time at Cape Canaveral, Florida. The N-69D configuration was the first model Snark research test vehicle to utilize a stellar inertial guidance system.
- 1 December President Eisenhower assigned the highest national priority to the IRBM development programs, thus placing them on an equal footing with the ICBM development program.
- 27 December Headquarters USAF awarded a research and development contract to the Douglas Aircraft Company for the airframe of the Thor IRBM.

1956

- January The General Electric Company began research and development of a reentry vehicle (Mark II) for the Thor IRBM.
- 18 January Headquarters USAF issued General Operational Requirement (GOR) 139 for a short-range air-launched decoy missile designed to simulate the B-52 on enemy radar screens. This missile was later designated the Quail.

1956

- 1 February           The Air Materiel Command (AMC) informed the McDonnell Aircraft Company of its selection as prime contractor for the Quail missile.
- 23 February          Secretary of the Air Force Donald A. Quarles directed the acceleration of the Navaho missile program and assigned it an overall priority and precedence rating second only to the ICBM and IRBM programs.
- 14 March             The first attempted launch of a Jupiter A research test vehicle at Cape Canaveral, Florida, was successful.
- 15 March             Headquarters USAF issued General Operational Requirement (GOR) 148 for an air-to-surface missile to be carried on the B-52 strategic bomber. This led to the eventual development of the Hound Dog missile.
- 22 March             Headquarters USAF placed the responsibility for establishing an Initial Operational Capability (IOC) for ICBMs jointly on the ARDC and SAC. Eight Thor squadrons (120 missiles) were to be deployed and made operational at three bases in the United Kingdom between October 1958 and July 1959. ARDC was responsible for all actions required in the United States, while SAC was responsible for all actions required in the United Kingdom.
- 7 May                 ARDC and SAC completed an agreement on mutual responsibilities for the establishment of an IOC for IRBMs. ARDC's Western Development Division would be responsible for developing, manning, training, and equipping operational units in accordance with ARDC-SAC planning. SAC would be responsible for the overseas deployment of the operational units and their upgrade training to combat readiness.
- 11 June              The United States Army awarded a contract to the Chrysler Corporation for the production of the Jupiter IRBM.
- 1 August             The requirement for a SAC Strategic Missiles Monthly Progress Report was established with the issuance of SAC Staff Memo 11-25.
- 22 October           Headquarters SAC issued Staff Memo 11-13 which established a Missile Site Selection Panel and a Missile Advisory Committee.
- 26 October           The Douglas Aircraft Company delivered the first Thor IRBM to the Air Force.

1956

- 14 November Headquarters USAF revised the scope of the Crossbow missile program and directed that it be limited to the development of a radar seeking guidance system only.
- 16 November Secretary of Defense Wilson approved the transfer of the northern portion of Camp Cooke, California, from the Department of the Army to the Air Force. This base was to serve both as a training site for the Thor, Atlas, and Titan missiles, and as an emergency operational facility for Atlas ICBM.
- 26 November Secretary of Defense Wilson issued a "Roles and Mission" directive to the Armed Forces Policy Council which fixed the areas of jurisdiction of the three armed services with regard to missiles. The Army was given operational jurisdiction over surface-to-surface missiles with a range of up to 200 miles and surface-to-air missiles with a range of up to 100 miles. The Navy was assigned operational jurisdiction over all ship-based missiles. Finally, the Air Force received operational jurisdiction over surface-to-surface missiles with a range greater than 200 miles and surface-to-air missiles with a range greater than 100 miles.

1957

- 10 January The Department of Defense assigned the highest national priority to both ICBM and IRBM contracts and purchase orders.
- 5 March Headquarters USAF issued new IOC directives for both ICBMs and IRBMs. The new ICBM IOC called for a force of 80 missiles (40 Atlas and 40 Titan) to be operational between March 1959 and March 1961. The new IRBM IOC called for a force of 60 missiles to be operational between July 1959 and July 1960.
- 21 March Headquarters USAF approved the selection of Presque Isle AFB, Maine, as the site of the first Snark missile base.
- 1 July ARDC activated the 704th Strategic Missile Wing at Cooke AFB, California. This was the first Air Force ballistic missile wing.
- 12 July Headquarters USAF directed the cancellation of the Navaho missile program. Despite the fact that the Navaho had never reached the operational stage, the missile program itself provided invaluable technological "fallout"; the Navaho rocket booster, with modifications, was utilized in the Atlas ICBM and the Thor IRBM, while the missile's inertial guidance system was adopted for use in the Polaris, Hound Dog, and Minuteman missiles.

1957

- 23 August            Headquarters USAF awarded a development contract to North American Aviation Inc. for the Hound Dog missile. The Hound Dog was a turbojet powered, inertially guided air-to-surface missile for the B-52.
- 26 August            The Soviet Union announced that it had successfully launched an intercontinental ballistic missile.
- 20 September        The first successful launch of a Thor IRBM took place at Cape Canaveral, Florida.
- 4 October            The Soviet Union launched Sputnik I into orbit around the earth.
- 5 October            Secretary of Defense Wilson gave full approval and authorized funding at all levels for the first ICBM Initial Operational Capability (IOC) program. This program called for the deployment of four Atlas and four Titan I ICBM squadrons by December 1962.
- 22 October           The first flight test of a prototype Jupiter IRBM equipped with an all-inertial guidance system was successful. This missile was launched from Cape Canaveral, Florida, down the Atlantic Missile Range.
- 31 October           The first full-range flight test of a prototype Snark missile (N-69E configuration) was an overwhelming success. The missile, launched from Cape Canaveral, Florida, flew 5,000 miles down the Atlantic Missile Range and its reentry vehicle landed in the target area near Ascension Island.
- 21 November        DOD announced that the first ICBM base would be Francis E. Warren AFB, Wyoming.
- 23 November        The Department of Defense authorized the peacetime launching of ballistic missiles from Cooke AFB, California.
- 27 November        Secretary of Defense Neil H. McElroy announced the decision to place both the Air Force's Thor and the Army's Jupiter IRBMs into production. McElroy directed Headquarters USAF to proceed with the operational deployment of both of these missiles. The first units were scheduled to be ready for deployment by December 1958.
- 29 November        General Thomas D. White, Chief of Staff, United States Air Force, announced the decision to transfer the 1st Missile Division and the responsibility for establishing the Initial Operational Capability (IOC) for ICBMs and IRBMs from the Air Research and Development Command to the Strategic Air Command.



1957

- 7 December The first fully-successful test of a Thor IRBM equipped with an all-inertial guidance system took place at Cape Canaveral, Florida.
- 15 December Headquarters SAC activated the 556th Strategic Missile Squadron (ICM-Snark) at Patrick AFB, Florida. This was SAC's first Snark and the first missile squadron. The 556th SMS was responsible for training Snark missile crews and conducting test launches of the Snark missile.
- 17 December The first fully-successful flight test of a Series A Atlas ICBM took place at Cape Canaveral, Florida. The Series A Atlas ICBM was equipped with booster but not sustainer engines and was incapable of achieving staging (stage separation) during flight.

1958

- 1 January Headquarters USAF transferred the 1st Missile Division, the 704th Strategic Missile Wing and other units at Cooke AFB, California, from ARDC to SAC. The 704th was SAC's first ballistic missile wing.
- 1 January Headquarters USAF transferred Cooke AFB, California, from ARDC to SAC.
- 1 January Headquarters SAC established the Office of Assistant CINCSAC (SAC MIKE) at Inglewood, California. This position was designated to serve as an extension of Headquarters SAC and was responsible for working closely with the Air Force Ballistic Missile Division of ARDC to provide SAC with the latest information relating to ballistic missile programs.
- 4 January Army awarded the Chrysler Corporation a \$51.8 million dollar contract for the production of the Jupiter IRBM.
- 15 January Headquarters SAC activated the 864th Strategic Missile Squadron (IRBM-Jupiter) at the Army Ballistic Missile Agency, Huntsville, Alabama, and assigned it to the 1st Missile Division. This was the first of three SAC Jupiter squadrons activated at the Redstone Arsenal during 1958 (the second, the 865th Strategic Missile Squadron, was activated on 1 June, while the third, the 866th Strategic Missile Squadron was activated on 1 September) in order to carry out the SAC responsibility of training Italian and Turkish crews in the operation of the Jupiter IRBM.
- 31 January First U.S. satellite to go into orbit, Explorer I, launched from Cape Canaveral, Florida, by U.S. Army on a Jupiter-C.

1958

- 1 February An agreement was signed between the United States and the United Kingdom which provided for the deployment of four Thor IRBM squadrons (3x5) to Great Britain, the first squadron to be operational by December 1958. The Thor was a single stage liquid fuel rocket with all-inertial guidance. In the squadron configuration equation the first number indicates the number of launchers handled by each control center, the other number is the number of control centers in the squadron.
- 1 February Headquarters SAC activated its first Atlas missile wing at F. E. Warren AFB, Wyoming, the 4320th Strategic Wing (missile).
- 12 February The Department of Defense transferred executive responsibility for the Jupiter IRBM from the Department of the Army to the Air Force.
- 17 February A prototype Rascal missile was successfully launched over the Atlantic Missile Range for the first time by a crew of the 445th Bomb Squadron (B-47) Pinecastle AFB, Florida.
- 20 February Headquarters SAC activated the 705th Strategic Missile Wing (IRBM-Thor) at Lakenheath RAF Station, Great Britain, and assigned it to the Seventh Air Division. Within a short period of time, the 705th SMW was transferred to South Ruislip and merged with Headquarters Seventh Air Division. It was responsible for monitoring the Thor IRBM program in the United Kingdom and for providing technical assistance to the four RAF Thor IRBM squadrons.
- 23 February Headquarters SAC inactivated the 4320th Strategic Wing at F. E. Warren AFB, Wyoming and in its stead activated the 706th Strategic Missile Wing (ICBM-Atlas).
- 23 February Headquarters SAC transferred the 864th Strategic Missile Squadron (IRBM-Jupiter) from Huntsville, Alabama, to Cooke AFB, California.
- 27 February Headquarters USAF secured the approval of the Department of Defense for a new program to produce an advanced solid-propellant ICBM with a variable range of from 500 to 5,500-miles and with the capability of being launched from hardened underground silos. This new missile was designated Minuteman.
- 6 March Northrop Aircraft Inc. delivered the first production model Snark missile to the Air Force.

1958

- 13 March           The Air Force Ballistic Missile Committee approved the selection of Lowry AFB, Colorado, as the site of the first Titan I ICBM base.
- 1 April            Headquarters SAC activated the 576th Strategic Missile Squadron (ICBM-Atlas) at Cooke AFB, California. It was SAC's first ICBM squadron and first Atlas squadron. Initially, it consisted of two "soft" Series D Atlas complexes (576A and 576B). The first had three gantries while the second had three above ground coffin launchers similar to those planned for the first squadron in the field. Each complex had one launch control center. Thus, the squadron had a 3x2 configuration. Later additions to the 576SMS were one Series E Atlas buried coffin launcher (576C) and two Series F Atlas hardened silo-lift launchers (576D and E). The Series D Atlas was the first operational configuration of the one and a half stage liquid fueled Atlas. It had more powerful engines than early research and development models, improved ground radio-inertial guidance and an ablative reentry vehicle. The Series E/F Atlas missile had even stronger engines, used all inertial guidance and an improved ablative reentry vehicle. Each successive model had a better reaction time and improved survivability.
- 17 April           The Air Force Ballistic Missile Committee directed that, beginning with the second Atlas ICBM squadron of the 706th Strategic Missile Wing, at Francis E. Warren AFB, Wyoming, each Atlas squadron be designed in the 3x3 configuration.
- 22 April           Headquarters USAF and the Department of Defense agreed, for planning purposes, upon the establishment of a 12 squadron IRBM force (9 Thor and 3 Jupiter).
- 24 April           Headquarters USAF expanded the programmed Atlas ICBM force to nine squadrons, the last seven of which were to be dispersed in the 3x3 configuration. Once the fifth squadron became operational, the Atlas ICBM would incorporate an all-inertial guidance system and its launch and support facilities would be hardened to withstand 25 pounds per square inch (psi) of overpressure.
- 18 May            A full-scale ablative type nose cone was recovered from the Atlantic Ocean for the first time four and one-half hours after it had been launched on a Jupiter IRBM from Cape Canaveral, Florida.
- 23 May            Headquarters USAF created the first distinctive missile badge that recognized and identified those individuals within the Air Force who, by virtue of their job assignment, had a direct role in missile operations and maintenance.

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- 4 June A Thor IRBM was successfully launched for the first time from a tactical-type launcher at Cape Canaveral, Florida. This type of launcher was the prototype of the regular field-deployed launcher scheduled to be utilized by operational Thor IRBM squadrons.
- 7 June Secretary of Defense Donald A. Quarles approved plans for the construction of the first Titan I ICBM squadrons in a configuration designed to provide protection against 100 pounds per square inch (psi) of overpressure.
- 7 June Construction began on Atlas ICBM launch and support facilities at the 706th Strategic Missile Wing, Francis E. Warren AFB, Wyoming.
- 17 June The Air Force accepted delivery of the first Titan I ICBM from the Martin Company, formerly the Glenn L. Martin Aircraft Company.
- 27 June SAC launched its first Snark missile. Launch performed by 556th Strategic Missile Squadron, Patrick AFB, Florida.
- July Headquarters USAF awarded a contract to the Autonetics Division of North American Aviation, Inc. for the development of an all-inertial guidance system for the Minuteman ICBM.
- 1 July Headquarters SAC activated the 564th Strategic Missile Squadron (ICBM-Atlas D) at Francis E. Warren AFB, Wyoming. It had a 3x2 configuration.
- 18 July The Air Force Ballistic Missile Committee approved the deployment of all Titan I ICBM squadrons in a 3x3 dispersal configuration.
- 21 July Headquarters USAF announced the selection of five companies to do research and development work on the solid-propellant, variable-range Minuteman ICBM.
- 31 July Construction began at Cooke AFB, California, on the Operational System Test Facility (OSTF) for the Titan I ICBM. This was the prototype of the hardened Titan I launch control facility and consisted of one silo-lift launcher, blockhouse, and associated equipment.
- August Chrysler Corporation delivered the first production model Jupiter IRBM to the United States Army.
- 2 August The first successful launch of a Series B Atlas ICBM (boosters and sustainers) took place at Cape Canaveral, Florida. During its flight down the Atlantic Missile Range, the missile underwent the first successful staging (stage separation) of a U.S. ICBM.

1958

- 6 August            Headquarters USAF issued General Operational Requirement (GOR) 171 for the Minuteman ICBM.
- 12 August           The first Thor IRBM arrived at Cooke AFB, California.
- 15 August           The first successful powered flight of a Quail research test vehicle took place at Holloman AFB, New Mexico. The missile, launched from a B-52 at 30,000 feet, flew for 14 minutes and covered 103 miles.
- 19 September       The first Thor IRBM was delivered to the Royal Air Force (77th RAF Strategic Missile Squadron) at Feltwell, England.
- 25 September       Headquarters SAC activated the first Titan I ICBM wing, the 703d Strategic Missile Wing (ICBM-Titan I) at Lowry AFB, Colorado. It would have two 3x3 squadrons. The Titan I was a two-stage liquid fuel rocket. It used radio-inertial guidance, the same reentry vehicle as Atlas E/F and was installed in a silo-lift launcher.
- 30 September       The Department of Defense announced that Italy had agreed to plans for the construction of Jupiter IRBM bases on Italian soil.
- 4 October           Cooke AFB, California, was renamed Vandenberg AFB in honor of the late General Hoyt S. Vandenberg, former Chief of Staff, United States Air Force.
- 9 October           Headquarters USAF awarded an assembly and test contract for the Minuteman ICBM to the Boeing Airplane Company.
- 16 October           The first Atlas ICBM launcher (576A-1) constructed at Vandenberg AFB, California, was accepted from the contractor by the 1st Missile Division.
- 5 November           An interservice agreement was concluded between the Army and the Air Force which turned over responsibility for the operational employment of the Jupiter IRBM to the Air Force.
- 5 November           Formal agreement between Army and USAF on Jupiter program management:
- (1) Army - responsibility for development and production.
  - (2) USAF - responsibility for deployment and operational readiness.

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- (3) Army pays costs through FY 58; AF assumes it in FY 59.
  - (4) Training:
    - (a) Army provides individual training until 30 Jun 60.
    - (b) AF responsible for training crews and units. Army will help in initial crew training with instruction, etc.
- 26 November      The first successful launch of an operationally configured Thor IRBM took place at Cape Canaveral, Florida.
- 28 November      The first full-range flight test of a Series B Atlas ICBM was successful. The missile, launched from Cape Canaveral, Florida, flew over 5,500 nautical miles down the Atlantic Missile Range and its reentry vehicle impacted close to the target area.
- 29 November      Headquarters USAF canceled the Rascal missile program in favor of the Hound Dog and Quail missile programs which showed more promise of being effective weapon systems.
- 1 December        Headquarters SAC activated the 565th Strategic Missile Squadron (ICBM-Atlas D) at Francis E. Warren AFB, Wyoming. With the activation of this squadron, the 3x3 dispersal configuration was implemented for the first time.
- 5 December        The last flight test of a Goose research test vehicle, conducted at Cape Canaveral, Florida, was successful.
- 12 December      Headquarters USAF terminated the Goose missile program.
- 16 December      Two attempted Thor IRBM launches, one at Cape Canaveral, Florida, the other at Vandenberg AFB, California, were successful. The Thor launch from Vandenberg, the first launch from that base, inaugurated the intermediate-range ballistic missile portion of the Pacific Missile Range and was fired by a crew from the 1st Missile Division.
- 19 December      SAC stated a qualitative operational requirement for a positive control communications backup system using a rocket-borne transmitter.

1958

- 20 December      The first attempted launch of a Titan I ICBM at Cape Canaveral, Florida, was unsuccessful.
- 23 December      The first Series C Atlas ICBM successfully launched from Cape Canaveral, Florida, flew approximately 4,300 miles down the Atlantic Missile Range. This was the first flight test of the General Electric Mod III radio-inertial guidance system.
- 31 December      Headquarters USAF awarded the McDonnell Aircraft Corporation a production contract for the Quail missile.

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- 1 January          Headquarters SAC activated the 702d Strategic Missile Wing (ICM-Snark) at Presque Isle AFB, Maine, and assigned it to the Eighth Air Force. This was the first SAC missile wing to be assigned to a numbered air force. On 1 April 1959, Headquarters SAC assigned the 556th Strategic Missile Squadron (ICM-Snark), Patrick AFB, Florida, to the 702d SMW. The 556th SMS was scheduled to move to Presque Isle in July, but before this action could be taken, Headquarters SAC inactivated the squadron on 15 July 1959. This action, combined with the cancellation of the programmed activation of the 702d Missile Maintenance Squadron, left the 702d SMW in the unique position of having no subordinate units. All operational and maintenance functions associated with the Snark were carried out by the 702d SMW's deputy commander for missiles.
- 21 January          The first successful launch of an operationally configured Jupiter IRBM took place at Cape Canaveral, Florida.
- 22 January          Headquarters USAF issued General Operational Requirement (GOR) 177 for an air-to-surface strategic ballistic missile to be carried on the B-52. This missile was later designated the Skybolt.
- 6 February          The first successful launch of a Titan I ICBM took place at Cape Canaveral, Florida.
- 18 February          The first Series D Atlas ICBM was delivered to Vandenberg AFB, California. It was accepted by SAC's 576 SMS.
- 26 March            An agreement was signed between the United States and Italy governing the deployment of two squadrons (3x5) of Jupiter IRBMs to Italy. The Jupiter was a single stage, liquid fueled rocket with all-inertial guidance.

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- 6 April The first full-range flight test of a production model Snark missile was successful. The missile, launched from Cape Canaveral, Florida, flew over 5,000 miles down the Atlantic Missile Range and its reentry vehicle impacted in the target area.
- 16 April The first successful launch of a Thor IRBM by a Royal Air Force crew took place at Vandenberg AFB, California. This launch was part of integrated weapon system training.
- 23 April The first flight test of a prototype Hound Dog missile was conducted at Eglin AFB, Florida. It was launched from a B-52.
- April Secretary of Defense Neil McElroy approved a one-year schedule acceleration of the Minuteman program. The immediate objectives of this accelerated program were to have 150 Minuteman missiles operational by mid-1963, 445 by January 1964, and about 800 by mid-1964. The approval for the acceleration of the Minuteman program did not include authority to begin missile production.
- 1 May Construction began at Lowry AFB, Colorado, on the first Titan I ICBM launch and support facilities.
- 6 May Headquarters USAF declared the Jupiter IRBM to be operational following the successful 1,500-mile flight of the sixteenth Jupiter launched from Cape Canaveral, Florida.
- 15 May The Air Force Ballistic Missile Division submitted a revised Minuteman ICBM development plan to the Air Force Ballistic Missile Committee which contained a provision for the development of an operational rail-mobility system.
- 26 May Headquarters USAF awarded a contract to the Douglas Aircraft Company for advanced design studies of the Skybolt missile.
- 27 May The first Snark missile was delivered to the 702d Strategic Missile Wing at Presque Isle AFB, Maine.
- 22 June Headquarters SAC transferred the first British-based operational Thor IRBM squadron (77th Royal Air Force Strategic Missile Squadron) to the Royal Air Force. The squadron's warheads, however, remained in SAC's custody and possession until such time as they were released for launch by an American warhead release order. In addition, SAC assigned a detachment to each of the RAF IRBM squadrons to perform the following functions: (1) retain custody and control and provide maintenance for reentry



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- vehicles and warheads; (2) receive and initiate U.S. war-head release order; (3) operate USAF communication facilities, and (4) provide training to the RAF.
- 23 July Construction began at Vandenberg AFB, California, on the first Series E Atlas ICBM coffin-type launcher (Atlas operational system test facility #1). In the Atlas E coffin-type launcher, the missile was stored in a horizontal position in a concrete coffin buried in the ground. A heavily-reinforced concrete roof covered the launcher and provided protection against nuclear blast. In order to launch the missile, it was first necessary to retract the concrete roof and raise the missile to a vertical position.
- 1 July Headquarters SAC inactivated the 704th Strategic Missile Wing at Vandenberg AFB, California.
- 28 July The first successful launch of a Series D Atlas ICBM took place at Cape Canaveral, Florida.
- 15 August Headquarters SAC activated the 566th Strategic Missile Squadron (ICBM-Atlas D) at Offutt AFB, Nebraska. This was the last Series D Atlas squadron to be activated.
- 4 September Headquarters USAF assigned a "DX" rating (highest national priority) to the Minuteman ICBM program.
- 9 September Following the first successful launch of a Series D Atlas ICBM from Vandenberg AFB, California, General Thomas S. Power, CINCSAC, declared the Atlas ICBM to be operational.
- 15 September The first attempted silo launch of a Minuteman ICBM, tethered to the ground by 2,000 feet of nylon cable, was successfully conducted at the Air Force Rocket Propulsion Laboratory at Edwards AFB, California. This launch, which utilized a Minuteman ICBM with a partially charged first stage and dummy second and third stages, was the first of eight such tethered silo launches conducted between 15 September and 6 May 1960.
- 28 September The first Series D Atlas ICBM was deployed to a field unit outside of Vandenberg. This ICBM went to the 564th SMS at F. E. Warren AFB, Wyoming.
- October Headquarters USAF approved the development of an improved Titan ICBM, the Titan II. This missile would possess an all-inertial guidance system and non-cryogenic propellants and would be launched from a hardened underground silo.

1959

- 6 October The first combat training launch of a Thor IRBM by a Royal Air Force crew at Vandenberg AFB, California, was successful.
- 13 October Last of twelve Bold Orion air launched ballistic missiles flew 1,000 miles down the Atlantic Missile Range. This air-to-surface missile, launched from a B-47, concluded the feasibility demonstration program for what would be the SKYBOLT.
- 15 October The Air Force Ballistic Missile Committee approved the selection of Davis-Monthan AFB, Arizona, as the site of the first Titan II ICBM base.
- 31 October The first American ICBM equipped with a nuclear warhead went on alert at Vandenberg AFB, California. It was a Series D Atlas ICBM (AFSN 58-2190) on launcher 576A-1.
- 3 November An ICBM was successfully transported by air for the first time when a Series D Atlas ICBM was airlifted from San Diego, California, to Francis E. Warren AFB, Wyoming, by a C-133B.
- 4 November Construction began on the first Series F Atlas ICBM "silo-lift" launcher (Atlas operational system test facility #2) at Vandenberg AFB, California. In a "silo-lift" launcher, the missile was stored in a vertical position, on its launcher, in a hardened underground silo. Prior to launch, the missile and its launcher were elevated, i.e., "lifted," to the top of the silo.
- 11 December The United States and the United Kingdom signed a governmental paper which stated that the Thor IRBM had "satisfactorily demonstrated" operational capability.
- 21 December General Power, CINCSAC, formally accepted the first production model Hound Dog missile at North American Aviation's Downey, California, plant.
- 23 December The Air Force Ballistic Missile Committee approved the selection of Malmstrom AFB, Montana, as the site of the first Minuteman ICBM base.
- 31 December During 1959, SAC test-launched one Series D Atlas ICBM from Vandenberg AFB, California.

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- 1 January Responsibility for integrated weapon system training for the Jupiter IRBM was transferred from SAC to the Air Training Command (ATC).

1960

- 14 January First feasibility test launch of a rocket-borne transmitter conducted at Eglin AFB, Florida.
- 1 February Headquarters SAC activated the 848th SMS (ICBM-Titan I) at Lowry AFB, Colorado. It was SAC's first Titan I squadron.
- 4 February The last research and development launch of a Jupiter IRBM at Cape Canaveral, Florida, was successful.
- 24 February The first full-range flight test of a Titan I ICBM was successful. The missile, launched from Cape Canaveral, Florida, traveled 5,000 miles down the Atlantic Missile Range and its reentry vehicle impacted in the target area.
- 27 February First Quail missile was assigned to a SAC unit, the 4135th Strategic Wing, Eglin AFB, Florida. It was a flight test missile.
- 29 February Flight testing of IRBMs at Cape Canaveral, Florida, came to an end with the successful launch of a Thor IRBM equipped with a new 165,000 pound thrust engine.
- 29 February First SAC launch of a Hound Dog missile took place at Patrick AFB, Florida.
- 1 March The first successful powered flight of a prototype Quail missile took place at Holloman AFB, New Mexico.
- 8 March The first Series D Atlas ICBM equipped with an all-inertial guidance system (open loop), intended for use with the Series E and F Atlas, was successfully launched from Cape Canaveral, Florida.
- 18 March The first Snark missile went on alert at the 702d Strategic Missile Wing, Presque Isle AFB, Maine.
- 25 March The Office of Secretary of Defense/Ballistic Missile Committee (OSD/BMC) authorized the Air Force to proceed with its objective of an operational force of 150 Minuteman ICBMs by mid-1963, using only one production and assembly and recycle (A&R) facility. The 150 Minuteman ICBMs would be organized into one wing of three squadrons, with 50 missiles per squadron.
- 1 April Headquarters SAC activated the first Series E Atlas squadron, the 567th Strategic Missile Squadron (1x9), at Fairchild AFB, Washington.

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- 22 April The fourth and final British-based Thor IRBM squadron was turned over to the Royal Air Force by the Strategic Air Command, thus completing the deployment of this weapon system in the United Kingdom.
- 22 April The first attempted launch of a Series D Atlas ICBM from a coffin-type launcher (576B-2) at Vandenberg AFB, California, was successful. This launcher was the prototype of the ones to be used at the first operational Atlas squadron, the 564th Strategic Missile Squadron, Francis E. Warren AFB, Wyoming. Following this successful launch, Major General David Wade, Commander of the 1st Missile Division, declared the coffin-type launcher to be operational.
- May Headquarters USAF awarded the Martin Company a research and development contract for the Titan II ICBM.
- 8 May The first missile to be removed from an operational unit and sent to Vandenberg AFB, California, for confidence firing arrived from a Thor IRBM squadron (98th RAF Strategic Missile Squadron) in the United Kingdom. Confidence firing was the predecessor of SAC's operational test program.
- 3 June The first Thor IRBM and its warhead were mated in the United Kingdom at the 77th RAF Strategic Missile Squadron, Feltwell RAF Station.
- 6 June Following a week of discussions, British Minister of Defense Harold Watkinson and United States Secretary of Defense Thomas S. Gates, Jr., publicly announced that the United States had agreed to furnish the United Kingdom with Skybolt air-launched ballistic missiles for use on British Vulcan II bombers.
- 8 June First SAC launch of a Quail missile. The launch took place over the Eglin Gulf Test Range.
- 20-27 June In order to determine the feasibility of deploying Minuteman ICBMs on mobile railroad car launchers, Headquarters SAC ordered a series of tests to be conducted (Operation Big Star). Operating out of Hill AFB, Utah, a modified test train traveled across various railroad routes in the western and central sections of the United States in order to study such factors as the ability of the nation's railroads to support mobile missile trains, problems of communications and control, problems of vibration and its effect on sensitive missiles and launch equipment, as well as the human

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factors involved in the operation of a mobile missile system. Six trial runs were originally projected, but only four were necessary to realize all test objectives.

- 22 June The first confidence firing launch of a Thor IRBM at Vandenberg AFB, California, was successful.
- 11 July The first Jupiter IRBM was emplaced at an Italian missile base.
- 11 July Headquarters USAF transferred the responsibility for the activation of missile sites from the Air Research and Development Command to the Air Materiel Command (later designated the Air Force Logistics Command).
- 9 August The first Series D Atlas ICBM complex at Francis E. Warren AFB, Wyoming, was turned over to the 564th Strategic Missile Squadron and declared operational by General Power, CINCSAC.
- 10 August The first successful launch of an operationally configured Titan I ICBM took place at Cape Canaveral, Florida.
- 27 August The last of four Minuteman ICBM mobile test trains arrived back at Hill AFB, Utah, and Headquarters USAF announced that the tests of the Minuteman ICBM mobile concept had been satisfactorily completed.
- 2 September Headquarters SAC declared the entire 564th Strategic Missile Squadron (ICBM-Atlas D) at Francis E. Warren AFB, Wyoming, to be operational. This was the first SAC ICBM squadron to achieve operational status.
- 13 September The first production line Quail missiles were delivered to the 4135th Strategic Wing (B-52G) at Eglin AFB, Florida.
- 1 October Headquarters SAC activated the 549th Strategic Missile Squadron (ICBM-Atlas E) at Francis E. Warren AFB, Wyoming. This was the last Series E Atlas squadron to be activated.
- 20 October The first test launch of a Jupiter IRBM from a tactical-type launcher employing all tactical handling and launch equipment was successful. The missile, launched from Cape Canaveral, Florida, flew 962 nautical miles down the Atlantic Missile Range and its reentry vehicle impacted in the target area. With this successful launch, Army test firing responsibilities for this weapon system ended.

1960

- 5 November            Headquarters USAF advanced the scheduled operational date for the first Minuteman ICBM squadron one full year, from July 1963 to July 1962.
- December              Chrysler Corporation completed the production of Jupiter IRBMs.
- 1 December            Headquarters SAC activated the 4602d Strategic Wing [ICBM-Minuteman (Mobile)] at Hill AFB, Utah.
- 3 December            The first Series E Atlas ICBM arrived at the 567th Strategic Missile Squadron, Fairchild AFB, Washington.
- 3 December            A Titan I test missile exploded in its silo at Vandenberg AFB, California. There were no injuries. This was the first silo accident.
- 5 December            The research and development phase of the Snark missile program (begun in 1946) came to an end with the successful launch of the eleventh Snark missile from Cape Canaveral, Florida.
- 13 December           OSD/BMC approved a new Minuteman development plan. For planning purposes only, it raised the force goal from 150 operational missiles by mid-1963 to 540 operational missiles by mid-1964. Production was to remain at 30 missiles per month. Approval was given for site selection and land acquisition for the second Minuteman wing (fourth through sixth Minuteman squadrons) and for the hardening of Minuteman launch facilities and Minuteman launch control centers to withstand high overpressures.
- 22 December           The SKYBOLT missile program was stretched out and scaled down by the Department of Defense because of the lack of adequate funding for this weapon system.
- 31 December           During 1960, SAC test-launched seven Series D Atlas ICBMs from Vandenberg AFB, California.

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- 23 January            The last attempted launch of a Series D Atlas ICBM at Cape Canaveral, Florida, was successful. Of the 49 test launches of the Series D Atlas ICBM, 35 were rated complete successes, eight were rated partial successes, and six were rated failures.

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- 1 February      The first attempted launch of a Minuteman ICBM at Cape Canaveral, Florida, was successful. This launch was conducted only two and one-half years after the requirement for the Minuteman ICBM had been established.
- 1 February      One squadron of the 4135th Strategic Wing (B-52G), equipped with Quail missiles, was declared operational by Headquarters SAC. This was the first SAC B-52 unit to achieve this status.
- 2 February      Construction began on Minuteman ICBM test launch facilities at Vandenberg AFB, California.
- 24 February     The first successful launch of a Series E Atlas ICBM took place at Cape Canaveral, Florida. The missile, powered by liquid-fueled MA-3 engines developing 389,000 pounds of thrust, flew 7,000 miles down the Atlantic Missile Range. The missile's flight was directed by an all-inertial guidance system that was impervious to jamming.
- 28 February     Headquarters SAC declared the 702d Strategic Missile Wing (ICM-Snark) at Presque Isle AFB, Maine, to be operational.
- 16 March        Construction began at Malmstrom AFB, Montana, on the first model "A" Minuteman I ICBM operational facilities.
- 28 March        In his special defense budget message, President John F. Kennedy deferred further action on the development of the Mobile Minuteman ICBM force (three squadrons) in favor of additional (three squadrons) hardened Minuteman ICBM units.
- 28 March        President Kennedy directed that the Snark missile be phased out as it was "obsolete and of marginal military value."
- 28 March        President Kennedy announced that the planned Titan ICBM force would be reduced by two squadrons, to six Titan I and six Titan II squadrons.
- 29 March        Headquarters USAF issued Specific Operational Requirement (SOR) 171 for the Minuteman I ICBM. It covered the "A" and "B" models.
- 30 March        The deployment of the Series D Atlas ICBM force was completed when the 549th Strategic Missile Squadron at Offutt AFB, Nebraska, was declared operational by Headquarters SAC.

1961

- 1 April           The Air Force Logistics Command (formerly the Air Materiel Command) assumed maintenance responsibility for all ICBM reentry vehicles and warheads.
- 1 April           The first Series F Atlas squadrons, the 550th Strategic Missile Squadron (1x12) at Schilling AFB, Kansas, and the 551st Strategic Missile Squadron (1x12) at Lincoln AFB, Nebraska, were activated by Headquarters SAC.
- 10 April          Headquarters USAF issued Specific Operational Requirement (SOR) 184 for the Titan II ICBM.
- 22 April          The first attempted launch of a Jupiter IRBM by an Italian combat training crew at Cape Canaveral, Florida, was successful. The missile flew 1,514 nautical miles down the Atlantic Missile Range and its reentry vehicle impacted in the target area.
- April-May         The last Series D Atlas ICBM squadron went on alert. It was the 566th SMS at Offutt AFB, Nebraska.
- 19 May            The first Titan I ICBM arrived at Lowry AFB, Colorado.
- 1 June            Headquarters SAC activated the 569th Strategic Missile Squadron (ICBM-Titan I) at Mountain Home AFB, Idaho. This was the last Titan I ICBM squadron to be activated.
- 19 June           The first Series F Atlas ICBM arrived at Vandenberg AFB, California.
- 25 June           The Snark missile and the 702d Strategic Missile Wing was inactivated at Presque Isle AFB, Maine.
- 1 July            Headquarters SAC redesignated the following units: the 706th Strategic Missile Wing and the 549th Strategic Missile Squadron, Francis E. Warren AFB, Wyoming (now designated the 389th Strategic Missile Wing and the 566th Strategic Missile Squadron); the 703d Strategic Missile Wing and the 848th and 849th Strategic Missile Squadrons, Lowry AFB, Colorado (now designated the 451st Strategic Missile Wing and the 724th and 725th Strategic Missile Squadrons); and the 566th Strategic Missile Squadron, Offutt AFB, Nebraska (now designated the 549th Strategic Missile Squadron).
- 1 July            Headquarters SAC activated the 3901st Strategic Standardization Squadron (Missiles) (later to be designated the 3901st Strategic Missile Evaluation Squadron) at Vandenberg AFB, California.



1961

- 15 July Headquarters SAC activated the 341st Strategic Missile Wing (ICBM-Minuteman A) at Malmstrom AFB, Montana, making it SAC's first Minuteman wing. Minuteman was a three-stage, solid fuel rocket with all inertial guidance designed for mass deployment. Each squadron had five flights. Each flight controlled ten missiles (thus, a 10x5 configuration). Minuteman could be launched from inside its silo instead of being lifted to ground level.
- 20 July The first Titan I ICBM equipped with decoys was successfully launched from Cape Canaveral, Florida. During its flight down the Atlantic Missile Range, the missile released ten decoys which tracking installations used to practice distinguishing between decoys and a real reentry vehicle.
- 21 July Headquarters SAC redesignated the 1st Missile Division at Vandenberg AFB, California, the 1st Strategic Aerospace Division.
- 24 July The first full-range flight test of a Titan I ICBM equipped with an all-inertial guidance system was successful. The missile, launched from Cape Canaveral, Florida, flew 5,000 miles down the Atlantic Missile Range and its reentry vehicle impacted in the target area.
- 29 July Work was completed on the first Series E Atlas ICBM complex at the 567th Strategic Missile Squadron, Fairchild AFB, Washington, and it was turned over to Strategic Air Command.
- 31 July-  
4 August The SAC Inspector General conducted the first formal Operational Readiness Inspection (ORI) of an ICBM wing at the 706th Strategic Missile Wing, F.E. Warren AFB, Wyoming.
- 4 August Work was completed on all three Titan I ICBM complexes at the 724th Strategic Missile Squadron, Lowry AFB, Colorado, and they were turned over to the Strategic Air Command by the Army Corps of Engineers.
- 8 August The first successful launch of a Series F Atlas ICBM took place at Cape Canaveral, Florida. The Series F Atlas, designed for long-term storage of liquid fuels and a shortened launch countdown, was the only model of the Atlas ICBM emplaced in hardened underground silo-lift launchers.

1961

- 21 August Construction began at Ellsworth AFB, South Dakota, on the first model "B" Minuteman I ICBM operational facilities. The model "B" Minuteman I ICBM was an improved version of the original model "A" missile and incorporated substantial performance improvements and a slightly larger second stage motor chamber made of titanium instead of steel.
- 25 August The first Hound Dog missile was delivered to Beale AFB, California. It was mated to a B-52 on 2 September 1961.
- 28 August Operational readiness training (hardware) began at the 567th Strategic Missile Squadron, Fairchild AFB, Washington. This was the first time that operational readiness training was carried out at any place other than Vandenberg AFB, California.
- 23 September The first attempted "silo-lift" launch of a Titan I ICBM at Vandenberg AFB, California, was successful.
- 28 September Headquarters SAC declared the first Series E Atlas ICBM squadron, the 567th Strategic Missile Squadron at Fairchild AFB, Washington, to be operational.
- 29 September SAC issued an SOR (Specific Operation Requirement) for a UHF emergency rocket communications system (ERCS).
- October The first Series E Atlas ICBM was placed on alert at the 567th SMS, Fairchild AFB, Washington.
- 1 October The 556th SMS (1x12) was activated at Plattsburgh AFB, New York. It was the last Series F Atlas squadron and the last squadron in the Atlas program. The 556th SMS, SAC's first SMS, had been a Snark unit at Patrick AFB, Florida, from 15 December 1957 to 16 July 1959.
- 6 October The first Titan I ICBM was emplaced in a silo at the 724th Strategic Missile Squadron, Lowry AFB, Colorado.
- November The bulk of the Series E Atlas force was placed on alert at Fairchild (567th), Forbes (568th), and F. E. Warren (569th). Some sites were kept off alert for crew training for a few more months.
- 7 November The first Jupiter IRBM launcher of the NATO II Squadron in Turkey was turned over to the Strategic Air Command and manned by United States Air Force personnel until Turkish crews completed training.

1961

- 13 November The first "A" Minuteman I ICBM operational base silo was completed at Malmstrom AFB, Montana, and turned over to an Air Force Site Activation Task Force (SATAF).
- 17 November The first successful underground silo launch of a Minuteman ICBM took place at Cape Canaveral, Florida. The missile flew 3,000 miles down the Atlantic Missile Range and its reentry vehicle impacted in the target area.
- 1 December Headquarters SAC activated the first Minuteman squadron, the 10th Strategic Missile Squadron (ICBM-Minuteman A), and the 341st Missile Maintenance Squadron (ICBM-Minuteman), at Malmstrom AFB, Montana.
- 7 December Secretary of Defense Robert S. McNamara canceled the Mobile Minuteman development program.
- 15 December Construction of the first flight of ten model "A" Minuteman I ICBM operational base silos was completed with the acceptance of the tenth site at Malmstrom AFB, Montana, by the SATAF.
- 18 December SAC Combat Evaluation Launches (CEL) of the Quail missile began at Eglin AFB, Florida. Elements of the 4241st Strategic Wing (B-52G), Seymour-Johnson AFB, North Carolina, conducted the launches.
- 31 December During 1961, SAC test-launched two Series D Atlas ICBMs from Vandenberg AFB, California.

1962

- 1 January For the first time, five SAC aircraft units (the 42d and 97th Bomb Wings and the 4038th, 4039th, and 4137th Strategic Wings, all B-52G equipped) carried Quail missiles on airborne alert.
- 1 January The 390th SMW and 570th SMS at Davis-Monthan AFB, Arizona, became the first Titan II wing and squadron to be activated. Titan II wings had two 1 x 9 squadrons. The missile used storable liquid propellants, all inertial guidance, carried a larger reentry vehicle than the Titan I, and could be launched from its silo.
- 1 January Headquarters SAC activated the first model "B" Minuteman I wing, the 44th Strategic Missile Wing, at Ellsworth AFB, South Dakota.

1962

- 9 January The first SAC Combat Evaluation Launch (CEL, nicknamed Jetblack) of a Hound Dog missile was conducted by a crew from the 4126th Strategic Wing (B-52G), Beale AFB, California. The missile flew 607 nautical miles down the Atlantic Missile Range and impacted in the target area.
- 17 January The 4038th Strategic Wing (B-52G) at Dow AFB, New Hampshire, became the first SAC unit to carry Hound Dog missiles on airborne alert.
- 20 January The first launch of a Titan I ICBM by a SAC crew at Vandenberg AFB, California, was successful.
- 27 January The first Titan I ICBM launch complex (395A) at Vandenberg AFB, California, was turned over to the Strategic Air Command.
- 29 January The 47th and last Titan I ICBM launch at Cape Canaveral, Florida, was successful. Of the 47 test launches of the missile at Cape Canaveral, 34 were rated successes, nine were rated partial successes, and four were rated failures.
- 15 February In fifth consecutive silo launching, a Minuteman set a new record by flying 3,900 miles farther than previous silo-launched vehicles of this type.
- 28 February The first successful launch of a Series E Atlas ICBM from a coffin-type launch facility took place at Vandenberg AFB, California.
- 16 March The first attempted launch of a Titan II ICBM at Cape Canaveral, Florida, was successful. The missile flew 5,000 miles down the Atlantic Missile Range and its reentry vehicle impacted in the target area.
- 18 April Headquarters SAC declared the first Titan I ICBM squadron, the 724th Strategic Missile Squadron at Lowry AFB, Colorado, to be operational.
- 18 April The first attempted combat training launch of a Jupiter IRBM by a Turkish crew at Cape Canaveral, Florida, was successful.
- 20 April The first Titan Is were placed on alert at the 724th SMS, Lowry AFB, Colorado.
- 1 May Secretary of Defense Robert S. McNamara informed British Minister of Defense Peter Thorneycroft that after 31 October 1964, the United States would no longer provide logistical support for the Thor IRBM squadrons deployed in the United Kingdom.

1962

- 1 May Construction work was completed on the first squadron of model "A" Minuteman I ICBM operational facilities at Malmstrom AFB, Montana.
- 1 May Headquarters SAC activated the 490th Strategic Missile Squadron (ICBM-Minuteman A) at Malmstrom AFB, Montana. It was the third and last model "A" Minuteman I squadron to be activated by SAC.
- 24 May A Titan I was destroyed by an explosion and the launch complex at Chico, California, was damaged during contractor checkout of the site, which was assigned to the 4126th Strategic Wing, Beale AFB, California.
- 25 May The Strategic Air Command turned over the one Jupiter IRBM squadron in Turkey to Turkish Air Force personnel and at the same time inactivated the 866th Technical Training Squadron. The squadron's warheads, however, remained in SAC's custody and possession until such time as they were released for launch by an American warhead release order.
- 28 May The McDonnell Aircraft Corporation delivered the last Quail missile to the Strategic Air Command.
- 31 May First test launch of an ERCS Blue Scout Jr. rocket from Vandenberg AFB, California, was successful.
- May The 725th SMS, Lowry AFB, Colorado, became the first Titan I squadron to achieve alert.
- June The first Series F Atlas ICBM operational sites at the 550th Strategic Missile Squadron, Schilling AFB, Kansas, and the 551st Strategic Missile Squadron, Lincoln AFB, Nebraska, were accepted by the Strategic Air Command.
- 18 June The twelfth and last combat training launch of a Thor IRBM by a Royal Air Force crew at Vandenberg AFB, California, was successful.
- 26 June A crew from the 389th Strategic Missile Squadron at Francis E. Warren AFB, Wyoming, successfully launched a Series D Atlas ICBM from Vandenberg AFB, California, in the first interceptor test (a failure) of the Army's Nike-Zeus program.
- 1 July Headquarters SAC activated the first model "B" Minuteman I ICBM squadron, the 66th Strategic Missile Squadron at Ellsworth AFB, South Dakota.

1962

- 19 July A crew from the 565th Strategic Missile Squadron at Francis E. Warren AFB, Wyoming, launched a Series D Atlas ICBM from Vandenberg AFB, California, in the first successful interceptor test of the Army's Nike-Zeus program.
- 23 July The first model "A" Minuteman I ICBM arrived at Malmstrom AFB, Montana.
- 27 July The first model "A" Minuteman I ICBM was emplaced in site A-9 at Malmstrom AFB, Montana.
- August The first Series F Atlas ICBM was placed on alert at the 577th SMS, Altus AFB, Oklahoma, early in the month.
- 1 August The first operationally configured Series F Atlas ICBM was successfully launched from Vandenberg AFB, California.
- 1 August British Minister of Defense Peter Thorneycroft announced in Parliament the planned phaseout of Thor IRBMs in the United Kingdom, to be completed by 31 December 1963.
- 9 August Multiple countdown and launch procedures were successfully demonstrated for the first time when a crew from the 389th Strategic Missile Wing at Francis E. Warren AFB, Wyoming, fired two Series D Atlas ICBMs (Operation Peg Board I and II) in quick succession from Vandenberg AFB, California.
- September The Titan Is of the 851st SMS, Beale AFB, California, were placed on alert. This was the last Titan I squadron to achieve alert status.
- 1 September Headquarters SAC activated the 374th Strategic Missile Squadron at Little Rock AFB, Arkansas. This was the last Titan II squadron to be activated.
- 9 September Headquarters SAC declared the 550th Strategic Missile Squadron (ICBM-Atlas F) at Schilling AFB, Kansas, to be operational.
- 12 September The first successful launch of a Titan II ICBM equipped with decoys took place at Cape Canaveral, Florida.
- 27 September Construction work was completed on the last model "A" Minuteman I ICBM operational facilities at Malmstrom AFB, Montana.

1962

- 28 September      Headquarters SAC declared the 568th Strategic Missile Squadron (ICBM-Titan I) at Larson AFB, Washington, to be operational. This completed the deployment of Titan I ICBMs.
- October             As a result of the Cuban missile crisis during the latter part of the month, the Series F Atlas squadrons at Schilling (550th), Lincoln (551st), Altus (577th) and Dyess (578th) were for the first time required to place all 12 missiles on alert. The first few Series F Atlas ICBMs at the 556th SMS at Plattsburgh AFB, New York, were also put on alert at this time.
- 2 October          The first Series D Atlas ICBM combat training launch (CTL) was conducted at Vandenberg AFB, California. The CTL program was the predecessor of the current operational test program.
- 24 October         Headquarters SAC accepted the first flight of ten model "A" Minuteman I ICBMs at the 10th Strategic Missile Squadron, 341st Strategic Missile Wing, Malmstrom AFB, Montana.
- 27 October         The first model "A" Minuteman I ICBMs were placed on alert at the 10th Strategic Missile Squadron, 341st Strategic Missile Wing, Malmstrom AFB, Montana.
- 6 November         Headquarters SAC instituted a master's degree education program for its Minuteman ICBM crews at Malmstrom AFB, Montana.
- 27 November        The first Titan II ICBM was delivered to Davis-Monthan AFB, Arizona.
- 29 November        The first Thor IRBM was removed from alert in the United Kingdom under the Thor phaseout program.
- 7 December         The first attempted launch of a Minuteman ICBM equipped with a Mark 11 reentry vehicle was successful. This launch, conducted by an all-Air Force crew, took place at Cape Canaveral, Florida.
- 8 December         The first Titan II ICBM was emplaced in a silo at Davis-Monthan AFB, Arizona.
- 11 December        Headquarters SAC declared the first two flights of model "A" Minuteman I ICBMs at Malmstrom AFB, Montana, to be operational. This was the beginning of continuous alert for Minuteman.

1962

- 20 December Headquarters SAC declared the 556th Strategic Missile Squadron (ICBM-Atlas F) at Plattsburgh AFB, New York, to be operational. This completed the deployment of the Atlas ICBM force.
- 20 December Headquarters SAC published a new Operational Test and Evaluation Plan (OTEP 26-63) for Atlas, Titan, and Minuteman ICBMs. This was the original SAC plan for carrying out the JCS-directed Category III, Type III and Type IV flight tests.
- 21 December President Kennedy and British Prime Minister Harold MacMillan issued a joint statement, following their meeting in Nassau, Bahamas, canceling the Skybolt missile program.
- 22 December The last flight test of a prototype Skybolt missile, launched from a B-52G over the Atlantic Missile Range, was successful.
- 31 December During 1962, SAC test-launched 15 Series D Atlas ICBMs from Vandenberg AFB, California.

1963

- 17 January The United States announced the planned phaseout of Jupiter IRBM squadrons in Italy.
- 22 January The last of six combat training launches of Jupiter IRBMs by Italian crews at Cape Canaveral, Florida, was successful.
- 23 January The Turkish government announced plans for the phaseout of the one Jupiter IRBM squadron deployed in Turkey.
- 6 February The first attempted launch of a Titan II ICBM by an all-Air Force crew was successful. The missile, launched from Cape Canaveral, Florida, flew 5,871 miles down the Atlantic Missile Range and its reentry vehicle impacted in the target area.
- 18 February The first attempted dual launch of Hound Dog missiles, conducted over the Atlantic Missile Range, was successful.
- 28 February Headquarters SAC declared its first Minuteman squadron, the 10th Strategic Missile Squadron (ICBM-Minuteman A) at Malmstrom AFB, Montana, to be operational.



1963

- 9 March                    The Chico, California, Titan I launch complex became operational after repairs from the May 1962 explosion were completed.
- 9-23 March                Five Series D and F Atlas ICBMs were launched from Vandenberg AFB, California, in an exercise designated "Tall Tree." The purpose of this exercise was to demonstrate the Emergency War Order (EWO) launch capabilities of the Series D and F Atlas ICBMs by utilizing operational missiles, missile crews, and maintenance personnel in the actual launch of the missiles at Vandenberg AFB, California. In general, the "Tall Tree" exercise did not successfully attain its overall objective due to a number of factors, the most important of which was the lack of combat realism at the test launch facilities at Vandenberg AFB, California.
- 28 March                 Production of the Hound Dog missile was completed by North American Aviation, Inc.
- 30 March                 The first Titan II ICBM operational launch facility (Site 570-2) at the 570th Strategic Missile Squadron, Davis-Monthan AFB, Arizona, was accepted by the Strategic Air Command.
- April                     The first Titan II ICBM went on alert at Davis-Monthan AFB, Arizona.
- April                     The first model "B" Minuteman I ICBM was emplaced in a silo at Ellsworth AFB, South Dakota.
- April                     The first model "A" Minuteman I squadron, the 10th SMS, Malmstrom AFB, Montana, brought the last of its missiles up to alert.
- 11 April                 The first successful launch of a model "A" Minuteman I ICBM from Vandenberg AFB, California, was conducted by a crew from the Air Force Systems Command's 6595th Aerospace Test Wing. It followed the completion of successful flight test program from Cape Canaveral, Florida.
- 15-20 April              The Titan Is of the 850th SMS of the 44th SMW, Ellsworth AFB, South Dakota, were the first ICBMs (and the first Titan Is) tested by the SAC Inspector General in a formal operational readiness inspection (ORI).
- 21-26 April              The SAC Inspector General conducted the first formal ORI of a Series D Atlas ICBM squadron at the 549th Strategic Missile Squadron, Offutt AFB, Nebraska.

1963

21-26 April      The SAC Inspector General conducted the first formal ORI of a Series E Atlas ICBM squadron at the 567th Strategic Missile Squadron, Fairchild AFB, Washington. The 567th SMS was the first Atlas (and first missile) squadron to pass an ORI.

28 April        The first successful underground silo launch of a Titan II ICBM took place at Vandenberg AFB, California.

19-24 May       The 851st Strategic Missile Squadron (ICBM-Titan I) at Beale AFB, California, became the first Titan I ICBM squadron to pass an ORI.

24 May          Headquarters USAF approved the recommendation of an Air Force Ad Hoc Group that the Series D and E Atlas and Titan I ICBMs be phased out of the Air Force weapons system inventory between 1965 and 1968.

24 May          The first successful launch of a model "B" Minuteman I ICBM took place at Vandenberg AFB, California.

27 May -  
2 June          The SAC Inspector General conducted the first formal ORI of a Series F Atlas ICBM squadron at the 578th Strategic Missile Squadron, Dyess AFB, Texas.

28 May          The first Minuteman ICBM equipped with retro-rockets to increase the distance between its third stage and reentry vehicle in flight was successfully launched from Cape Canaveral, Florida.

June            The 570th SMS at Davis-Monthan AFB, Arizona, became the first Titan II squadron to go on alert.

1 June          Atlas F launch complex 579-1 of the 6th Strategic Aerospace Wing at Walker AFB, New Mexico, was destroyed by an explosion during a propellant loading exercise.

7 June          A revised SAC Specific Operation Requirement (SOR) for ERCS called for a follow-on system using Minuteman missiles.

8 June          Headquarters SAC declared the 570th Strategic Missile Squadron (ICBM-Titan II) at Davis-Monthan AFB, Arizona, to be operational. This was the first Titan II ICBM squadron to achieve this status.

24 June        Headquarters SAC accepted the first flight of ten model "B" Minuteman I ICBMs at the 66th Strategic Missile Squadron, Ellsworth AFB, South Dakota.

1963

- July The first model "B" Minuteman Is were placed on alert at the 66th SMS, Ellsworth AFB, South Dakota.
- 1 July Headquarters SAC announced the establishment of a new terminology for ICBM testing and evaluation. Research and Development (R&D) tests replaced the terms Category I and II tests, Demonstration and Shakedown Operations (DASO) replaced the term Category III tests, Operational Tests (OT) replaced the term Type III tests, and Follow-on Operational Tests (FOT) replaced the term Type IV tests. These were changes in terminology only and the primary objectives of the various tests remained the same.
- 3 July The third and last Minuteman I squadron at Malmstrom AFB, Montana, the 490th, became operational.
- 11 July Three Blue Scout Jr. ERCS surface launch sites at Wisner, West Point, and Tekamah, Nebraska, were accepted by SAC and declared operational.
- 15 August The last 15 Thor IRBMs were removed from alert in the United Kingdom. This completed the operational phase-out of the Thor IRBM program.
- 27 September The last Thor IRBM was airlifted from the United Kingdom to the United States.
- 30 September Headquarters SAC declared the 66th Strategic Missile Squadron (ICBM-Minuteman B) at Ellsworth AFB, South Dakota, to be operational. This was the first model "B" Minuteman I ICBM squadron to achieve this status.
- 2 October Headquarters USAF issued Annex A to SOR 171. This annex established the requirement for the Minuteman II ICBM. The Minuteman II was a more advanced missile than either model of the Minuteman I and incorporated a new, larger second-stage engine, improved guidance, greater range and payload capability, and an increased capability of surviving nuclear attack.
- 17 October The first model "A" Minuteman I ICBM Operational Test (OT) launch at Vandenberg AFB, California, was a partial success. The missile, launched by a crew from the 341st Strategic Missile Wing, Malmstrom AFB, Montana, successfully flew down the Pacific Missile Range, but late third-stage thrust termination caused its reentry vehicle to impact 781 nautical miles beyond its target area.

1963

- 23 October            Headquarters SAC issued a QOR (Qualitative Operational Requirement) for a large payload missile as a follow on to Minuteman.
- November             The 390th SMW at Davis-Monthan AFB, Arizona, was the first Titan II wing to go on alert.
- 8 November           Secretary of Defense McNamara approved the Minuteman Force Modernization Program. This program entailed the replacement of the entire force of Minuteman I ICBMs, both "A" and "B" models, with Minuteman II ICBMs. In the Force Modernization Program, in order to prepare for the emplacement of Minuteman II ICBMs, it was necessary to completely retrofit the original Minuteman I launch facilities, launch control facilities, and associated ground equipment.
- 16 November          Director Defense Research and Engineering (DDR&E) approved ERCS on Minuteman.
- 23 November          Headquarters SAC submitted to Headquarters USAF QOR 95 for a short-range air-to-surface attack missile (SRAM).
- 9-13 December        The SAC Inspector General conducted the first ORI of a Minuteman ICBM wing at the 341st Strategic Missile Wing (ICBM-Minuteman A), Malmstrom AFB, Montana. The 490th Strategic Missile Squadron of the 341st SMW was the first ICBM squadron to successfully exercise all missiles on alert during an ORI.
- 17 December          Only SAC launch of an ERCS Blue Scout Jr. by the 4300th Support Squadron at Vandenberg AFB, California.
- 20 December          The Strategic Air Command's responsibility for the Thor IRBM program in the United Kingdom came to an end with the complete phaseout of this weapon system by the Royal Air Force.
- 31 December          Headquarters SAC declared the 374th Strategic Missile Squadron (ICBM-Titan II) at Little Rock AFB, Arkansas, to be operational. This completed the deployment of the Titan II ICBM force.
- 31 December          During 1963 SAC launched the following missiles from Vandenberg AFB, California: 17 Series D Atlas; 5 Series E Atlas; 2 Series F Atlas; 7 Titan I; 11 model "A" Minuteman I; and two model "B" Minuteman I.

1964

- 13 February Atlas F launch complex 579-5 of the 6th Strategic Aerospace Wing at Walker AFB, New Mexico, was destroyed by an explosion during a propellant loading exercise.
- 25 February The first two model "B" Minuteman I ICBM Operational Tests (OT) launches at Vandenberg AFB, California, were successful. Both launches took place on the same day.
- 28 February Headquarters USAF issued a contract for the construction of facilities at the first Minuteman II ICBM wing, the 321st Strategic Missile Wing, Grand Forks AFB, North Dakota.
- 29 February Two model "A" Minuteman I ICBMs were launched from Vandenberg AFB, California, in the first successful "ripple mode" launch of this weapon system. In this dual launch, primary crews from the 10th Strategic Missile Squadron at Malmstrom AFB, Montana, issued launch command to both missiles.
- 5 March Construction began on Minuteman II ICBM operational facilities at Grand Forks AFB, North Dakota.
- 9 March Atlas F launch complex 579-2 of the 6th Strategic Aerospace Wing at Walker AFB, New Mexico, was destroyed by an explosion during a propellant loading exercise.
- 18 March Headquarters USAF issued Specific Operational Requirement (SOR) 212 for a short-range air-to-surface attack missile (SRAM).
- 23 March The first Operational Test (OT, nicknamed Shotgun) of a Quail missile, conducted over the Eglin Gulf Test Range, was successful.
- 9 April The last Titan II ICBM Research and Development (R&D) test launch at Cape Kennedy, Florida, formerly Cape Canaveral, was successful.
- 21 April The number of ICBMs on alert equaled the number of bombers on ground alert.
- 27 April -  
2 May The SAC Inspector General conducted the last ORI of a Series D Atlas ICBM wing at the 706th Strategic Missile Wing, Francis E. Warren AFB, Wyoming.
- 1 May The first Series D Atlas ICBMs were taken off alert at the 576th Strategic Missile Squadron (Complex 576B), Vandenberg AFB, California.

1964

- 10-15 May           The SAC Inspector General conducted the first ORI of a model "B" Minuteman ICBM wing at the 44th Strategic Missile Wing, Ellsworth AFB, South Dakota.
- 14 May              Atlas F launch complex 577-6 of the 11th Strategic Aerospace Wing at Altus AFB, Oklahoma, was destroyed by an explosion during a propellant loading exercise.
- 16 May              Secretary of Defense McNamara directed that the phaseout program for the Series E Atlas and Titan I ICBMs be accelerated. Originally, the phaseout of these two weapons systems was scheduled to be completed by the end of FY 1968. Under the new directive, it was to be completed no later than the end of FY 1965.
- 26 May              The first Series D Atlas ICBM was shipped from Francis E. Warren AFB, Wyoming, in the phaseout of this weapon system.
- 1 July               Headquarters SAC activated the thirteenth and last model "B" Minuteman I squadron, the 400th Strategic Missile Squadron, at Francis E. Warren AFB, Wyoming.
- 7 July               A model "B" Minuteman I operational test on this date was the 100th SAC missile launched from Vandenberg AFB, California.
- August              The gradual replacement of model "A" Minuteman ICBMs with model "B" Minuteman was begun at the 341st Strategic Missile Wing, Malmstrom AFB, Montana.
- 27 August           The last test launch of a Series E Atlas conducted by the Strategic Air Command was successful. This launch, which took place at Vandenberg AFB, California, was undertaken in conjunction with the Army's Nike-Zeus program.
- 1 September         Headquarters SAC inactivated the first Series D Atlas ICBM squadron, the 564th Strategic Missile Squadron at Francis E. Warren AFB, Wyoming.
- 2-5 September      The SAC Inspector General conducted the last ORI of a Series E Atlas ICBM squadron at the 567th Strategic Missile Squadron, Fairchild AFB, Washington.
- 24 September       The first attempted launch of a Minuteman II ICBM, conducted at Cape Kennedy, Florida, was successful.

1964

- 1 October           The last Series D Atlas ICBMs were removed from alert at the 549th Strategic Missile Squadron, Offutt AFB, Nebraska. This completed the operational phaseout of this model of the Atlas ICBM.
- 22 October           The last Series D Atlas ICBM to leave a SAC operational base was shipped from the 549th Strategic Missile Squadron, Offutt AFB, Nebraska, to storage facilities for future use as launch vehicles in various research and development programs.
- 26-30 October       The 551st SMS at Lincoln AFB, Nebraska, was the last Series F Atlas unit to undergo an operational readiness inspection (ORI).
- 1 November           Headquarters SAC activated the first Minuteman II (and the sixth Minuteman) ICBM wing, the 321st Strategic Missile Wing, at Grand Forks AFB, North Dakota.
- 9 November           The last model "A" Minuteman I ICBM Operational Test (OT) launch at Vandenberg AFB, California, was successful.
- 16-20 November     The SAC Inspector General conducted the first formal ORI of a Titan II ICBM wing at the 390th Strategic Missile Wing, Davis-Monthan AFB, Arizona.
- 19 November         Secretary of Defense McNamara announced that all remaining first-generation ICBMs (Series E and F Atlas and Titan I) would be phased out (Project Added Effort) by the end of June 1965.
- 20 November         Secretary of Defense McNamara set the final Minuteman ICBM force level at 1,000 missiles.
- 27 November         Secretary of Defense McNamara approved Project Long Life. This program called for the short-range operational base launch of three modified model "B" Minuteman I ICBMs at Ellsworth AFB, South Dakota. Each missile would contain enough propellant in its first stage to allow for a seven second flight. The rest of the missile, its upper stages and reentry vehicle, would be inert. The primary objective of Project Long Life was to launch an ICBM from as realistic an operational environment as possible.
- 1 December           The first Series F Atlas was removed from alert at the 578th Strategic Missile Squadron, Dyess AFB, Texas. This missile and another at Altus AFB were removed prior to the 5 January 1965 programmed date to preclude costly maintenance expenditures.

1964

- 15 December Headquarters SAC inactivated the last Series D Atlas ICBM squadron, the 549th Strategic Missile Squadron, at Offutt AFB, Nebraska.
- 31 December During 1964 SAC launched the following missiles from Vandenberg AFB, California: 6 Series D Atlas, 2 Series E Atlas, 4 Series F Atlas, 1 Titan I, 5 Titan II, 18 model "A" Minuteman Is and 33 model "B" Minuteman Is.

1965

- 4 January The first Series E Atlas ICBMs were taken off alert at the 548th Strategic Missile Squadron, Forbes AFB, Kansas, and the 566th Strategic Missile Squadron, Francis E. Warren AFB, Wyoming.
- 4 January The first Titan I ICBMs were taken off alert at the 568th Strategic Missile Squadron, Larson AFB, Washington, the 850th Strategic Missile Squadron, Ellsworth AFB, South Dakota, and the 851st Strategic Missile Squadron, Beale AFB, California.
- 8 January The last test launch of a Series F Atlas ICBM conducted by the Strategic Air Command was successful. This launch took place at Vandenberg AFB, California.
- 18 January The first SAC launch of a Thor IRBM was made by the 4300th Support Squadron at Vandenberg AFB, California.
- 1 February Headquarters SAC activated the first Minuteman II ICBM squadron, the 447th Strategic Missile Squadron, at Grand Forks AFB, North Dakota.
- 8-12 February The SAC Inspector General conducted the last operational readiness inspection (ORI) of a Titan I unit at the 451st SMW, Lowry AFB, Colorado.
- 1 March A missile combat crew of the 44th Strategic Missile Wing, Ellsworth AFB, South Dakota, successfully launched the first modified model "B" Minuteman I ICBM under the Project Long Life program. This successful test from Ellsworth AFB demonstrated the ability of a SAC missile combat crew to launch a Minuteman ICBM from an operational facility. This missile only carried enough fuel in its first stage for a seven second flight.
- 5 March The last test launch of a Titan I ICBM conducted by the Strategic Air Command was successful. This launch took place at Vandenberg AFB, California.



1965

- 12 March           The last test launch of a Series D Atlas ICBM conducted by the Strategic Air Command was successful. This launch took place at Vandenberg AFB, California.
- 23 March           Secretary of Defense McNamara approved the initial development of the Short Range Attack Missile (SRAM).
- 24 March           The first Titan II ICBM operational test launch at Vandenberg AFB, California, was successful.
- 25 March           Headquarters SAC inactivated the 577th Strategic Missile Squadron (ICBM-Atlas F) at Altus AFB, Oklahoma, the 578th Strategic Missile Squadron (ICBM-Atlas F) at Dyess AFB, Texas, the 579th Strategic Missile Squadron (ICBM-Atlas F) at Walker AFB, New Mexico, the 568th Strategic Missile Squadron (ICBM-Titan I) at Larson AFB, Washington, the 850th Strategic Missile Squadron (ICBM-Titan I) at Ellsworth AFB, South Dakota, the 851st Strategic Missile Squadron (ICBM-Titan I) at Beale AFB, California, the 566th Strategic Missile Squadron (ICBM-Atlas E), and the 389th Strategic Missile Wing (ICBM-Atlas E) at Francis E. Warren AFB, Wyoming.
- 31 March           The last Series E Atlas ICBMs were removed from alert at the 567th Strategic Missile Squadron, Fairchild AFB, Washington. This completed the operational phaseout of this model of the Atlas ICBM weapon system.
- 1 April            The last Titan I ICBMs were removed from alert at the 569th Strategic Missile Squadron, Mountain Home AFB, Idaho. This completed the operational phaseout of the Titan I ICBM weapon system.
- 5 April            The last Series E Atlas ICBM to leave a SAC operational base was shipped from the 567th Strategic Missile Squadron, Fairchild AFB, Washington, to storage for future use as launch vehicles in various research and development programs.
- 12 April           The last Series F Atlas ICBMs were removed from alert at the 551st Strategic Missile Squadron, Lincoln AFB, Nebraska. This completed the operational phaseout of this model of the Atlas ICBM weapon system.
- 15 April           The last Titan I was shipped from the 725th Strategic Missile Squadron, Lowry AFB, Colorado, to storage facilities.

1965

- 20 April The last Series F Atlas ICBM (and the last Atlas and the last first-generation liquid-fuel ICBM) to leave a SAC operational base was shipped from the 551st Strategic Missile Squadron, Lincoln AFB, Nebraska, to storage facilities for future use as launch vehicles in various research and development programs. This completed the phaseout of SAC's first generation of ICBMs.
- 15 June Headquarters SAC declared the 400th Strategic Missile Squadron (ICBM-Minuteman B) at Francis E. Warren AFB, Wyoming, to be operational. This completed the deployment of the Minuteman I ICBM force.
- 25 June Headquarters SAC inactivated the last remaining Atlas ICBM squadrons, the 567th Strategic Missile Squadron (ICBM-Atlas E) at Fairchild AFB, Washington, the 550th Strategic Missile Squadron (ICBM-Atlas F) at Schilling AFB, Kansas, the 551st Strategic Missile Squadron (ICBM-Atlas F) at Lincoln AFB, Nebraska, and the 556th Strategic Missile Squadron (ICBM-Atlas F) at Plattsburgh AFB, New York.
- 25 June Headquarters SAC inactivated the last Titan I ICBM squadrons, the 569th Strategic Missile Squadron (ICBM-Titan I) at Mountain Home AFB, Idaho, the 724th and 725th Strategic Missile Squadrons (ICBM-Titan I) and the 451st Strategic Missile Wing (ICBM-Titan I) at Lowry AFB, Colorado.
- 1 July Headquarters SAC inaugurated an undergraduate college education program for Minuteman ICBM crews at the 90th Strategic Missile Wing, Francis E. Warren AFB, Wyoming.
- 6 July The last model "B" Minuteman I ICBM Operational Test (OT) launch at Vandenberg AFB, California, was successful.
- 13 July Headquarters SAC issued a QOR for a mobile ICBM.
- 15 July Headquarters USAF issued the first Minuteman III research and development contract to the Boeing Company. The Minuteman III was the newest, most advanced version of the Minuteman weapon system. It employed an improved third stage booster, carried more penetration aids to counter anti-ballistic missile defense systems, and was equipped to carry the Mark 12 Multiple Independently Targetable Reentry Vehicle (MIRV) with three warheads.

1965

- 5 August           The first Minuteman II ICBM to arrive in the field was accepted by the 321st SMW, Grand Forks AFB, North Dakota.
- 7 August           The first Minuteman II ICBM was emplaced in a silo at the 447th Strategic Missile Squadron, Grand Forks AFB, North Dakota.
- 9 August           Titan II Launch Complex 373-4 of the 308th Strategic Missile Wing, near Searcy, Arkansas, was severely damaged in a flash fire. Fifty-three contractor personnel, doing modifications to the silo, were killed.
- 18 August          The first attempted launch of a Minuteman II ICBM from an operationally configured underground silo at Vandenberg AFB, California, conducted by Air Force Systems Command, was successful. The missile flew 5,000 miles down the Pacific Missile Range and its reentry vehicle impacted in the target area.
- 15 October         The first class to receive Master of Science degrees in aerospace engineering under the Minuteman Education Program was graduated at the 341st Strategic Missile Wing, Malmstrom AFB, Montana.
- 31 October         The first flight of ten Minuteman II ICBMs at the 447th Strategic Missile Squadron, Grand Forks AFB, North Dakota, was accepted by the Strategic Air Command.
- 1 December         The first of a series of High Explosive Simulation Technique (HEST) tests, designed to determine the hardness of Minuteman ICBM launch facilities, took place at the 90th Strategic Missile Wing, Francis E. Warren AFB, Wyoming.
- 31 December        During 1965 SAC launched the following missiles from Vandenberg AFB, California: 5 Series D Atlas, 1 Series F Atlas, 2 Titan I, 14 Titan II, 3 model "A" Minuteman I, 21 model "B" Minuteman I and 4 Thor/Altair.

1966

- January            The first Minuteman II ICBMs went on alert at Grand Forks AFB, North Dakota.

1966

- 24 February The first attempted salvo (simultaneous) launch of two model "A" Minuteman I ICBMs at Vandenberg AFB, California, was successful. This launch demonstrated the multiple countdown and launch techniques that would be used at operational bases under actual combat conditions.
- 25 March The 200th SAC missile launched from Vandenberg AFB, California was a Titan II operational test.
- 1 April Headquarters SAC activated the 20th and last Minuteman ICBM squadron, the 564th Strategic Missile Squadron (ICBM-Minuteman II), at Malmstrom AFB, Montana.
- 2 April Last Atlas missile squadron, the 576th Strategic Missile Squadron at Vandenberg AFB, California, was inactivated.
- 11 April Headquarters USAF issued System Management Directive (SMD) 6-61-133B(10) defining the Minuteman III weapon system.
- 20 April The last Titan II operational test (OT) was launched from Vandenberg AFB, California.
- 25 April Headquarters SAC declared the first Minuteman II ICBM squadron, the 447th Strategic Missile Squadron at Grand Forks AFB, North Dakota, to be operational.
- April-October Development of an advanced ICBM (weapons system 120A) took shape in several options for hardened silo or mobile basing.
- May The 447th SMS, Grand Forks AFB, North Dakota, became the first Minuteman II squadron to attain full alert status.
- 7 May The Minuteman Force Modernization program began at Whiteman AFB, Missouri, when the first flight of ten model "B" Minuteman I ICBMs were removed from their silos.
- 25 May The first Titan II follow-on operational test (FOT) flew from Vandenberg AFB, California.
- 1 July Headquarters SAC organized a special agency, Ballistic Missile Evaluation (BME), to evaluate and make formal reports to the Joint Chiefs of Staff on the reliability and capability of the various SAC ICBM weapon systems. This function had been delegated to SAC by the Joint Chiefs of Staff.

1966

- 8 July The first flight test of the Minuteman III Mark 12 MIRV was successful. The Mark 12 MIRV was carried on a Minuteman II ICBM launched from Cape Kennedy, Florida.
- 3 October The last model "A" Minuteman I ICBM Follow-on Operational Test (FOT) launch at Vandenberg AFB, California, was successful.
- 19 October The first attempted short-range operational base launch of a modified Minuteman II (Project Long Life II) at Grand Forks AFB, North Dakota, was unsuccessful.
- 26 October Construction was completed on Minuteman II ICBM operational launch facilities at the 564th Strategic Missile Squadron, Malmstrom AFB, Montana.
- 28 October The second attempted short-range operational base launch of a modified Minuteman II ICBM (Project Long Life II) at Grand Forks AFB, North Dakota, was unsuccessful.
- 31 October Headquarters USAF awarded the Boeing Aircraft Company engineering development contract for the Short Range Attack Missile (SRAM).
- 22 November Last flight of Minuteman II ICBMs in the 321st Strategic Missile Wing turned over to SAC at Grand Forks AFB, North Dakota. This completed the first wing of Minuteman IIs.
- 5-10 December The SAC Inspector General conducted the first formal operational readiness inspection (ORI) of a Minuteman II unit, the 321st SMW, Grand Forks AFB, North Dakota.
- 13 December The first test and evaluation launch of the Minuteman Emergency Rocket Communications System (ERCS) was successful. A communications package was successfully launched into space aboard a Minuteman II ICBM fired from Vandenberg AFB, California, and transmitted its message successfully before reentry into the earth's atmosphere.
- 13 December First Minuteman F ERCS R&D flight test from Vandenberg AFB, California.
- 22 December The first attempted salvo (simultaneous) launch of two model "B" Minuteman I ICBMs at Vandenberg AFB, California, was successful.
- 31 December During 1966 SAC launched the following missiles from Vandenberg AFB, California: 9 Titan II, 10 model "A" Minuteman I, 30 model "B" Minuteman I, 3 Minuteman II, 2 Thor/Altair and 1 Thor/Burner II.

1967

- January           The 321st SMW Grand Forks AFB, North Dakota, became the first Minuteman II wing to attain full alert status.
- 8 February        The last SAC launch of a Thor IRBM (until 1980) conducted by the 4300th Support Squadron at Vandenberg AFB, California, was successful.
- 31 March          Remaining SAC Thor boosters transferred to Air Defense Command.
- 31 March          The responsibility of the Strategic Air Command in the phase-out of the Atlas and Titan I ICBMs (Project Added Effort) ended with the successful completion of the service and salvage program for these weapon systems.
- 3-7 April         The Strategic Air Command conducted its first missile combat competition at Vandenberg AFB, California. Participants included two combat crews and one target alignment team from each of the six Minuteman and three Titan II wings. The 351st Strategic Missile Wing, Whiteman AFB, Missouri, won the prestigious Blanchard Perpetual Trophy, as the best missile wing in SAC. The titan wing award went to the 381st Strategic Missile Wing, McConnell AFB, Kansas.
- 17 April          Last Minuteman F ERCS R&D flight test from Vandenberg AFB, California.
- 17 April          The first attempted launch of a Minuteman II ICBM by means of the Airborne Launch Control System (ALCS), conducted at Vandenberg AFB, California, was successful. The ALCS attained Initial Operational Capability (IOC) on 31 May 1967. This system provided Headquarters SAC with the capability of launching Minuteman ICBMs from airborne command post aircraft.
- 21 April          Headquarters SAC declared the 564th Strategic Missile Squadron (ICBM-Minuteman II) at Malmstrom AFB, Montana, to be operational. The last missiles in the squadron were put on alert in May. This completed the deployment of the 1,000 Minuteman force.
- 2 June            The "Cold/Heat Soak" special test launch of a model "B" Minuteman I ICBM at Vandenberg AFB, California, was successful. The primary objective of the "Cold/Heat Soak" launches was to investigate the effects of prolonged exposure to extreme atmospheric conditions on the operational capability of ICBMs.
- 21 September     The first on-base maintenance trainer (a training launch facility) was accepted from the contractor at the 351st Strategic Missile Wing, Whiteman AFB, Missouri.

1967

- 3 October           The 351st Strategic Missile Wing at Whiteman AFB, Missouri, became the first entire Minuteman I ICBM wing to complete transition to the Minuteman II missile under the Force Modernization Program.
- 4 October           Secretary of Defense McNamara refused to start the development of the WS-120A missile but directed USAF to look at the development of a hard rock silo for Minuteman III.
- 10 October          First Minuteman F mounted ERCS operational in the 351st Strategic Missile Wing, Whiteman AFB, Missouri.
- 7 November         Last Series D Atlas ICBM in the Air Force inventory was launched by AFSC from Vandenberg AFB, California.
- 1 December         Blue Scout Jr. ERCS sites in Nebraska inactivated.
- 31 December        During 1967 SAC launched the following missiles from Vandenberg AFB, California: 4 Titan II, 29 model "B" Minuteman I, 5 Minuteman II and 1 Thor/Burner II.

1968

- 19 January          Headquarters SAC submitted to Headquarters USAF a Required Operational Capability (ROC) for an improved decoy for a manned bomber, designated the Subsonic Cruise Aircraft Decoy (SCAD).
- 1 March             The first Minuteman Mark I penetration aid was deployed on a Minuteman II ICBM at the 341st Strategic Missile Wing, Malmstrom AFB, Montana.
- June                SAC representatives on the initial hard rock silo siting survey identified F. E. Warren AFB, Wyoming, as the best choice for development.
- 14 August           The third attempted short-range operational base launch of a modified Minuteman II ICBM (Project Giant Boost) at Grand Forks AFB, North Dakota, was unsuccessful.
- 16 August           The first attempted launch of a Minuteman III ICBM at Cape Kennedy, Florida, was successful.
- 16 September        The last on-base maintenance trainer (a training launch facility) was accepted from the contractor at the 455th Strategic Missile Wing, Minot AFB, North Dakota.

1968

- 24 October A Minuteman II launched from Vandenberg AFB, California, was SAC's 300th missile launch.
- 10 December The last "Cold/Heat Soak" test launch of a model "B" Minuteman I ICBM at Vandenberg AFB, California, was successful.
- 31 December During 1968 SAC launched 10 model "B" Minuteman Is, 9 Minuteman IIs and 5 Titan IIs from Vandenberg AFB, California.

1969

- 15 January The last model "A" Minuteman I ICBMs were removed from alert at Malmstrom AFB, Montana.
- 12 February The last model "A" Minuteman I ICBMs were removed from their silos at Malmstrom AFB, Montana. Immediately thereafter, contractors began Force Modernization work on these launch facilities in order to prepare them for the emplacement of Minuteman II ICBMs.
- 16 April The first Minuteman II Operational Test (OT) launch, conducted at Vandenberg AFB, California, was unsuccessful.
- 17-24 May SAC's second missile competition was held at Vandenberg AFB, California. Competitors included two combat crews and one maintenance team from each of the six Minuteman and three Titan II wings. The 321st Strategic Missile Wing, Grand Forks AFB, North Dakota, was awarded the Blanchard Perpetual Trophy and the 390th Strategic Missile Wing, Davis-Monthan AFB, Arizona, secured the best Titan wing award.
- 21 May The last Titan II ICBM Follow-on Operational Test (FOT) launch at Vandenberg AFB, California, was successful.
- 27 May The Force Modernization program was completed at Malmstrom AFB, Montana. With the completion of this program at Malmstrom, the SAC Minuteman ICBM force was composed of three wings or ten squadrons of model "B" Minuteman I ICBMs, and three wings or ten squadrons of Minuteman II ICBMs. Of the ten Minuteman II squadrons, six (three at Malmstrom and three at Whiteman) were of the Force Modernization variety.



1969

- 29 July           The first flight-test of the SRAM was successful. The missile, launched from a B-52H, flew down the White Sands Missile Range and impacted in the target area.
- 4 September       The 90th Missile Maintenance Squadron (ICBM-Minuteman B) at Francis E. Warren AFB, Wyoming, received the USAF Maintenance Award for FY 1969 for being the best maintenance squadron in the Air Force. This was the first time that a missile maintenance squadron had received this award.
- 20 October        Secretary of Defense Melvin R. Laird approved the use of Titan IIs as test targets for Safeguard Development. These launches would be conducted by SAC according to follow-on operational test procedures to the extent that it did not interfere with the primary purpose.
- 31 December       During 1969 SAC launched 18 model "B" Minuteman I, 15 Minuteman II, and 1 Titan II from Vandenberg AFB, California.

1970

- 31 March           Under a major numbered air force (NAF) reorganization plan, approved by Headquarters USAF on 15 October 1969 and implemented by Headquarters SAC on 31 March 1970, all SAC ICBM wings were assigned to Headquarters Fifteenth Air Force.
- 31 March           Headquarters SAC published a new Operational Test and Evaluation Plan (OTEP) designed to give overall direction to the ICBM test program. Under the new plan, the terms Operational Test and Follow-on Operational Test were changed to Operational Test, Phase I, and Operational Test Phase II.
- 14 April           The first Minuteman III to arrive in the field was accepted by the 91st SMW, Minot AFB, North Dakota.
- 17 April           The first Minuteman III ICBM was emplaced in a silo (LF H2) at Minot AFB, North Dakota.
- 28 April -  
5 May              The Strategic Air Command's third missile combat competition took place at Vandenberg AFB, California. The Blanchard Perpetual Trophy as the best missile wing in SAC was won by the 44th Strategic Missile Wing, Ellsworth AFB, South Dakota. For the second year in a row, the 390th Strategic Missile Wing, Davis-Monthan AFB, Arizona, received the award for the best Titan II wing.

1970

- 20 May The first successful launch of a SRAM from an FB-111 took place over the White Sands Missile Range, New Mexico.
- 21 May A Minuteman II ICBM was successfully launched from Vandenberg AFB, California, to the Oeno Island target area in the Southeast Pacific. This was the first time that the Oeno Island target area was utilized for a Minuteman ICBM test launch.
- June Dr. John S. Foster, Jr., Director, Defense Research and Engineering, terminated the hard rock silo program in favor of the Minuteman silo upgrade program.
- 19 June The first flight of ten Minuteman III ICBMs at the 741st Strategic Missile Squadron, Minot AFB, North Dakota, was accepted by the Strategic Air Command.
- 20 June The first Titan II Safeguard Target launch was done by SAC from Vandenberg AFB, California.
- 15 July Deputy Secretary of Defense David Packard approved full-scale development of Subsonic Cruise Aircraft Decoy (SCAD) missile.
- 4 August First Minuteman F ERCS operational test launched from Vandenberg AFB, California.
- 17 August The first Modified Operational Missiles (MOMs) test, designated "Giant Profit," took place at the 321st Strategic Missile Wing, Grand Forks AFB, North Dakota. A MOMs test was designed to exercise all the procedures involved in the launch of a Minuteman ICBM except for actual engine ignition. The data obtained from a MOMs was used to ascertain the launch reliability of the Minuteman ICBM weapon system.
- 19 August The first Minuteman III ICBMs went on alert at the 741st Strategic Missile Squadron, Minot AFB, North Dakota.
- 29 August The first full-scale test of all major elements of the Army's Safeguard ABM system was successful. The reentry vehicle of a surplus model "B" Minuteman I ICBM, launched from Vandenberg AFB, California, was successfully intercepted from a Spartan area-defense interceptor missile launched from Kwajalein Atoll.

## 1970

- 22 October The first attempted salvo (simultaneous) launch of two Minuteman II ICBMs at Vandenberg AFB, California, was successful.
- 12-14 December Congress refused to fund Subsonic Cruise Aircraft Decoy (SCAD) development in FY 71.
- 14 December The last test launch of a Minuteman III ICBM at Cape Kennedy, Florida, was successful. This was also the last ICBM launch to take place at Cape Kennedy, Florida.
- 23 December The reentry vehicle of a surplus model "B" Minuteman I ICBM launched from Vandenberg AFB, California, was successfully intercepted by a Sprint terminal-defense interceptor missile launched from Kwajalein Atoll.
- 29 December Headquarters SAC declared the 741st Strategic Missile Squadron (ICBM-Minuteman III) at Minot AFB, North Dakota, to be operational. This was the first Minuteman III ICBM squadron to achieve this status.
- 31 December During 1970 SAC launched 15 model "B" Minuteman I, 26 Minuteman II and three Minuteman III from Vandenberg AFB, California.

## 1971

- January The 741st SMS, Minot AFB, North Dakota, became the first Minuteman III squadron to attain full alert status.
- 12 January Headquarters USAF awarded a contract to the Boeing Company for the production of the Short Range Attack Missile (SRAM).
- 3 February The first Minuteman II phase II operational test was launched from Vandenberg AFB, California.
- 23-29 March The SAC Inspector General conducted the first formal operational readiness inspection (ORI) of a Minuteman III unit, the 91st SMW, Minot AFB, North Dakota.
- 24 March The first Minuteman III, phase II operational test launch at Vandenberg AFB, California, was successful.
- 20-28 April Following the completion of SAC's fourth missile combat competition at Vandenberg AFB, California, the 351st Strategic Missile Wing, Whiteman AFB, Missouri, was awarded the Blanchard Trophy as the best missile wing in SAC. The accolade of best Titan II wing was bestowed upon the 308th Strategic Missile Wing, Little Rock AFB, Arkansas.

1971

- 24 May SAC launched its 400th Missile from Vandenberg AFB, California, a Minuteman II.
- 19 November Headquarters SAC issued a ROC for an advanced ICBM.
- 31 December During 1971 SAC launched the following missiles from Vandenberg AFB, California: two Titan II, 11 model "B" Minuteman I, 17 Minuteman II, and 13 Minuteman III.

1972

- February With Congressional approval, USAF issued requests for proposals (RFPs) to contractors for the major subsystems of Subsonic Cruise Aircraft Decoy (SCAD).
- 1 March The first production line SRAM was delivered to the Strategic Air Command.
- 4 March The first SRAM arrived at the 42d Bombardment Wing (B-52G), Loring AFB, Maine.
- 4 April Headquarters USAF designated the Advanced ICBM as Missile-X (MX).
- 6-14 April SAC conducted its fifth missile competition at Vandenberg AFB, California. To broaden participation and increase interest in the meet, each Minuteman and Titan II wing sent four combat crews instead of two as in previous years. For the first time in the history of the competition, a Titan II unit, the 381st Strategic Missile Wing, McConnell AFB, Kansas, secured the Blanchard Trophy as the best missile wing in SAC. The best Minuteman wing award was won by the 351st Strategic Missile Wing, Whiteman AFB, Missouri.
- 13 April The last Minuteman II phase I operational test flew from Vandenberg AFB, California.
- 26 May A Strategic Arms Limitation (SAL) agreement was signed by President Richard M. Nixon and Soviet General Secretary Leonid I. Brezhnev. Under the terms of this agreement, the Soviet Union was limited to an ICBM force of 1,618 launchers and the United States to 1,054 launchers, while the Soviet Union's submarine-launched ballistic missile (SLBM) strength was set at a figure of 740 as opposed to 656 for the United States. In addition, both

1972

sides agreed to limit the development of an antiballistic missile (ABM) system to two complexes of 100 interceptor missiles each, one complex to defend ICBMs, the other to defend each country's national capital.

- 13 June At Vandenberg AFB, California, the first flight test (nicknamed Giant Patriot) of the Operational Base Launch Safety System (OBLSS, launched aboard a Force Modernized Minuteman II ICBM) was successful. The OBLSS was an internally-mounted destruct system which would allow the launch of a Minuteman II ICBM from an operational silo while providing ground controllers with an effective safety destruct system if the missile malfunctioned or deviated radically from its projected flight path.
- 15 June An aircraft and crew from the 42d Bombardment Wing (B-52G) at Loring AFB, Maine, successfully launched the first production line SRAM over the White Sands Missile Range.
- 13 July Last Quail operational test flown at the Eglin AFB, Florida, water test area.
- 15 September 42d Bombardment Wing, Loring AFB, Maine, became the first B-52 wing to be operational with the Short Range Attack Missile (SRAM).
- 19 September The first Minuteman III ICBM Phase I Operational Test (OT) launch (from a regular Minuteman II launch facility) at Vandenberg AFB, California, was successful.
- November Command data buffer and upgrade silo programs began at F. E. Warren AFB, Wyoming, as part of the Minuteman integrated improvement program.
- 4 December The first Minuteman III phase II operational test was launched from Vandenberg AFB, California.
- 22 December Headquarters USAF directed M-X development to start in FY 1977 with emphasis on air and ground mobile basing.
- 31 December During 1972 SAC launched 8 Minuteman IIs; 11 Minuteman IIIs, and 2 Titan IIs from Vandenberg AFB, California.

1973

- 1 January           The 509th Bombardment Wing, Pease AFB, New Hampshire, became the first FB-111 wing to be operational with the Short Range Attack Missile (SRAM).
- 9 January           Operational Testing and Evaluation (OT&E, nicknamed Bullet Blitz) of the SRAM from B-52 aircraft began at Holloman AFB, New Mexico.
- March               The Minuteman force modernization program which began at Whiteman AFB, Missouri in 1966 completed at Ellsworth AFB, South Dakota.
- 26 April -  
4 May               The Strategic Air Command's sixth missile combat competition took place at Vandenberg AFB, California. Following an extremely close race, the 90th Strategic Missile Wing, Francis E. Warren AFB, Wyoming, won the Blanchard Trophy. The 308th Strategic Missile Wing, Little Rock AFB, Arkansas, secured the accolade of best Titan II wing.
- 15 May              The fifth and last Modified Operational Missiles (MOMs) test took place at the 742d Strategic Missile Squadron, Minot AFB, North Dakota. To replace the MOMs program, SAC developed the Simulated Electronic Launch-Minuteman (SELM) program.
- 30 June             Deputy Secretary of Defense William P. Clements terminated engineering development of Subsonic Cruise Aircraft Decoy (SCAD) and reoriented it to a technology program. At the same time the Navy was directed to continue development of two prototype cruise missile systems.
- 20 July             Malcolm R. Currie, Director Defense Research and Engineering (DDR&E), directed USAF to develop a long range air launched cruise missile based on the canceled SCAD vehicle.
- 24 July             Last Hound Dog operational test flown at the Eglin water test area.
- 31 December        During 1973 SAC launched 6 Minuteman II, 6 Minuteman III, and 1 Titan II from Vandenberg AFB, California.

1974

- 1 February         The first Simulated Electronic Launch-Minuteman (SELM) exercise, Giant Pace Test 74-1, was completed at Ellsworth AFB, South Dakota. During this test, 11 SELM-configured Minuteman II ICBMs underwent successful simulated launch on command by test launch control centers (LCCs) and the Airborne Launch Control System (ALCS).

1974

- 25 April - The 321st Strategic Missile Wing, Grand Forks AFB, North  
3 May Dakota, won the Blanchard Perpetual Trophy as the best missile wing in SAC during the seventh annual missile competition. The 321st also won the award for best Minuteman wing, while the 390th Strategic Missile Wing, Davis-Monthan AFB, Arizona, a close second for the Blanchard Trophy, captured the award for the best Titan II wing.
- 1 July The initial training of Minuteman missile combat crews, formerly performed by Air Training Command (ATC) instructors at Vandenberg AFB, California, was incorporated into the 4315th Combat Crew Training Squadron's Operational Readiness Training (ORT) program at Vandenberg. As a result of this action, the entire Minuteman missile combat training, from beginning (initial training) to end (upgrade training) became the responsibility of SAC.
- 3 September The last SAC Minuteman I was taken off alert at the 90th Strategic Missile Wing, Francis E. Warren AFB, Wyoming, as the wing converted to Minuteman III missiles.
- 6 September Headquarters USAF authorized Air Force Logistics Command (AFLC) to start the Rivet Save Minuteman Manning Modification Program as a Class V modification project. The program was designed to reduce the authorized Minuteman crew force by approximately 600 by shortening the alert tour from 36 to 24 hours and permitting one crew member to sleep while inside the Launch Control Center (LCC). Circuitry modifications to the LCC's Launch Control Panel would eliminate the remote possibility of an unauthorized launch by a single crew member.
- 24 October Space and Missile Systems Organization (SAMSO) successfully launched a Minuteman I ICBM from C-5A a cargo aircraft.
- 21 November Bowing to administration pressure for lower defense budgets, Secretary of Defense James Schlesinger moved M-X initial operating capability date from 1983 to 1985.
- 24 November President Gerald R. Ford and General Secretary Leonid I. Brezhnev signed the Vladivostok Strategic Arms Limitation (SAL) Accord. Under the terms of this agreement, an overall ceiling of 2,400 strategic delivery vehicles was

1974

established for both American and Soviet strategic offensive forces and a numerical limit of 1,320 was placed on the number of strategic delivery vehicles that could be equipped with Multiple Independently Targetable Reentry Vehicles (MIRVs).

31 December During 1974, SAC launched 7 Minuteman II, 6 Minuteman III and 1 Titan II missiles from Vandenberg AFB, California.

1975

20 January Teams from Ogden Air Logistics Center began replacing the 50 Minuteman II ICBMs of the 564th Strategic Missile Squadron, Malmstrom AFB, Montana, with Minuteman IIIs.

26 January SAC completed its Force Modernization Program. This nine-year effort to replace all Minuteman I missiles with either Minuteman IIs or IIIs ended when the last flight of the 90th Strategic Missile Wing, F. E. Warren AFB, Wyoming, was outfitted with the Minuteman III.

24 April - The eighth missile competition was conducted at Vandenberg  
2 May AFB, California, and the 381st Strategic Missile Wing, McConnell AFB, Kansas, won the Blanchard Perpetual Trophy. The 381st also captured the award for best Titan wing. Best Minuteman wing award was captured by the 44th Strategic Missile Wing, Ellsworth AFB, South Dakota.

24 April - For the first time in the history of the missile compe-  
2 May tition, women actively participated. ALC Jeanine A. Sousley competed as a member of the 308th Strategic Missile Wing's reentry vehicle maintenance team and Sergeant Jo A. Williamson competed as a member of the 321st Strategic Missile Wing's electronic laboratory maintenance team.

25 June Air Force successfully conducted the first of two jettison vehicle test flights of the Boeing-built Air Launched Cruise Missile (ALCM) from a B-52 Short Range Attack Missile (SRAM) rotary launcher.

30 June Last Hound Dogs removed from alert.

11 July Minuteman III, number 550, became operational at the 341st Strategic Missile Wing, Malmstrom AFB, Montana. The Minuteman force mix was now 450 Minuteman II/550 Minuteman III.



1975

- 15 August            Headquarters USAF directed that an M-X ground mobile basing option be given equal emphasis to silo basing.
- 20 August            The last of 1,500 SRAMs was delivered to SAC's 320th Bombardment Wing, Mather AFB, California.
- 8 October            The Air Force-Navy Navigation/Guidance Equipment Source Selection Board chose the McDonnell Douglas Corporation to develop the navigation-guidance equipment for the Air Launched Cruise Missile (ALCM).
- 7 November          In a formal roll-out ceremony, Boeing delivered Air Launched Cruise Missile (ALCM) Flight Test Missile Number One from manufacturing to the Missile Integration Laboratory.
- 4 December          The last Titan II Special Operational Test (SOT) in support of Ballistic Missile Defense objectives was launched from Vandenberg AFB, California.
- 31 December         During 1975, SAC launched 7 Minuteman III, 4 Minuteman II and 3 Titan II missiles from Vandenberg AFB, California.

1976

- 12 February         The Odgen Air Logistics Center (ALC) granted to Boeing Company critical design review approval and authorization to begin production of Rivet Save-modified Launch Enable Control Group panel. Rivet Save reduced missile crew strength by one-third.
- 5 March             The first powered flight of an Air Launched Cruise Missile took place over the White Sands Missile Range. The 14-foot missile was ejected from a B-52G SRAM rotary launcher.
- 9 March             The Defense Systems Acquisition Review Council (DSARC) I stated a preference for the buried trench basing mode for M-X.
- 20-30 April         The 341st Strategic Missile Wing, Malmstrom AFB, Montana, won the Blanchard Perpetual Trophy in the ninth annual missile competition. The 381st Strategic Missile Wing, McConnell AFB, Kansas, was judged best Titan II wing.
- 27 June             First successful test flight of a Titan II ICBM equipped with a Universal Space Guidance System took place at Vandenberg AFB, California. This was the last Titan II Special Operational Test to date.

1976

- July Convinced that silo-based ICBMs would be vulnerable to the new generation of Soviet ICBMs, the U.S. Congress refused to appropriate funding for the validation of silo-based M-X missiles. Intent on reducing the budget, Congress also deleted funding for the air-mobile option, reduced total FY 77 M-X funding from \$84 million to \$69 million, and directed that \$35 million of this amount be used to validate multiple aim point (MAP) basing in either the buried trench or shelter basing modes.
- 26 August SAC launched its 500th missile from Vandenberg AFB, California, a Minuteman II.
- 9 September Air Force conducted the first fully guided Air Launched Cruise Missile (ALCM) flight test. The missile successfully negotiated four Terrain Correlation (TERCOM) mapped areas, completing a TERCOM update in each area during the 30 minute flight. The missile fulfilled all test objectives.
- 31 December During 1976, SAC launched 7 Minuteman III, 7 Minuteman II and a Titan II missile from Vandenberg AFB, California.

1977

- 10 January Headquarters USAF authorized \$245 million to be spent during FY 78 on full-scale engineering development phase of M-X program. By this date validation funding totaled \$134 million.
- 14 January Deputy Secretary of Defense William Clements directed the Air Force to begin full-scale production of the Air Launched Cruise Missile (ALCM).
- 22 February President Carter decided to terminate production of Minuteman III missiles.
- 27 April - 6 May The 351st Strategic Missile Wing, Whiteman AFB, Missouri, won the Blanchard Perpetual Trophy for the third time at the tenth annual missile competition. Best Titan II wing was the 390th Strategic Missile Wing, Davis-Monthan AFB, Arizona.
- 15 May Secretary of Defense Brown informed the Senate Appropriations Committee that he had directed the Air Force to develop the extended range Air Launched Cruise Missile (ALCM) B before the ALCM A "because of a significant advantage in cost to deliver weapons on suitable targets (i.e., those not SAM-defended) in the 1980s."

1977

- 30 June President Carter announced on nationwide television that the B-1 bomber would not be produced and that the cruise missile would go into production.
- 11 August Validation testing conducted at Luke AFB, Arizona, indicated that buried trench basing could not resist explosive pressures. For this reason Space and Missile Systems Organization (SAMSO) turned its attention to the hybrid trench concept.
- 23 September Headquarters USAF announced a program that would begin to recruit women for Titan II combat crews.
- 1 October SAC reorganized the security police functions at the six Minuteman bases in the command. The reorganization was designed to improve efficiency by dividing the existing squadrons into smaller and more manageable units.
- 1 October Between this date and 31 March 1978, SAC reduced the authorized Minuteman crew force by approximately 600 under project Rivet Save. To achieve this reduction, SAC shortened the Minuteman alert tour from 36 to 24 hours, permitting one crew member to sleep while inside the Launch Control Center (LCC). Circuitry modifications to the LCC's Launch Enable Control Group Signal Panel eliminated the remote possibility of an unauthorized launch by a single crew member.
- 7 December Secretary of Defense Brown announced publicly that the U.S. would "curb drastically the deployment of cruise missiles as part of SALT II agreement with the Soviet Union." Land and sea launched cruise missiles would be restricted to a tactical range of 375 NM; air launched cruise missiles would continue to be developed to meet a range of 1,350 NM (2,500 km).
- 31 December During 1977, SAC launched 9 Minuteman III and 3 Minuteman II operational test missiles from Vandenberg AFB, California.

1978

- 5 April Headquarters USAF issued an interim program management directive with guidance for the initiation of the cruise missile carrier aircraft advanced development program. It authorized the conduct of studies and analyses to determine the suitability of wide-body aircraft as missile carriers.

1978

- 28 April - The 91st Strategic Missile Wing, Minot AFB, North  
4 May Dakota, won the eleventh annual missile competition and was awarded the Blanchard Perpetual Trophy. The 91st was also the best Minuteman wing while the 381st Strategic Missile Wing, McConnell AFB, Kansas, won best Titan II wing honors.
- 23 May Headquarters USAF issued the FY 1980-84 Program Objectives Memorandum that endorsed a production rate of 40 cruise missiles per month.
- 15 June Last Hound Dogs demilitarized and removed from SAC inventory at the 42d Bombardment Wing, Loring AFB, Maine.
- 30 June Last Quails removed from alert.
- 12 July Air Force released environmental impact statement claiming that while deployment of ground mobile M-X in parts of Arizona, New Mexico, and Utah might damage the environment, it would benefit local economies.
- 18 August Airman First Class Tina M. Ponzer, 381st Strategic Missile Wing, McConnell AFB, Kansas, became the first female airman to perform Titan II alert.
- 24 August Titan II Launch Complex 533-7, assigned to the 381st Strategic Missile Wing, McConnell AFB, Kansas, was severely damaged by oxidizer leaking from the missile. Two Air Force personnel were killed.
- 16 September First Lieutenant Patricia M. Fornes, 381st Strategic Missile Wing, McConnell AFB, Kansas, became the first female officer to perform SAC Titan II alert.
- 18-19 October The General Russell E. Dougherty Short Range Attack Missile (SRAM) Trophy was awarded for the first time. Named for the former Commander in Chief of SAC, the trophy was given to the B-52/FB-111 unit with the best score in simulated SRAM launchings. The 319th Bombardment Wing, Grand Forks AFB, North Dakota, was the first winner.
- 1 November Last Quails demilitarized and removed from SAC inventory at the 97th Bombardment Wing, Blytheville AFB, Arkansas.
- 30 November Last Minuteman G delivered to the Air Force at Hill AFB, Utah.

1978

- 5 December Defense Systems Acquisition Review Council (DSARC) II recommended full-scale development of vertical multiple protective shelter basing for the M-X. Dr. William Perry, Undersecretary of Defense, Research and Engineering, directed a study of airmobile basing for M-X.
- 31 December During 1978, SAC launched 7 Minuteman III and 3 Minuteman II operational test missiles from Vandenberg AFB, California.

1979

- 31 March President Carter authorized development of M-X in undisclosed ground mobile basing mode.
- 31 March DSARC IIB reviewed the results of the airmobile basing for M-X study and concluded that it was feasible but not desirable because of reliance on tactical warning, loss of accuracy and cost.
- 27 April -  
3 May The 390th Strategic Missile Wing, Davis-Monthan AFB, Arizona, won the SAC missile combat competition for the first time. The Titan II unit was presented the Blanchard Perpetual Trophy by General Richard H. Ellis, Commander in Chief, SAC. Best Minuteman wing at this twelfth annual competition was the 341st Strategic Missile Wing, Malmstrom AFB, Montana.
- 5 June President Carter approved full-scale engineering development for the M-X missile, intended to be the mainstay of the U.S. ICBM fleet in the late twentieth century.
- 1 July The competitive fly-off between General Dynamics and Boeing Company for the determination of the contract award of the Air Launched Cruise Missile (ALCM) began in California.
- 10 July SAC launched two Minuteman III ICBMs from Vandenberg AFB, California, during exercise Global Shield, a comprehensive exercise of SAC's nuclear forces. One of these Global Shield missions, Glory Trip 40 GM, was the last Minuteman III phase I operational test flight. The missiles were launched 12 seconds apart by a SAC task force from the 90th Strategic Missile Wing, F. E. Warren AFB, Wyoming.
- 16 July Minuteman F ERCS operational test launch conducted as part of Exercise Global Shield 79.

1979

- 7 September President Carter announced selection of horizontal multiple protective shelter basing for 200 M-X missiles among 4600 shelters.
- 1 November As a result of Aerospace Defense Command reorganization SAC acquired its first Thor missiles since 1967.
- 29 November The Dougherty Trophy, awarded for the unit compiling the most points for simulated SRAM launches, was won by the 379th Bombardment Wing, Wurtsmith AFB, Michigan, a B-52 unit.
- 31 December During 1979, SAC launched 7 Minuteman III and 4 Minuteman II operational test missiles from Vandenberg AFB, California.

1980

- 22 January The Integrated Improvement Program, which included command data buffer and upgrade silo, completed at the 351st Strategic Missile Wing, Whiteman AFB, Missouri, ending the last major Minuteman modification program.
- 18 April A three million dollar Data Transfer Center was incorporated into the Western Test Range building at Vandenberg AFB, California. This center supported such programs as the space shuttle, M-X missile testing, and the entire Global Positioning System navigational satellite network.
- 24-30 April In the thirteenth annual missile competition, the 381st Strategic Missile Wing, McConnell AFB, Kansas, received the Blanchard Perpetual Trophy as well as the best Titan II award. Best Minuteman wing was the 90th Strategic Missile Wing, F.E. Warren AFB, Wyoming.
- 14 July The 394th ICBM Test Maintenance Squadron launched the final Block 5D-1 Defense Meteorological Satellite aboard a Thor booster at Vandenberg AFB, California. This was the tenth SAC space launch, and the first since February 1967. No orbit was achieved, however, due to an inflight anomaly within the booster.
- 17 September Glory Trip 77GM, a Minuteman III Operational Test, became the longest Minuteman flight test from Vandenberg AFB, California, when its payload impacted a broad ocean area target over 5,600 nautical miles downrange.
- 18 September Titan II Launch Complex 374-7, assigned to the 308th Strategic Missile Wing, Little Rock AFB, Arkansas, was destroyed by an explosion. One Air Force maintenance man was killed.

1980

- 20 November      The 320th Bombardment Wing, Mather AFB, California, was presented the Dougherty Trophy for compiling the most points in simulated SRAM launches during the annual SAC Bombing Competition.
- 31 December      During 1980, SAC launched 1 Minuteman II, 7 Minuteman III, and 1 Thor.

1981

- 11 January      First two Air Launched Cruise Missiles (ALCMs) were delivered to the 416th Bombardment Wing, Griffiss AFB, New York, where they were used initially for environmental testing and maintenance training.
- 23 April      SAC received its first operational Air Launched Cruise Missile (ALCM). It was assigned to the 416th Bombardment Wing, Griffiss AFB, New York, more than five months before President Ronald Reagan announced plans to deploy over 3,000 such weapons on B-52Gs and B-52Hs as well as on the new B-1 bomber.
- 1-7 May      The fourteenth annual missile competition was held at Vandenberg AFB, California, with the Blanchard Perpetual Trophy being won by the 351st Strategic Missile Wing, Whiteman AFB, Missouri. The 351st was also the best Minuteman wing while the 308th Strategic Missile Wing, Little Rock AFB, Arkansas, captured the best Titan II wing award.
- 25 July      First launch of an Air Launched Cruise Missile (ALCM) by an offensive avionics system (OAS)-equipped B-52.
- 15 August      First Air Launched Cruise Missile (ALCM) Offensive Avionics System (OAS modified B-52G (a/n 58-0247) was delivered to SAC at the 416th Bombardment Wing, Griffiss AFB, New York.
- 4 September      Last modified Thor space booster transferred from 394th ICBM Test Maintenance Squadron, Vandenberg AFB, California, to storage facilities at Norton AFB, California.
- 9 September      Headquarters USAF directed SAC and AFSC to define milestones and costs for 100 M-X missiles in 1,000 protective shelters, research and development work for deep underground ICBM basing, and research and development for continuous patrol aircraft.
- 15 September      A B-52G crew from the 416th Bombardment Wing, Griffiss AFB, New York, conducted the first Air Launched Cruise Missile (ALCM) training flight, a nine hour mission

1981

designed to gather data on the aircraft and missile systems. The B-52G was equipped with 12 ALCMs carried externally and eight Short Range Attack Missiles (SRAMs) carried in the bomb bay.

- 2 October President Ronald Reagan cancelled the horizontal multiple protective shelter basing scheme for M-X and announced plans for a near-term deployment of a limited number of M-X missiles in superhardened Titan II or Minuteman silos. He also ordered further research and development on deep basing, continuous patrol aircraft, and ballistic missile defense.
- 2 October Deputy Secretary of Defense Frank P. Carlucci ordered the inactivation of the Titan II Weapon System as soon as possible.
- 18 November The 320th Bombardment Wing, Mather AFB, California, won the Dougherty Trophy for attaining the best SRAM score in SAC's annual bombing competition.
- 30 December Secretary of Defense Caspar W. Weinberger ordered the deployment of 40 M-X missiles in existing Minuteman silos by 1986. He also directing the development of further long-term basing options.
- 31 December During 1981, SAC conducted eight Minuteman III test launches at Vandenberg AFB, California.

1982

- 26 January The M-X missile successfully passed a test of its cold launch system at a Nevada test site. During the test, a weight-simulated M-X shell was ejected more than 300 feet into the air.
- 27 January Coated with approximately three-quarters of an inch of ice, the Air-Launched Cruise Missile successfully demonstrated its all-climate capability after being launched from beneath the wing of a B-52G over the Utah Test and Training Range.
- 29 January Air Force Secretary Verne Orr dedicated the M-X Integrated Test Facility at Vandenberg AFB, California. The new facility consolidated many key activities associated with the missile's test program into a single building.



1982

- 25 March The Senate Armed Services Committee unanimously voted to deny funding for the M-X based in Minuteman silos.
- April The Senate deleted funding for interim basing of M-X and directed acceleration of efforts to identify a permanent basing method. The Secretary of Defense was directed to inform Congress by 1 December 1982 of the technologies that should be pursued.
- 23-29 April The 44th Strategic Missile Wing, Ellsworth AFB, South Dakota, captured the Blanchard Trophy as the best missile wing in SAC at the fifteenth annual missile competition held at Vandenberg AFB, California. The 381st Strategic Missile Wing, McConnell AFB, Kansas, the best Titan unit, finished one point behind the Blanchard Trophy winner.
- 2 July The Titan II missile at Site 9 in the 570th Strategic Missile Squadron, 390th Strategic Missile Wing, Davis-Monthan AFB, Arizona, was removed from alert for testing. As result, this site became the first to be inactivated in the Titan II phaseout program.
- 15 July The SAC Missile Launch Facility at Vandenberg AFB, California, launched its 1,500th missile since beginning launch operations on 15 December 1958.
- 20-21 September The 320th Bombardment Wing, Mather AFB, California, participated in a test program to air launch Navy Harpoon missiles. The flights tested the aerodynamics and compatibility of the externally mounted missiles on B-52s. The Harpoon was designed to attack enemy shipping.
- 21 September A B-52G from the 416th Bombardment Wing, Griffiss AFB, New York, conducted the first ALCM operational test launch.
- 30 September Titan II deactivation, designed Rivet Cap, formally began with the removal of Site 571-6 from alert at David-Monthan AFB, Arizona.
- 22 November In his decision statement submitted to Congress, President Ronald Reagan stated his plan to produce the M-X missile and deploy it in superhardened silos at F.E. Warren AFB, Wyoming. The President's statement also gave the new missile the designation of "Peacekeeper."

1982

- 22 November Titan II Site 570-9 at Davis-Monthan AFB, Arizona, the first site to be inactivated, was placed in caretaker status.
- 23 November Lieutenant General George Miller, Vice CINCSAC, said that "a major factor in the decision to deploy the new Peacekeeper missile near Cheyenne (F.E. Warren AFB, Wyoming) is that it is farther north than other areas that were considered and because its geography and geology most nearly meet SAC standards."
- December The first full-scale test firing of the Peacekeeper missile second-stage solid rocket motor under simulated altitude conditions was conducted at Arnold Air Force Station, Tennessee. The 60,000-pound motor was ignited at a simulated altitude of 70,000 feet.
- 7 December Air Force officials in Washington D.C. announced that scale model tests had demonstrated that the super-hard Peacekeeper silo design surpassed Air Force expectations.
- 14 December President Ronald Reagan agreed to a plan that would permit Peacekeeper production to proceed, but would require him to submit new basing plans to Congress.
- 16 December The first squadron of B-52G bombers carrying nuclear-tipped Air-Launched Cruise Missiles became combat ready at the 416th Bombardment Wing, Griffiss AFB, New York.
- 20 December A House-Senate conference committee refused to approve funds for Peacekeeper production. The decision eliminated from a spending bill \$988 million earmarked for the production of the five of the 100 Peacekeeper missiles.
- 31 December During 1982, SAC conducted three Minuteman II and six Minuteman III test launches from Vandenberg AFB, California.

1983

- 18 January Headquarters SAC planners published a Statement of Operational Need for a maritime weapon to be released from strategic aircraft. The Harpoon missile was identified as the best weapon currently available to

1983

support U.S. naval forces and to evade Soviet radar and Airborne Warning and Control System aircraft.

20 January SAC issued a Statement of Need for a missile to succeed the SRAM A.

3 February SAC completed the retrofitting of 300 Minuteman III ICBMs with Mark-12A reentry systems.

9 March SAC issued a Statement of Need for an Improved Penetration Capability for the Minuteman III ICBM.

15-28 March SAC successfully performed three demonstration launches of Harpoon missiles from two B-52Gs during tests off the California coast. These demonstrations showed that a Harpoon-equipped bomber could attack enemy shipping while flying at low altitude and below radar coverage when targeting was provided by another aircraft.

18 March SAC published a Statement of Need for the Medium-Range Air-to-Surface Missile (MRASM), a conventional stand-off weapon. In the same month, Headquarters USAF dropped MRASM from its fiscal year 1985 Program Objective Memorandum.

31 March Headquarters USAF released a technical assessment of the ICBM force requested by President Reagan. The study set two goals for ICBM modernization: (1) deployment of a new, very accurate ICBM and (2) development of a survivable basing method.

6 April The commission on strategic forces appointed by President Reagan and chaired by retired USAF Lieutenant General Brent Scowcroft issued its report on ICBM modernization. The Scowcroft Commission recommended that the United States pursue three approaches: (1) develop a small, single warhead ICBM to meet the long range need for a survivable land-based missile, (2) immediately deploy 100 Peacekeeper ICBMs in existing Minuteman silos, and (3) examine all basing alternatives for both the small ICBM and Peacekeeper.

19 April President Reagan approved the Scowcroft Commission's proposals.

1983

- 21 April The United States Defense Department and the Canadian Ministry of Defence signed a general memorandum of understanding for a joint program to test and evaluate the Air Launched Cruise Missile.
- 29 April -  
5 May The 381st Strategic Missile Wing, McConnell AFB, Kansas, won the Blanchard Trophy at the 1983 missile combat competition. The Titan II wing thus became the second four-time winner of the Blanchard Trophy.
- 24-25 May On successive days, the House of Representatives and the Senate endorsed the Scowcroft Commission's recommendations.
- 10 June Headquarters USAF issued interim authorization for planning Peacekeeper deployment in Minuteman silos.
- 17 June The first Peacekeeper ICBM was launched by Air Force Systems Command from an aboveground cannister-type launch facility. This was the first "cold launch" of a missile at Vandenberg AFB, California.
- 21 July The first launch of an ALCM under the Follow-on Test and Evaluation program took place.
- 10 August Secretary of Defense Caspar W. Weinberger directed Secretary of the Air Force Verne Orr to (1) deploy 100 Peacekeeper missiles in Minuteman silos at the 400th and 319th Strategic Missile Squadrons, 90th Strategic Missile Wing, F.E. Warren AFB, Wyoming, (2) initiate the engineering design of a small, single warhead ICBM, (3) further investigate ICBM basing alternatives, (4) study the effects of fratricide and the development of penetration aids.
- 6 October Limited Operational Capability for the Harpoon was achieved at Loring AFB, Maine, when three B-52Gs were modified to carry the AGM-84 Harpoon antiship missile.
- 25 October Headquarters USAF approved the Statement of Need for an Improved Penetration Capability for the Minuteman III ICBM.
- 28 October The 379th Bombardment Wing, Wurtsmith AFB, Michigan, won the Dougherty Trophy for the best simulated SRAM score in the annual bombing competition.

1983

- 30 November Explosive demolition began on headworks at Titan II missile Complex 570-7 at Davis-Monthan AFB, Arizona. By the end of 1983, Complexes 570-8 and 570-1 had also been demolished.
- 1 December The final class of enlisted Titan II students graduated from the 4315th Combat Crew Training Squadron training course at Vandenberg AFB, California.
- 2 December SAC inactivated the 571st Strategic Missile Squadron at Davis-Monthan AFB, Arizona.
- 31 December During 1983, SAC launched nine Minuteman III operational test missiles from Vandenberg AFB, California.
- 31 December In 1983, Air Force Systems Command conducted three Peacekeeper test launches from Vandenberg AFB, California.

1984

- 19 January SAC issued a Statement of Need for a conventional standoff weapon for strategic aircraft. Although the command had no specific weapon system in mind, the Assault Breaker system, then under development, promised to satisfy the requirement.
- 30 January Headquarters USAF and the Navy signed a memorandum of agreement setting guidelines for the B-52/Harpoon program. The pact called for the Navy to maintain an adequate stock of B-52 compatible Harpoons and for SAC and the Navy to work together in developing tactics and in formulating a joint test plan.
- 31 January The 319th Bombardment Wing at Grand Forks AFB, North Dakota, attained total alert capability with B-52s carrying Air Launched Cruise Missiles (ALCM).
- 14 February The government of Canadian Prime Minister Pierre E. Trudeau announced that it would proceed with its prior agreement to permit U.S. ALCM testing in Canada. A ruling from the Federal Court of Canada on a suit to forbid U.S. ALCM tests in Canada was still pending.
- 29 February Special Operational Tests of Minuteman II ICBMs ended with the launch of Glory Trip 146 at Vandenberg AFB, California.

1984

- 1 March Deployment of Minuteman Extended Survivable Power and guidance sets began at the 321st Strategic Missile Wing, Grand Forks AFB, North Dakota.
- 6 March A B-52G from the 319th Bombardment Wing conducted the first ALCM captive-carry mission over Canada's Northern Test Range. In a related development on the same day, the Federal Court of Canada dismissed a suit that would have ended ALCM tests.
- 2 April Headquarters SAC suspended the deactivation of Titan II launch sites when an alternate storage facility for the fuel propellant being removed from the missiles was forced to close temporarily.
- 3-10 May The 90th Strategic Missile Wing, F.E. Warren, AFB, Wyoming, won the Blanchard Trophy as the best missile wing in SAC during the annual missile combat competition. The title of Best Titan Wing went to the 308th Strategic Missile Wing, Little Rock AFB, Arkansas.
- 21 May Launch Complex 570-5, the last active complex at the 390th Strategic Missile Wing, Davis-Monthan AFB, Arizona, was removed from alert.
- 25 May Deactivation of Titan II missiles resumed after the alternate fuel storage facility at Sacramento, California, reopened following repairs.
- 1 June Maintenance technicians completed the installation of carbon-carbon nose-tips on Minuteman IIIs at the 341st Strategic Missile Wing, Malmstrom AFB, Montana.
- 15 June The first Peacekeeper with a Mark-21 test reentry vehicle was flight-tested at Vandenberg AFB, California. The Mark-21 resembled the reentry vehicle intended for the Peacekeeper weapon system.
- July The first Harpoon (AGM-84) antiship missile was delivered to the 69th Bombardment Squadron, 42d Bombardment Wing, Loring AFB, Maine.
- 1 July Construction of Peacekeeper support facilities began at the 90th Strategic Missile Wing, F.E. Warren AFB, Wyoming.

1984

- 2 July Deactivation of the Titan II ICBM began at the 381st Strategic Missile Wing, McConnell AFB, Kansas, when Launch Complex 533-8 was removed from alert.
- 10 July The Department of Defense approved plans to donate one deactivated launch site at each Titan II base to a public agency for use as a museum.
- 31 July The 570th Strategic Missile Squadron, Davis-Monthan AFB, Arizona, was inactivated. Simultaneously, the 390th Strategic Missile Wing, Davis-Monthan AFB, Arizona, became the first Titan II wing to be inactivated.
- 31 August The 381st Strategic Missile Wing, McConnell AFB, Kansas, placed its first missile site, 533-8, in caretaker status as part of the Titan II inactivation.
- 19 October The 416th Bombardment Wing, Griffiss AFB, New York, won the Dougherty Trophy for the best SRAM performance in SAC's annual bombing competition.
- 31 October SAC celebrated the 25th anniversary of the first missile on alert.
- 2 November Fire broke out at McConnell AFB Launch Complex 532-7 after liquid fuel had been unloaded from a Titan II missile. The incident jeopardized the Titan II deactivation schedule.
- 12 November Four anti-nuclear demonstrators trespassed onto Launch Facility N-05 assigned to the 351st Strategic Missile Wing, Whiteman AFB, Missouri. The protestors caused \$25,000 worth of damage and were arrested by SAC Security Police.
- 15 November An ALCM launch over the Utah test range served as a dress rehearsal for a 1985 free flight over the Canadian Northern Test Range.
- 4 December Air Force Systems Command ordered an interim suspension of work on the ALCM-B improved engine program.
- 21 December The Oklahoma City Air Logistics Center declared that Harpoon missile carrying B-52Gs had reached Initial Operational Capability.

1984

- 31 December Cruise missile integration was completed on the last 90 B-52Gs designated as ALCM carriers.
- 31 December During 1984, SAC launched one Minuteman II and seven Minuteman III operational test missiles from Vandenberg AFB, California.
- 31 December In 1984, Air Force Systems Command conducted three developmental test launches of the Peacekeeper ICBM at Vandenberg AFB, California.

1985

- January Headquarters SAC and Ogden Air Logistics Center determined that the November 1984 fire at Launch Complex 532-7, 381st Strategic Missile Wing, McConnell AFB, Kansas, had been caused by a leakage that could be prevented by procedural changes. This finding enabled Titan II deactivation to proceed according to schedule.
- 4 February General B. L. Davis, CINCSAC, formally authorized the creation of gender-specific (all male or all female) launch crews for Minuteman and Peacekeeper. This decision opened SAC's two other ICBM systems to female missileers (who had been limited to the Titan II) while retaining the command's longstanding opposition to mixed crews.
- 9 February The Air Force awarded SRAM II system definition study contracts to three contractors.
- 19 February A B-52 from the 319th Bombardment Wing, Grand Forks AFB, North Dakota, launched the first ALCM flight test missile over the Beaufort Sea north of Canada.
- 22 February A U.S. District Court jury in Kansas City, Missouri, convicted four anti-nuclear demonstrators on all counts for the unauthorized entry and destruction of government property at a Whiteman AFB launch complex in November 1984. On 18 March, the defendants were sentenced to prison terms ranging from eight to eighteen years.
- 1 March A Fifteenth Air Force policy requiring squadron commanders and operations officers to perform periodic alert duty took effect.



1985

- 1 April SAC began Rivet Mile, a multi-faceted program to ensure the reliability and maintainability of the Minuteman force into the 21st century.
- 3 April Lieutenant General William J. Campbell, Vice CINCSAC, asked Headquarters USAF to approve an acceleration of Titan II deactivation at the 308th Strategic Missile Wing, Little Rock AFB, Arkansas. Under this proposal, the 308th Strategic Missile Wing would begin its phased inactivation in April 1985 rather than October. General Campbell argued that an early start at Little Rock would help SAC and the Air Force complete Titan II deactivation by the target date of September 1987.
- 20 April B-52 crews completed initial training for Harpoon anti-ship missile operations.
- 24 April The 308th Strategic Missile Wing, Little Rock AFB, Arkansas, began Titan II deactivation.
- 26 April -  
2 May The 308th Strategic Missile Wing, Little Rock AFB, Arkansas, won the Blanchard Trophy as the best missile wing at the eighteenth annual SAC Missile Combat Competition. This outcome marked the first time that the 308th had won the Blanchard. The 341st Strategic Missile Wing, Malmstrom AFB, Montana, won honors as the Best Minuteman Wing.
- 23 May On a 78 to 20 vote, the Senate approved a modified version of an amendment offered by Senator Sam Nunn (D-GA). The Nunn amendment limited Peacekeeper procurement to 12 new missiles in FY 86 and set an ultimate objective of 50 new silo-based ICBMs. The amendment provided for additional Peacekeepers if "a different basing mode is proposed by the President and agreed to by the Congress." By July, both the House and the Senate versions of the FY 86 Defense Authorization Bill included wording that limited silo-based Peacekeepers and mandated a different basing method.
- 1 June Fifteenth Air Force began "Operation Teamwork" under which missile crew members performed limited, specific maintenance actions.

1985

- 17 June Headquarters SAC formed a special committee to recommend a follow-on basing method for the Peacekeeper. The "Tiger Team" studied five alternatives (superhardened silos in pattern array, superhard silos in Minuteman spaced basing, rail mobility, multiple protective shelters, and ground mobility) and decided that any of these options was acceptable provided that the second installment of 50 Peacekeeper missiles was deployed.
- 29 June The 60th Bombardment Squadron, 43d Strategic Wing, Andersen AFB, Guam, became the second B-52G squadron to be equipped with the Harpoon antiship missile. This event marked the attainment of full operational capability for the weapon system.
- 30 June Air Force Systems Command conducted the final Peacekeeper launch from the aboveground launch pad at Vandenberg AFB, California.
- July The 7th Bombardment Wing, Carswell AFB, Texas, became the first SAC unit to receive ALCM modified B-52H bombers.
- 15 July Two 42d Bombardment Wing B-52s simulated Harpoon launches as part of U.S. Atlantic Command's exercise Readex 85-2. This event marked the first Full Operational Test and Evaluation of the Harpoon antiship missile.
- 23 August Air Force Systems Command successfully conducted America's first land-based "cold launch" from an underground silo, a modified Minuteman launch facility at Vandenberg AFB, California.
- 26 September SAC completed the installation of Minuteman III/Mark-12 carbon-carbon nosetips at the 90th Strategic Missile Wing, F.E. Warren AFB, Wyoming.
- 30 September After 16 years, Ogden Air Logistics Center ended the Titan II Reliability and Aging Surveillance Program/Service Life Analysis Program.
- 5 October Headquarters SAC asked Headquarters USAF to pursue new legislation that would increase the weight of the proposed Small ICBM from 34,000 to 37,000 pounds.

1985

- 11 October Software for the common Minuteman/Peacekeeper Airborne Launch Control Center passed its critical design review.
- 22 October Tactical Air Command launched the first ground-launched cruise missile from Vandenberg AFB, California, to the Dugway Proving Ground in Utah. Bad weather forced termination of the flight and parachute-recovery of the missile.
- 25 October The 319th Bombardment Wing, Grand Forks AFB, North Dakota, won the Dougherty Trophy during the twenty-ninth annual SAC Bombing and Navigation Competition.
- 25 October Following a briefing by the 3901st Strategic Missile Evaluation Squadron, General Larry D. Welch, CINCSAC, expressed concern that excessive noise and workloads had made Launch Control Center duty too difficult. To improve the situation, the CINCSAC asked his staff to formulate a program that would reduce launch center message traffic by 25 percent.
- 28 October The first six female officers began initial qualification training for Minuteman crew duty. All six women had worked with the Titan II system.
- 30 October By this date, SAC had selected the first nine Peacekeeper combat missile crews. To be considered for this honor, crew members had to have current ICBM experience, be qualified on the most advanced version of Minuteman, and hold the highest effectiveness ratings. By November, five Peacekeeper instructor and standardization crews were already in place at F.E. Warren AFB, Wyoming.
- 31 December During 1985, SAC launched six Minuteman III operational test missiles from Vandenberg AFB, California.
- 31 December In 1985, Air Force Systems Command conducted four developmental test launches of the Peacekeeper missile from Vandenberg AFB, California.

1986

- 28 January The space shuttle launch schedule at Vandenberg AFB, California, came to a halt when the Space Shuttle "Challenger" exploded shortly after launch from the John F. Kennedy Space Center in Florida killing all seven of its crew members.

1986

- 7 February The first class of female Minuteman combat crew officers completed initial qualification training at Vandenberg AFB, California.
- 13 February Major General Hansford T. Johnson, SAC Deputy Chief of Staff/Operations, directed all missile units to pursue a "back to basics" approach to ICBM combat duty. The general's order initiated the "missile airmanship" program.
- 20 February Two lawsuits seeking to block deployment of the Peacekeeper ICBM were dismissed in U.S. District Court, Lincoln, Nebraska.
- 25 March The first all-female Minuteman crew stood alert at the 351st Strategic Missile Wing, Whiteman AFB, Missouri, marking the first time that an all-female crew had accomplished Minuteman combat crew duty under the gender-specific crew policy.
- 25 March Headquarters SAC issued a Statement of Operational Need for a small ICBM that would carry a single warhead.
- 18 April An Air Force Systems Command Titan 34D space booster exploded shortly after lift off from Space Launch Complex Four at Vandenberg AFB, California. The launch complex was closed for repairs until 15 August.
- 20 April Boeing Aerospace Company and McDonnell Douglas responded to the Air Force's request for proposals for a SRAM II missile.
- May Testing of a prototype Improved Minuteman Physical Security System concluded at Minot AFB, North Dakota.
- 16-22 May The 341st Strategic Missile Wing, Malmstrom AFB, Montana, won the Blanchard Trophy at the nineteenth annual SAC Missile Combat Competition held at Vandenberg AFB, California. The two remaining Titan II wings (the 308th Strategic Missile Wing, Little Rock AFB, Arkansas, and the 381st Strategic Missile Wing, McConnell AFB, Kansas) tied for second place honors in their final year of competition.
- 18 July The Interior Department designated Space Launch Complex 10 at Vandenberg AFB, California, as a National Historic Landmark. Originally built in 1958

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for ballistic missile launches, the site was remodeled in 1964 for space satellite launches employing Thor boosters. The last launch from Complex 10 took place on 14 July 1980.

- August General John T. Chain, Jr., CINCSAC, directed that "Peacekeeper on Rails" be included in a SAC review of basing alternatives for the second increment of 50 Peacekeeper missiles.
- 8 August SAC simultaneously inactivated the 532d Strategic Missile Squadron and 381st Strategic Missile Wing, McConnell AFB, Kansas. The 381st thus became the second Titan II wing to be inactivated.
- 15 August The 374th Strategic Missile Squadron, Little Rock AFB, Arkansas, became the fifth of six Titan II missile squadrons to be inactivated.
- 22 August Headquarters SAC issued a Statement of Operational Need for an ICBM Rapid Message Processing and Retargeting (REACT) capability. This requirement rested on two major considerations: (1) reduced warning time to the National Command Authority and reduced reaction time for ICBM crews due to a growing Soviet threat, and (2) an increasing number of Soviet relocatable targets.
- 23 August By this date, all B-52G aircraft had completed cruise missile integration.
- 27 August Flyover Test 11-7-4 confirmed the ability of the Airborne Launch Control Center to launch Peacekeeper ICBMs using equipment originally designed for the Minuteman missile system.
- 31 August A Peacekeeper missile launched from Vandenberg AFB, California, represented the first launch of a completely operational hardware configured missile and launch facility, and also the first Peacekeeper launch by a SAC combat crew under the control of Air Force Systems Command.
- 23 September SAC commemorated the 25th anniversary of the first Titan I operational missile test launch from Vandenberg AFB, California.

1986

- 26 September General John T. Chain, Jr., CINCSAC, joined a Minuteman crew at Malmstrom AFB, Montana, for a portion of their alert tour. General Chain's visit to the Minuteman launch control center represented the first time that a CINCSAC had witnessed ICBM crew duty since General Bruce K. Holloway observed two Minuteman crews at Malmstrom on 28-29 December 1971.
- 7 October SAC received the last production line Air-Launched Cruise Missile from the Boeing Military Airplane Company.
- 29 October General Chain selected Rail Garrison as SAC's preferred basing method for the second installment of Peacekeeper missiles. Rail Garrison would place Peacekeepers on continuous alert in railroad cars garrisoned at SAC bases. The Peacekeeper trains could deploy onto the nation's commercial rail network on short notice if so ordered.
- 29 October The 92d Bombardment Wing won the Dougherty Trophy for the best SRAM score at the thirtieth annual SAC Bombing and Navigation Competition.
- 31 October Tacit Rainbow, a joint Air Force, Army, and Navy program under contract to Northrop Corporation, became unclassified. The program was developing a long-range emitter-attack weapon to suppress enemy defenses.
- 5 November Martin Marietta Corporation technicians began installing SAC Digital Network (SACDIN) equipment in 91st Strategic Missile Wing missile launch control centers. SACDIN upgraded the SAC Automated Command and Control System installed in the 1960s.
- 19 December The Office of the Secretary of Defense announced that President Reagan had selected the Peacekeeper Rail Garrison concept from a number of rail-mobile basing options.
- 19 December President Reagan approved full-scale engineering development of the Small Intercontinental Ballistic Missile (SICBM), with a projected initial operational capability of 1992. The Reagan proposal anticipated basing the 37,000 pound single warhead SICBM on hard mobile launchers at existing Minuteman bases.

1986

- 22 December Peacekeeper deployment in existing Minuteman silos achieved initial operational capability when the tenth missile at F.E. Warren AFB, Wyoming, was placed on alert.
- 31 December By this date, B-52 ALCM deployment had been completed at five SAC bases: Blytheville AFB, Arkansas; Fairchild AFB, Washington; Grand Forks AFB, North Dakota; Griffiss AFB, New York; Wurtsmith AFB, Michigan.
- 31 December During 1986, Strategic Air Command deactivated twelve Titan II missiles, seven at the 381st Strategic Missile Wing, McConnell AFB, Kansas, and five at the 308th Strategic Missile Wing, Little Rock AFB, Arkansas. The 308th retained nine Titan IIs at the end of the year.
- 31 December By the end of 1986, 456 Minuteman launch facilities and 56 launch control facilities had been modified under cycle one of the Rivet Mile program.
- 31 December SAC launched seven Minuteman III operational test missiles from Vandenberg AFB, California, during the year.
- 31 December In 1986, Air Force Systems Command conducted two developmental and three operational test launches of the Peacekeeper ICBM at Vandenberg AFB, California.

1987

- 16 January A B-1B combined test force from Edwards AFB, California, launched the very first SRAM from a B-1B bomber over the Tonopah Test Range in Nevada.
- 20 February SAC declared initial operational capability for the SAC Digital Network when the communications system operated successfully between the Headquarters SAC Command Center and the 55th Strategic Reconnaissance Wing Command Post, both located at Offutt AFB, Nebraska, and the 351st Strategic Missile Wing Command Post at Whiteman AFB, Missouri.
- 24 February The United States and Canada staged a test launch of an Air-Launched Cruise Missile over Canada's Western routes. A second joint ALCM test followed on 1 March 1987.

1987

- 19 March A new Peacekeeper Missile Procedures Trainer was dedicated at Vandenberg AFB, California. The \$17 million facility featured a state-of-the-art computer based simulator which would be used to train and evaluate missile crew members.
- 17 April The U.S. Navy's Second and Third Fleets jointly published a Tactical Memorandum on "Joint Land-Based Air Anti-Surface Warfare Operations." The memorandum outlined maritime procedures for SAC's Harpoon carrying B-52s and Navy P-3s and applied to operations in both the Atlantic and the Pacific theaters
- 20 April The Air Force awarded Boeing Aerospace a contract to develop the SRAM II missile.
- May A three-judge panel of the U.S. Eighth District Court of Appeals reversed a February 1986 District Court decision dismissing a suit which had sought to block Peacekeeper deployment. Subsequently, the U.S. Justice Department sought a hearing before the entire ten-judge Eighth District Court of Appeals.
- May A letter from Ogden Air Logistics Center to Headquarters SAC warned that the Minuteman/Peacekeeper Weapon System Controller (WSC) was hampered by a limited number of spares and could not be logistically supported beyond the mid-1990s. The WSC, the computer brain that regulated mechanical functions for the ICBM and Launch Control Center, was considered a vital component of both the Minuteman and silo-based Peacekeeper systems.
- 1-9 May The 321st Strategic Missile Wing from Grand Forks AFB, North Dakota, won the Blanchard Trophy during the twentieth annual missile competition at Vandenberg AFB, California. This marked the first year that Titan II wing did not compete due to the inactivation of the Titan II weapon system.
- 5 May SAC removed the last active Titan II missile from alert duty at Little Rock AFB, Arkansas. This step ended Titan II's operational life, although deactivation activities continued at the Arkansas base.
- 3 June A B-1B follow-on test and evaluation crew from Dyess AFB, Texas, launched the first Short Range Attack Missile from an operational B-1B bomber.



1987

- 29 July Modification of Minuteman II missile Guidance Set hardware under the Accuracy, Reliability, and Supportability Program began at Whiteman AFB, Missouri.
- 16 August The last three Titan II air frames were shipped by rail from Little Rock AFB, Arkansas, to Norton AFB, California.
- 18 August SAC inactivated the 373d Strategic Missile Squadron, Little Rock AFB, Arkansas. The 373d was the sixth and final Titan II missile squadron to be inactivated. SAC also inactivated the 308th Strategic Missile Wing at Little Rock AFB, Arkansas. This retirement completed the inactivation of all three Titan II wings.
- 20 August The Defense Acquisition Board approved full-scale development of the SRAM II program.
- September Headquarters SAC published a System Operational Requirement Document for the proposed Peacekeeper Rail Garrison. The document provided a detailed overview of all pertinent operational aspects of the Rail Garrison concept.
- September General John T. Chain, Jr., CINCSAC, directed the Headquarters SAC staff to devise an exercise program to test the Peacekeeper Rail Garrison concept in a deployed "on the rails" setting.
- 1 October The Missile Crew Education Program replaced the Minuteman Education Program. The former program had consisted of exclusive Air Force contracts with specific universities to provide graduate programs for missile crew members. The Missile Crew Education Program used a voucher system that allowed missile crew members to select any accredited Master's program available through the local base education office.
- 6 October SAC manning specialists estimated that 2,606 command personnel, plus 1,400 other USAF personnel, would be needed to bring Peacekeeper Rail Garrison to full operational capability.
- 27 October All-female Minuteman missile crews went on duty at Malmstrom AFB, Montana. Malmstrom thus became the second SAC base to incorporate the gender specific crew concept.

1987

- November Tacit Rainbow contractor developmental testing began.
- 3-5 November Fourth Air Division, F.E. Warren AFB, Wyoming, hosted the first Missile Airmanship Seminar, a forum where missile crews conveyed perceived problems and made suggestions to senior commanders. The Missile Airmanship concept sought to further operational proficiency and pride by streamlining procedures, increasing communications, and removing irritants whenever possible. The first seminar produced 32 action items.
- 8 November Headquarters SAC issued a Statement of Operational Need for ICBM Launch Control Center integration. According to Headquarters SAC planners, a quarter century of specific "non-integrated" modifications had produced a "layering of responsibilities, task saturation, confusion and the potential for error, particularly in a crisis situation."
- 23 November The 5th Bombardment Wing, Minot AFB, North Dakota, won the Dougherty Trophy for compiling the most points in simulated SRAM launches during the annual SAC Bombing Competition held at Barksdale AFB, Louisiana.
- 24 November A B-1B bomber successfully launched an Air-Launched Cruise Missile for the first time.
- 30 November After reviewing the recommendations of the first Missile Airmanship Seminar, General John T. Chain, Jr., CINCSAC, agreed that SAC should permit gender-inclusive (mixed) missile crews with the gender-specific option remaining for those who preferred the existing practice. Ten days later, Headquarters SAC announced that the new policy would become effective on 1 January 1988.
- 4 December The Air Force Uniform Board approved the concept of a new one piece missile crew uniform.
- 8 December President Ronald Reagan and Soviet General Secretary Mikhail Gorbachev signed the Intermediate Nuclear Forces (INF) treaty in Washington. The INF pact established procedures for the gradual elimination of all United States and Soviet ground-based, medium-range ballistic missiles from Europe.

1987

- 31 December By the end of 1987, the SAC Digital Network had become operational at all launch control centers at Grand Forks AFB, North Dakota; Malmstrom AFB, Montana; and Whiteman AFB, Missouri.
- 31 December By this date, 784 Minuteman launch facilities and 90 launch control facilities had been renovated under cycle one of the Minuteman Integrated Life Extension Program (Rivet Mile).
- 31 December As 1987 ended, 18 of 32 Peacekeepers owned by SAC were on alert. SAC authorities cited reliability and supply difficulties in explaining the low alert rate. Repeated failures of the Inertial Measurement Units of the Peacekeeper's Missile Guidance and Control Set had combined with the contractor's production problems to keep the Measurement Units in short supply.
- 31 December During 1987, SAC launched three Minuteman II and six Minuteman III operational test missiles from Vandenberg AFB, California.
- 31 December In 1987, Air Force Systems Command conducted two operational test launches of the Peacekeeper ICBM from Vandenberg AFB, California.

1988

- 1 January SAC replaced its gender-specific policy for manning missile combat crews with a gender-inclusive (mixed male-female) crew policy.
- 14 January General John T. Chain, Jr., CINCSAC, signed a memorandum of agreement with Lieutenant General Charles R. Hamm, Superintendent of the U.S. Air Force Academy (USAFA), instituting programs to increase SAC involvement with USAFA faculty and students. A major goal of SAC's increased presence was to encourage more Academy graduates to enter the missile operations career field.
- 20-21 January Computer Aided Message Processing was simulated in a launch control center trainer for the first time at Vandenberg AFB, California.
- 21 January Thirty SAC personnel took part in the first Peacekeeper Rail Garrison exercise, conducted with the

1988

- Santa Fe Railroad. The train trip between Chicago and Kansas City helped orient the SAC participants to train operations.
- 17 February Peacekeeper Rail Garrison operating concepts were refined during a one-day exercise on the Union Pacific Railroad. The exercise involved taking a train from F.E. Warren AFB, Wyoming, and practicing maneuvers on rail lines in Wyoming and Colorado.
- 16 March Computer Aided Message Processing was simulated in a launch control center trainer at F.E. Warren AFB, Wyoming.
- 31 March The Last Atlas-E ICBM modified for space operations was returned to the Air Force inventory at Vandenberg AFB, California.
- 1 April Brigadier General (Ret) Allen K. Rachel published an assessment of the Minuteman Simulated Electronic Launch Program (SELM). The CINCSAC directed study found the SELM program to be generally effective, but offered 21 suggestions to improve it.
- 4 April Missile maintenance technicians at F.E. Warren AFB, Wyoming, removed the fiftieth and last Minuteman III from alert, prior to converting the launch facility for use by a Peacekeeper ICBM.
- 8 April The SAC Digital Network (SACDIN) achieved full operational capability. SACDIN linked 135 locations and permitted two-way message communications with ICBM launch control centers for the first time.
- 11 April SAC Chief of Staff Major General Randall D. Peat established an ICBM Executive Review Group to provide executive level oversight and guidance to the missile community on operations, maintenance, communications, and personnel matters.
- 11 April The 400th Strategic Missile Squadron, 90th Strategic Missile Wing, F.E. Warren AFB, Wyoming completed the phaseout of Minuteman III missiles which had begun on 23 January 1986 in preparation for the deployment of Peacekeeper missiles.

1988

- 21-28 April           The 91st Strategic Missile Wing from Minot AFB, North Dakota, won the Blanchard Trophy during Olympic Arena at Vandenberg AFB, California.
- 21-28 April           Female Minuteman crew members competed in Olympic Arena competition for the first time when one mixed-gender crew from the 341st Strategic Missile Wing, Malmstrom AFB, Montana, and one all-female crew from the 351st Strategic Missile Wing, Whiteman AFB, Missouri, participated.
- 27 April              The ICBM Executive Review Group held its first meeting. The panel directed a review of the ICBM crew evaluation program to place greater emphasis on critical warfighting skills.
- 6 May                 Software became operational on three Post Attack Command and Control aircraft making the common Airborne Launch Control Center fully capable of launching Peacekeeper and Minuteman missiles.
- 20 May                The SRAM II preliminary design review was completed.
- 23 May                A six-week test of a proposed missile crew uniform concluded at SAC's six ICBM wings.
- 6-10 June             The second Missile Airmanship Seminar held at Ellsworth AFB, South Dakota, produced 40 action items.
- 22-23 June            A comprehensive two-day Peacekeeper Rail Garrison exercise concluded. It operated from Grand Forks AFB, North Dakota, using the Burlington Northern and Otter Tail Valley Railroads over rail lines in North Dakota and Minnesota.
- 27-28 June            The second meeting of the ICBM Executive Review Group produced a directive to review operations training.
- 1 August -  
10 September         SAC tested Computer Aided Message Processing at an electronically isolated launch control center at F.E. Warren AFB, Wyoming. The test represented the first such experiment in a launch control center setting.
- 25 August             Headquarters SAC approved a revised Peacekeeper Rail Garrison Security Concept of Operations, delineating security personnel, barriers, sensors, response-force plans, and delay and denial technology.

1988

- September SAC logistics planners tentatively completed development of a Peacekeeper Rail Garrison System Maintenance concept.
- September SAC published a Peacekeeper Rail Garrison System Design Review.
- 1 September SAC reassigned the 1st Strategic Aerospace Division, Vandenberg AFB, California, from command headquarters to Headquarters Fifteenth Air Force, March AFB, California.
- 1 September Cycle one of the Minuteman Integrated Life Extension (Rivet Mile) was completed and the second phase began. This joint SAC-Air Force Logistics Command modification effort was the largest missile logistics renovation ever performed. Rivet Mile's first cycle lasted for three years and cost \$160 million. During that time, SAC expended 240,000 man-hours inspecting, deposturing, and reposturing missile facilities.
- 8 September The Air Force Uniform Board approved the final design of the first new missile combat crew member uniform in 20 years. The one-piece, dark blue uniform resembled a flight suit and was expected to be in wide use by mid-1989.
- 9 September Headquarters USAF issued a Program Management Directive for Rapid Execution and Combat Targeting (REACT) and a Missile Procedures Trainer replacement. REACT, previously known as the ICBM Integrated Electronics Upgrade, was SAC's primary effort to modernize launch control center equipment.
- 15 September The Air Force selected Raytheon Missile Systems, McDonnell Douglas Missile Systems, and E-Systems Melpor Division as a team to qualify as the prime contractor for full scale development of the Army's ground-launch version of Tacit Rainbow and the second source manufacturer of the air-launched version.
- 3 November The 96th Bombardment Wing from Dyess AFB, Texas, became the first B-1B unit to win the Dougherty Trophy, awarded to the best SRAM unit during the annual bombing competition.
- 3 November SAC aircrews completed initial training with the Advanced Cruise Missile at K.I. Sawyer AFB, Michigan.

1988

- December            An Engineering Test Unit arrived at Malmstrom AFB, Montana, to begin mobility testing of the Small ICBM (using a Ground Test Missile).
- 1 December        SAC implemented several new ICBM personnel practices. Squadron commanders were given responsibility for missile crew training and proficiency. A simple "qualified/unqualified" rating system replaced the three-tiered evaluation scale. To improve communications, the command adopted a formal program to encourage crew feedback. Finally, a crew recognition program was instituted to recognize outstanding unit performance.
- 30 December      Silo-based Peacekeeper ICBMs reached full operational capability at F.E. Warren AFB, Wyoming.
- 31 December      By the end of 1988, 58 female crew members were stationed at four ICBM bases. Of that number, two-thirds had chosen to serve on a mixed crew while 28 percent preferred the gender-specific alternative.
- 31 December      During 1988, SAC carried out five Minuteman III operational test launches at Vandenberg AFB, California.

## APPENDIX A

### GLOSSARY

A & R	Assemble and Recycle
ABM	Antiballistic Missile
ACM	Advanced Cruise Missile
AFB	Air Force Base
AFLC	Air Force Logistics Command
AFSN	Air Force Serial Number
ALC	Air Logistics Center
ALCM	Air-Launched Cruise Missile
ALCS	Airborne Launch Control System
AMC	Air Materiel Command
ARDC	Air Research and Development Command
ATC	Air Training Command
BMC	Ballistic Missile Committee
BME	Ballistic Missile Evaluation
BMW	Bombardment Wing
CEL	Combat Evaluation Launch
CEP	Circular Error Probable
CINCSAC	Commander in Chief Strategic Air Command
D-	Democrat
DASO	Demonstration and Shakedown Operation
DDR&E	Director, Defense Research and Engineering
DSARC	Defense System Acquisition Review Council
ERCS	Emergency Rocket Communication System
EWO	Emergency War Order
FOC	Full Operational Capability
FOT	Follow-on Operational Test
GOR	General Operational Requirement
ICBM	Intercontinental Ballistic Missile
ICM	Intercontinental Missile
INF	Intermediate Nuclear Forces
IOC	Initial Operational Capability
IRBM	Intermediate Range Ballistic Missile
JPL	Jet Propulsion Laboratory
LCC	Launch Control Center
LOC	Limited Operational Capability
MAP	Multiple Aim Point
MIRV	Multiple Independently Targetable Reentry Vehicle
MOM	Modified Operational Missile
MRASM	Medium-Range Air-to-Surface Missile
M-X	Missile-X (Peacekeeper)
NATIV	Navaho Research Test
NME	National Military Establishment
NSC	National Security Council



OAS	Offensive Avionics System
OBLSS	Operational Base Launch Safety System
ORI	Operational Readiness Inspection
ORT	Operational Readiness Test
OSD	Office of the Secretary of Defense
OSTF	Operational System Test Facility
OT	Operational Test
OT&E	Operational Test and Evaluation
OTEP	Operational Test and Evaluation Plan
QOR	Qualitative Operational Requirement
R-	Republican
R & D	Research and Development
RAF	Royal Air Force
REACT	Rapid Execution and Combat Targeting
RET	Retired
RFP	Request for Proposal
ROC	Required Operational Capability
SAC	Strategic Air Command
SACDIN	Strategic Air Command Digital Network
SAL	Strategic Arms Limitation
SAMSO	Space and Missile Systems Organization
SATAF	Site Activation Task Force
SCAD	Subsonic Cruise Armed Decoy
SELM	Simulated Electronic Launch-Minuteman
SICBM	Small Intercontinental Ballistic Missile
SLBM	Submarine-Launched Ballistic Missile
SMS	Strategic Missile Squadron
SMW	Strategic Missile Wing
SON	Statement of Need
SOR	Specific Operational Requirement
SOT	Specific Operational Test
SRAM	Short Range Attack Missile
USAF	United States Air Force
USAFA	United States Air Force Academy
WSC	Weapon System Controller

## APPENDIX B

### DEFINITIONS

#### Ablative materiel:

the special protective coating on the nose cone of a missile reentry vehicle which prevents it from burning up during reentry into the atmosphere.

#### Activate:

to put into existence by official order a unit, post, camp, station, base, or shore activity which has previously been constituted and designated by name or number, or both, so that it can be organized to function in its assigned capacity.

#### Aerodynamic missile:

a missile which uses aerodynamic forces to maintain its flight path, generally employing propulsion guidance.

#### Air-launched cruise missile:

a guided missile, the major portion of whose flight path to its target is conducted at approximately constant velocity, and which depends on the dynamic reaction of air for lift and upon propulsion forces to balance drag.

#### Air-to-surface missile:

a missile launched from an airborne carrier to impact on a surface target.

#### Alert:

readiness for action, defense, or protection.

#### Ballistic missile:

any missile which does not rely upon aerodynamic surfaces to produce lift and, consequently, follows a ballistic trajectory when thrust is terminated.

#### Circular error probable:

a circle within which will fall at least one-half of the weapons targeted for the center of that circle.

**Flight test:**

a test of an aircraft, rocket, missile, or other vehicle by actual flight or launchings. Flight tests are planned to achieve specific test objectives and gain operation information.

**Guided missile:**

an unmanned vehicle moving above the surface of the earth whose trajectory of flight path is capable of being altered by an external or internal mechanism.

**Inactivate:**

to withdraw personnel from a constituted unit, remove its designation from the active list, and place it on the inactive list.

**Intercontinental ballistic missile:**

a ballistic missile with a range capability from about 3,000 to 8,000 nautical miles.

**Intermediate-range ballistic missile:**

a ballistic missile with a range capability from about 1,500 to 3,000 nautical miles.

**Launcher:**

a structural device designed to support and hold a missile in position for firing.

**Liquid propellant:**

any liquid combustible fed to the combustion chamber of a rocket engine.

**Missile:**

any object thrown, dropped, projected, or propelled, or designed to be thrown, dropped, projected, or propelled for the purpose of making it strike a target.

**Operational:**

capable of performing the missions or functions for which organized or designed.

**Pilotless aircraft:**

an aircraft, especially an airplane, designed or adapted to control by a present, self-reacting, or radio-controlled unit without benefit of a human pilot.

**Prototype:**

the first complete and working member of a model or model series, weapon system, or piece of equipment, intended to serve as the pattern or guide for subsequently produced member of the same model or model series, weapon system, or pieces of equipment.

**Research test vehicle:**

a vehicle used to collect scientific data for a research effort.

**Rocket:**

a missile or pyrotechnic device that derives its thrust from the ejection of a stream of hot gases and which, carrying its own oxidizer, is independent of the atmosphere in its operation. Rocket may be either of the liquid or solid propellant types.

**Solid propellant:**

a solid compound of fuel and oxidizer used in rockets.

**Surface-to-air missile:**

a surface launched missile designed to intercept an inflight target.

**Surface-to-surface missile:**

a surface launched missile designed to operate against a target on the surface of the earth.

**APPENDIX C**

**MAPS**

**ATLAS BASES**

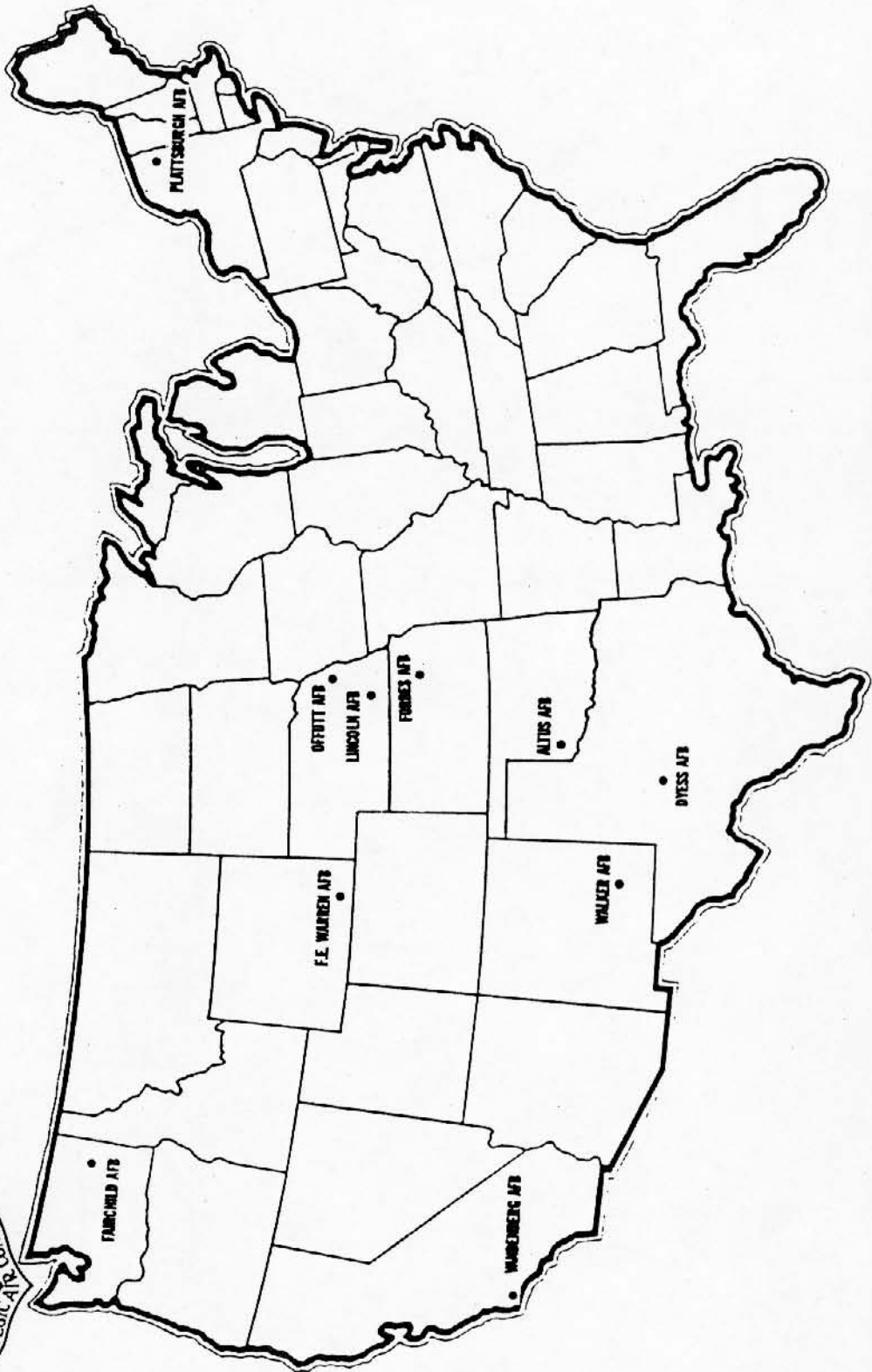
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**MINUTEMAN BASES**

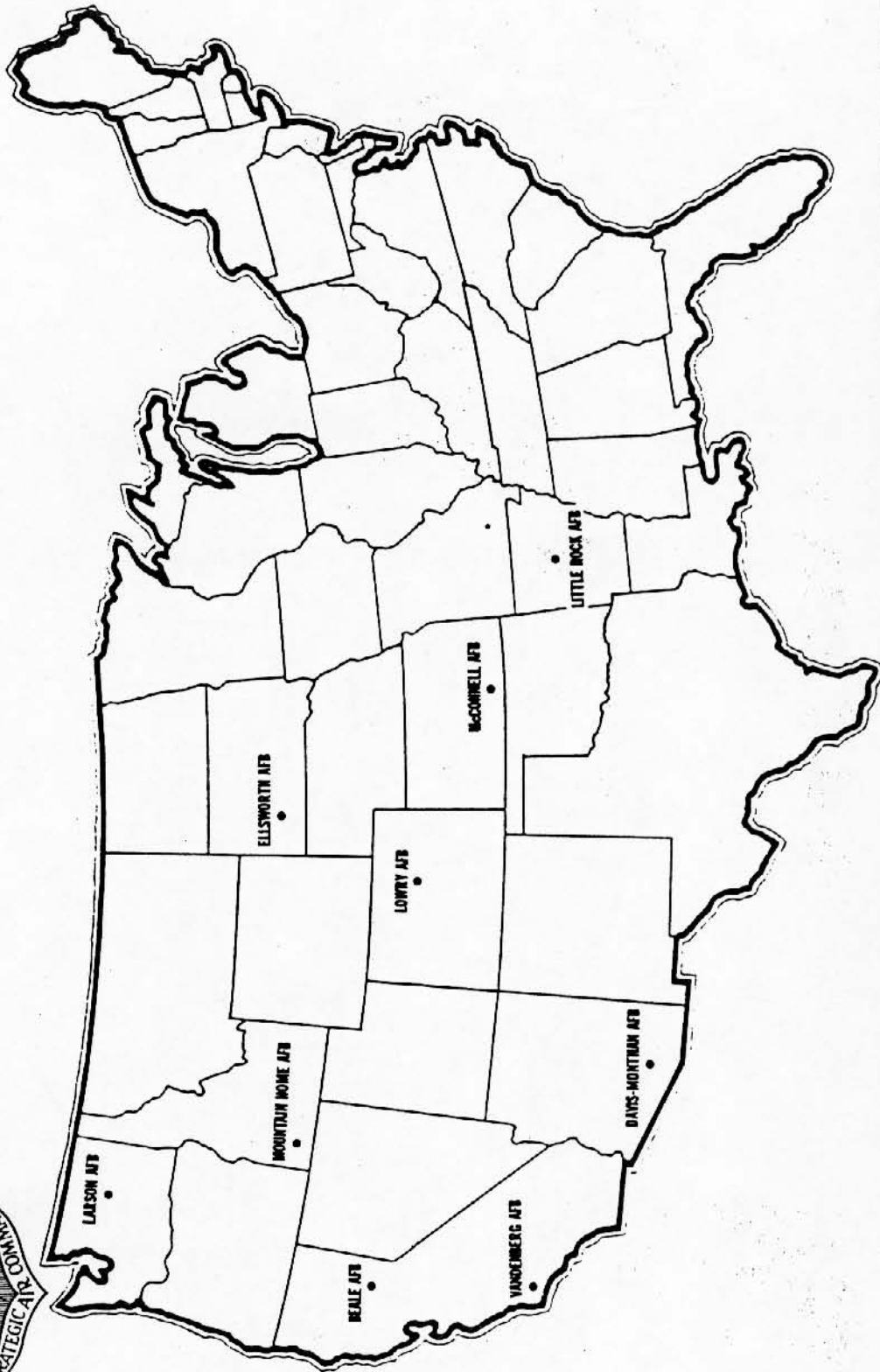
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**SAC ICBM FORCE - 1988**

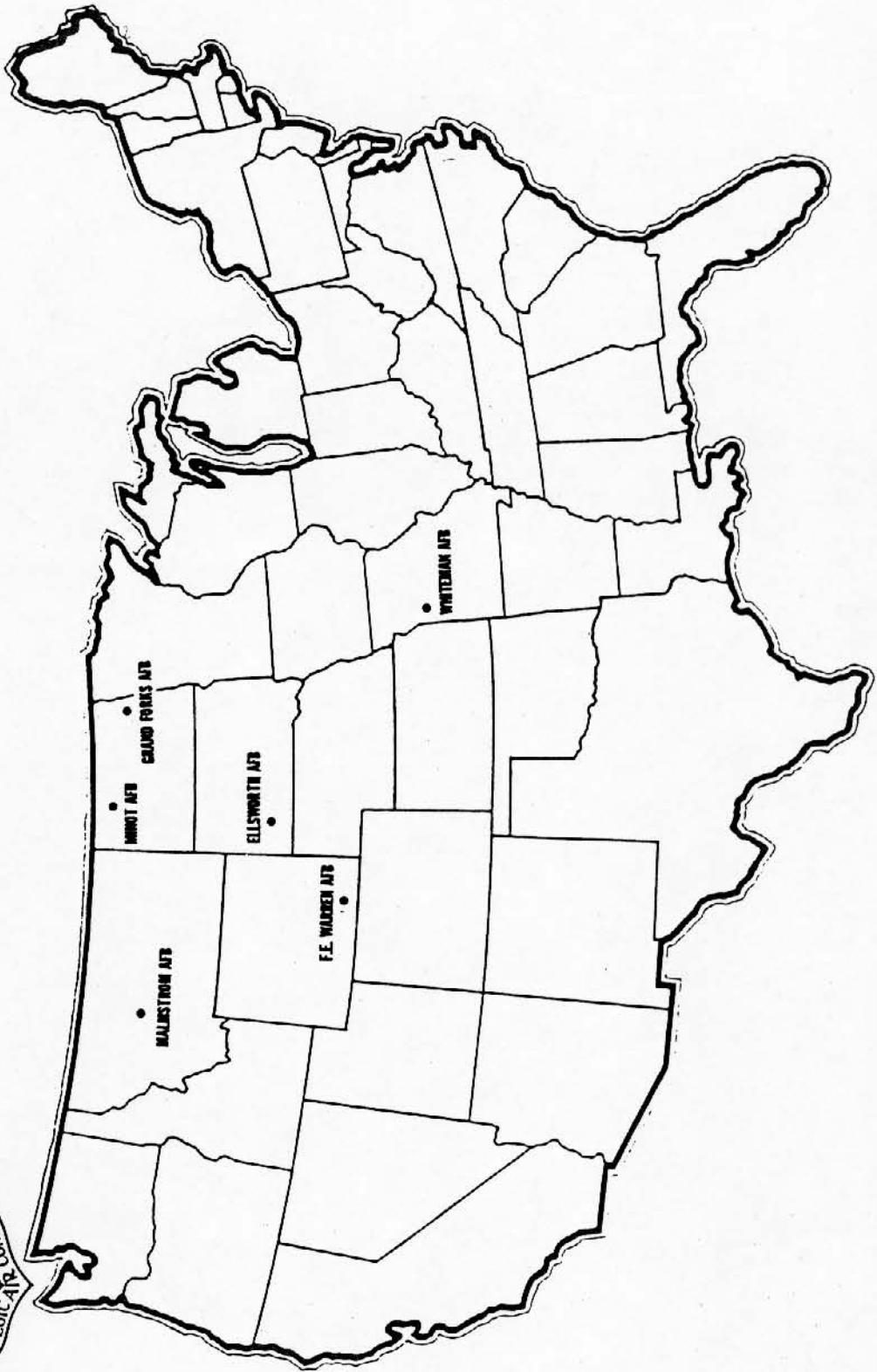
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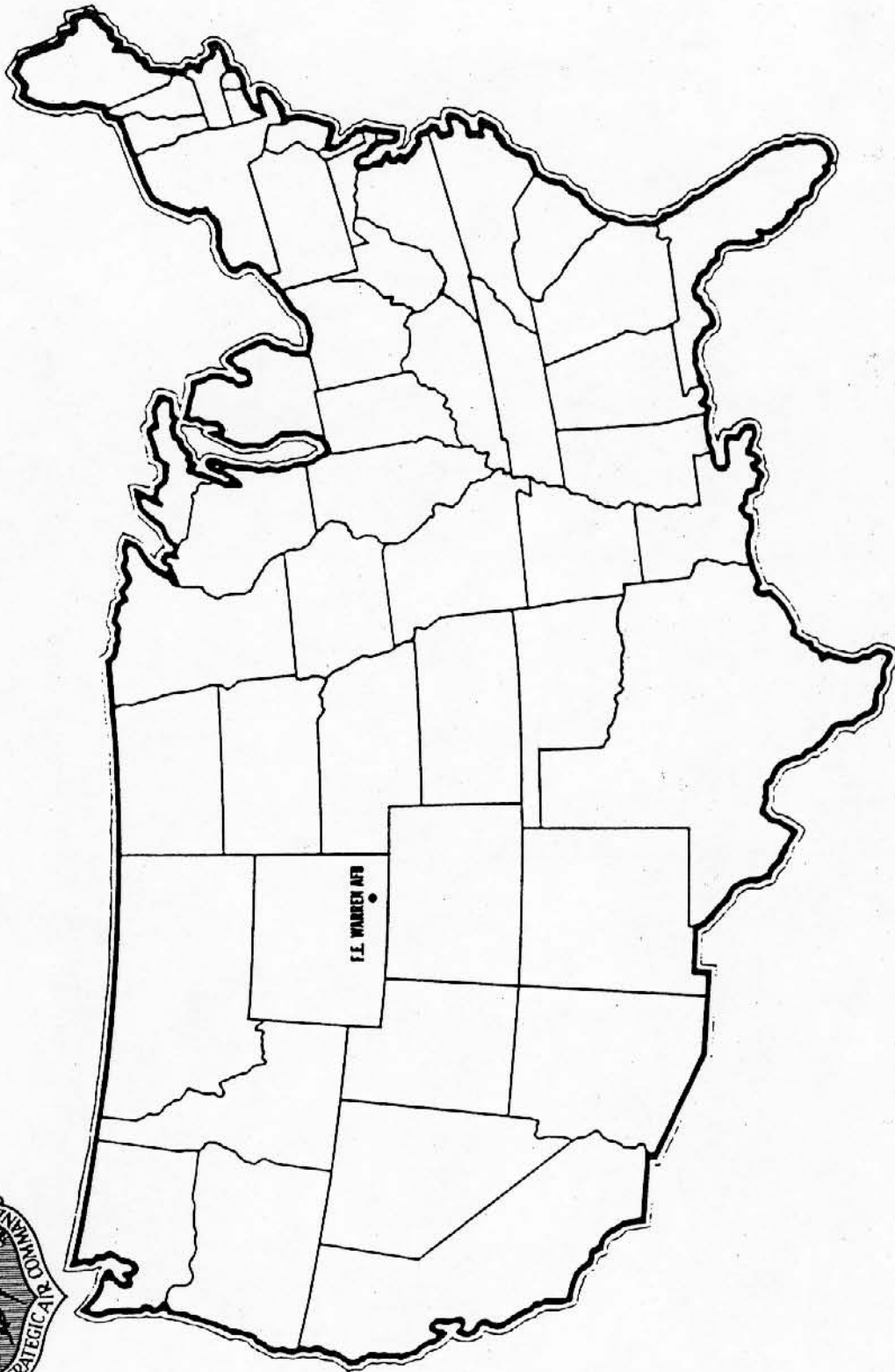


# MINUTEMAN





# PEACEKEEPER



# STRATEGIC AIR COMMAND ICBM FORCE - 1988

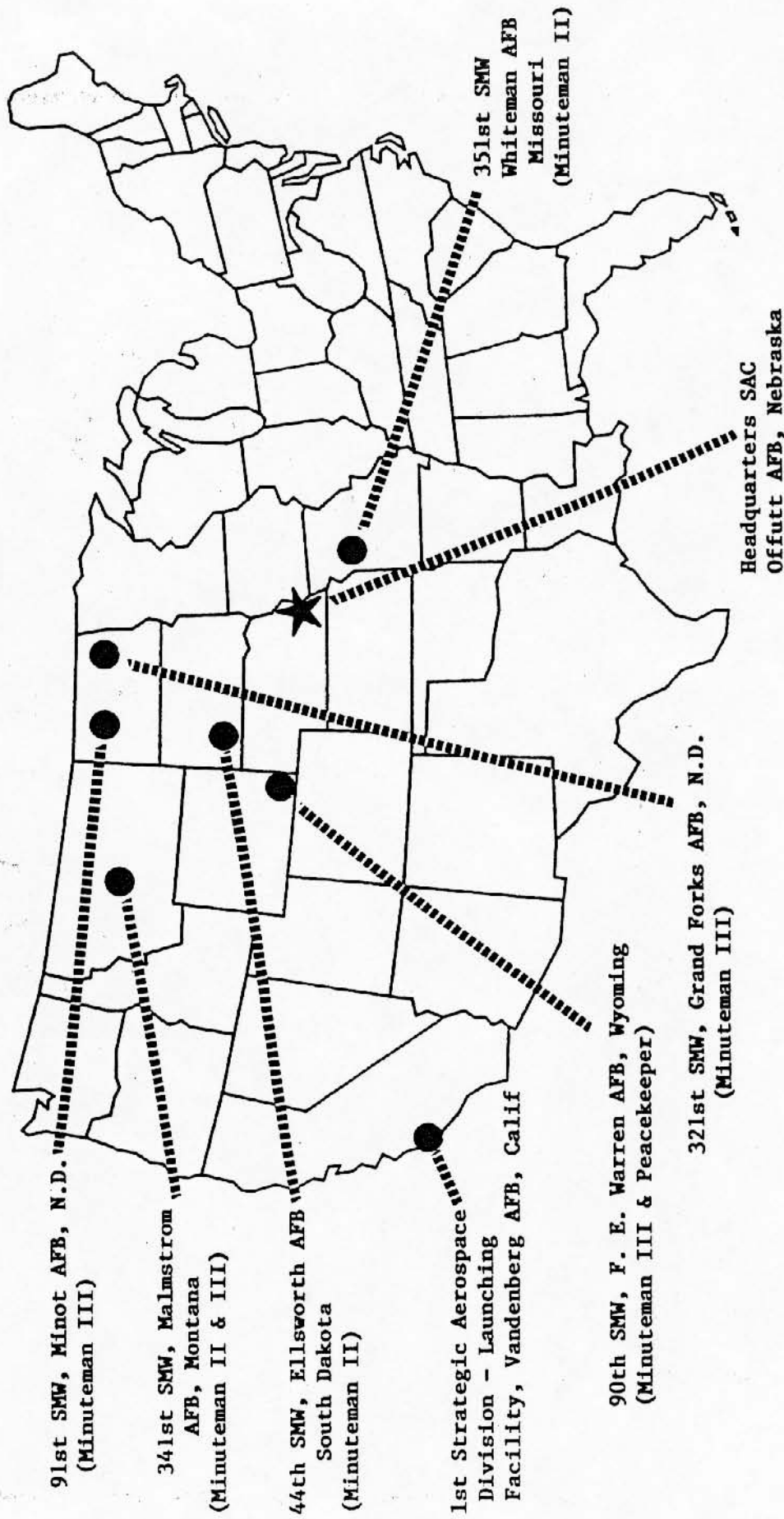


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