HABS No. ID-118-E

MOUNTAIN HOME AIR FORCE BASE, READY ALERT FACILITY
(Building 291)
12 Bomber Road
Mountain Home Vicinity
Elmore County
Idaho

BLACK & WHITE PHOTOGRAPHS
WRITTEN HISTORICAL AND DESCRIPTIVE DATA
REDUCED COPIES OF MEASURED DRAWINGS

HISTORIC AMERICAN BUILDINGS SURVEY
National Park Service
U.S. Department of Interior
1909 1st Avenue, 5th Floor
Seattle, WA 98104

HISTORIC AMERICAN BUILDING SURVEY

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HABS No. ID-118-E

Location:
12 Bomber Road
Mountain Home Vicinity
Elmore County
Idaho

Coordinates: All in Zone 1
Point 1: 593764.489 E 4764746.389 N
Point 2: 593885.570 E 4764818.663 N
Point 3: 594379.283 E 4764829.926 N
Point 4: 594721.878 E 4764645.957 N
Point 5: 594723.755 E 4764182.281 N
Point 6: 594343.615 E 4764182.281 N

Present Owner/Occupant: United States Air Force.

Present Use: This building is currently unoccupied.

Significance: The ready alert facility at Mountain Home Air Force Base (AFB) represents the best extant example of a Strategic Air Command (SAC) bomber alert complex. The complex was home to four squadrons of the 9th Bombardment Wing under SAC's 15th Air Force and was equipped with B-47 Stratojets and KC-97 Stratotankers ready to be airborne 24 hours per day, 7 days per week. Mountain Home AFB was one of 65 installations that provided the capability for SAC to have one-third strike force ready for a counterattack within minutes in the event that there was a Soviet-initiated aggression, and during the late 1950s to the mid-1960s, this strike force was considered the backbone of the SAC deterrent posture. To achieve this, the fenced and secured complex included: 1) a self-contained subterranean complex with dormitory, briefing rooms, cafeteria, recreation areas, its own mechanical/electrical system, and tunnels/ramps to provide quick egress; 2) access roads and transport to the aircraft ramps; and 3) a herringbone plan apron, known as the "Christmas-tree", where the aircraft were parked at a 45-degree angle to the runway ready for takeoff within minutes of an alert. The ready alert complex at Mountain Home AFB was an important link in SAC's combat capability in the event of an attack from the Soviet Union.

Historian(s): Karen Van Citters, Van Citters: Historic Preservation, LLC (VCHP), January 2013

Project Information: Contractor, CH2MHILL, Project Manager, Greg Walker. Historic American Building Survey (HABS) Level I documentation performed by VCHP with measured drawings completed by Figueroa-McInteer Architecture. Photographic documentation performed by Greg Sims, Tri-Digital Group, LLC.

Part I. Historical Information

A. Physical History

1. Date of erection: 1957-58

2. Architect: Leo A. Daly Company
In 1915, in Omaha, Nebraska, Leo Anthony Daly, Sr. established the architectural firm called Leo A. Daly Company. His business thrived and became prolific in the private sector, his son, Leo A. Daly, Jr. joined the firm in 1939, and during World War II the company began to complete military projects.[1] In 1952, Leo Daly, Sr. passed away, his son took over running the firm, and Leo A. Daly Company began to take on larger military and industrial architectural work. By the mid-1950s, the Leo A. Daly Company had established itself as the most often hired architectural/engineering firm for SAC complex building programs.[2]

Some of the most important SAC projects completed by Leo A. Daly Company include the SAC chapel (1956) and underground command post at Offutt AFB (1957), 65 nationwide ready alert bomber facilities (1958), Minuteman assembly buildings (1960s), Concrete Sky hardened aircraft shelters (1970s), and missile maintenance facilities for the Peacekeeper (1980s).[3] In addition to the SAC projects, the company designed iron works, tool companies, dock facilities, airfields, and an atomic energy plant. During the 1960s the Leo A. Daly firm's portfolio included missile facilities, a computer center for Boeing, and a physics lab for Argonne National Laboratory.[4] Leo A. Daly, Jr. passed away in 1981, but his son, Leo A. Daly III continues to run the company, which now works internationally.

3. Original and subsequent owners, occupants, uses:
SAC, 15th Air Force, 9th Bombardment Wing (1954-1966)

The wing used the building as a SAC alert facility with over 32,000 square feet on two floors devoted to the crews for operations, recreation, cafeteria, and dormitory rooms. The wing was designated as the 9th Bombardment Wing in 1950 from the 9th Strategic Reconnaissance Wing; redesignated in 1962 as the 9th Strategic Aerospace Wing; moved to Beale AFB in 1966 and redesignated back to the 9th Strategic Reconnaissance Wing.[5]

Tactical Air Command (TAC), 12th Air Force, 67th Tactical Reconnaissance Wing (1967-1971)

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[1] Amy E. Dase and Stephanie L. Katauskas, *National Register Nomination Form*, Section 8, pp. 17-19.
[2] Karen Weitze, *Keeping the Edge, Volume II* (Wright Patterson AFB, Ohio: HQ AFMC), p. 239.
[3] Ibid., *Volume I*, p. 137.
[4] Dase and Katauskas, Section 8, pp. 17-19.
[5] Major Rita F. Clark and MSgt. Herman F. Martin, *Strategic Air Command: Unit mission and history summaries* (Offutt AFB, Nebraska: Office of the Historian, HQ SAC), p. 41.

The building was used as a TAC Squadron Operations building. Similar to SAC alert it included Officer's Quarters and an Exchange Café Snack Bar. It also included a Military Auxiliary Radio System (MARS Radio)—an extension of the amateur radio network within the military to support emergency communication. In 1970, SAC crews from the 7th Bombardment Wing, who had been on base since 1967, used the building for training. Most of the 7th Bombardment Wing was overseas, but a small cadre remained in the United States and to conduct consolidated B-52D and replacement training. This group occupied over 15,000 square feet, while TAC retained the remaining 17,000 square feet for the MARS Radio, administrative offices, academics classrooms, and airmen dormitories. [6] It is unknown whether the SAC square footage included dormitory space, or whether the rooms were used primarily as classrooms.

TAC, 8th Air Force, 347th Fighter Wing and 12th Air Force, 366th Fighter Wing (1971-1982)
The building was used for squadron operations and training classrooms, with the lion's share of the square footage being used for classrooms. By this time, the building was solely operations and classrooms, with no dormitory space. The 347th was only at Mountain Home AFB for a year and a half.

Air Combat Command (ACC), 12th Air Force, 366th Fighter Wing (1982-1997)
The building retained the squadron operations and training classrooms, but the most of the square footage was being used for non-commissioned officer's (NCO) professional education classrooms.

ACC, 12th Air Force, 366th Fighter Wing (1997-2006)
The building continued to be used for squadron operations and classrooms, but the NCO education was moved. Sometime between 1997 and 2006 the squadron operations were moved out and replaced with a Wing Headquarters function.[7] Classrooms remained in the building. In 2006 the building was vacated and has remained so for the past 7 years.

4. Builder, contractor, suppliers:
J. A. Terteling and Sons, construction contractor

5. Original plans and construction:
The building itself was originally called the Crew Readiness Building; it was part of a greater facility that included a perimeter security fence, roads to the apron, and the alert apron itself—the Christmas-tree. The building was designed to be self-sufficient and has not undergone significant architectural changes. It is 242 feet by 162 feet and two stories tall, constructed of poured concrete, concrete masonry unit (CMU), and steel trusses, with one subterranean story. The foundation and exterior walls are 12 inch thick reinforced concrete and the interior walls are CMU. The floors and roof are also poured concrete. There are 8 ramps in corrugated metal tunnels leading from the subterranean dormitory rooms up to grade and 8 open air ramps leading to grade from the command/control, cafeteria, and recreational area on the upper floor.

[6] Mountain Home AFB Real Property Card and Robert Mueller, A*ir Force Bases: Active Air Force Bases Within the United States* (Washington D.C.: Office of Air Force History), p. 433.
[7] The real property card does not include a date or state what the wing function was.

6. Alterations and additions:

1958: Exhaust grilles and drains were added on the interior.

1961: Rotating beacons, door frames, doors, and a circulating pump were installed. Flood lights were removed and security fence and lights were relocated.

1966: A counter was installed in flight planning, new partitions subdivided the dining rooms, and eleven emergency lights were mounted that year.

1969: Heat plant upgraded to a 5,040-gallon tank capacity. A traffic check house (Building 289) was constructed that year to support SAC satellite activity. Numerous updates were made to the electrical system.

1970: The only noted exterior addition was a platform installed adjacent to the building for high-gain log-periodic antennae.

1971: Dormitory capacity was reduced to 40.

1973: Living quarters and latrines were modified.

1974: A few subterranean interior doors were sealed.

1977: Exhaust grilles were moved, an interior wall was removed, and a hall and three rooms were modified.

1978: Kitchen equipment was removed.

1980: A 55-ton York unit replaced the older air conditioning unit.

1984: A platform was installed in a room on the subterranean level in 1984.

1987: The fire detection system was automated and a separate underground irrigation sprinkler system was installed. In addition, an interior wall was constructed to separate the latrine from the laundry room.

1989: HVAC systems were replaced.

2004: A pivoting surveillance camera was positioned at the northeast corner of the chimney stack.

B. Historical Context

Throughout most of its first decade, SAC operated within the United States borders. This changed during the mid-1950s as the Soviet Union began to build up its long-range bomber force

and to develop intercontinental ballistic missiles (ICBMs). Defense planners saw these actions as a conscious effort to project Soviet military power worldwide and to place the United States under the direct threat of nuclear attack. SAC planners were certain that in the event of war the Soviets would employ a simple strategy to quickly gain superiority—surprise—and it required immediate attention to ensure this did not happen. Planners at SAC Headquarters understood the importance of having an immediate retaliatory response, but also that it was critical to protect their strategic forces from surprise destruction on the ground. This resulted in SAC working to neutralize the threat of surprise attack and assure a SAC response—the net effect was to create an uncertainty in the Soviet military hierarchy that they would achieve success in an attack on the United States. The SAC strategy was to devise an alert program to ensure nuclear deterrence by keeping SAC's bombers and tankers on alert with weapons loaded and crews ready for immediate takeoff.[8]

Prior to 1956, it took SAC crews 6 hours to be airborne after they received an alert notice, later this was reduced to an hour, but by the time the fully operational alert infrastructure and trained Alert Force was in place the timeframe was reduced to 15 minutes. This was accomplished through the vision of SAC leadership, dedication of the aircrew personnel, and construction of specialized facilities to support the mission.[9]

A 1957 memorandum from SAC's General Power, designed to inform and engage his troops in the alert mission, stated:

> It stands to reason that the brunt of the initial attack would be directed against SAC because the Soviets know only too well that the price they would have to pay for aggression would be unacceptable to them unless they succeed in preventing SAC's strike forces from being launched. We can gain a certain degree of protection against overt and covert actions, designed to immobilize our forces, by appropriate means to deal with sabotage attempts, by a limted [*sic*] amount of base hardening, by dispersal, and by similar defensive measures. However, the only way of insuring the survival of some of SAC's combat capability, even in case of the most unexpected and massive attack, is our Alert Force.
>
> As long as the Soviets know that, no matter what means they may employ to stop it, a sizeable percentage of SAC's strike force will be in the air for the counterattack within minutes after they have initiated aggression, they will think twice before undertaking such aggression. For this reason, it is my considered opinion that a combat ready Alert Force of adequate size is the very backbone of our deterrent posture.
>
> To achieve our goal of maintaining as much as one-third of our strike forces on continuous alert will not be easy, but it can and must be done. I realize that this will entail personal inconvenience and sacrifices to you and your families. But you can be sure that I will do everything possible to ease this aspect of your alert duties. The success of this system

[8] Dr. Henry M. Narducci, *Strategic Air Command and the Alert Program: A Brief History* (Offutt AFB, Nebraska: Office of the Historian, HQ SAC), p. 1.
[9] Weitze, *Volume II*, pp. 317-19.

> depends on you, and I count on you to insure that the Alert Force will always be ready to achieve its vital objectives.[10]

It was with the vision of its leadership and the dedication of its officers and airmen to protect the American people that SAC was able to create deterrence through its ground-based ready alert program on the continental United States (CONUS) at installations such as Mountain Home AFB.

SAC Ready Alert Facilities

In reaction to the 1954 Killian Report—also known as the Surprise Attack Study, which maintained that the United States technology might not continue to be superior to that of the Soviet Union,—SAC established an interim policy for a bomber alert program which imitated the Air Defense Command (ADC) concept for bomber alert facilities.[11] ADC located all resources from dormitories to munitions storage to hangars in a guarded area along the flight line in an effort to reduce the time required to become airborne. Because they needed to be operational quickly and were seen as temporary, the SAC interim facilities were to be low-cost, with as little new construction as possible. In late 1956, SAC finally activated several 24-hour bomber alert facilities that had been pieced together with permanent and temporary buildings adjacent to the primary runway, which had been either constructed specifically for or lengthened to accommodate heavy bomber aircraft. Interim alert crews included one-third of a wing's flight and maintenance crews, plus a few miscellaneous personnel.[12]

The ADC had initiated its interceptor alert program in 1951, while during the same year SAC was receiving delivery of its first B-47, which had 6 jet engines and could reach a speed of 600 mph.[13] SAC wings eventually received 45 aircraft each and were operational by the time the Killian Report was produced and the interim alert began. During the interim alert period, SAC assessed each component of the alert program: the location and position of parked aircraft, the fastest crew route to aircraft, the best routes between key infrastructure, and the desired length of time required to achieve a successful alert. As the interim alert was ramping up, SACs initial move was to position its bombers for priority alert and begin construction on alert aprons, before it considered developing crew quarters and other permanent infrastructure.[14]

In 1956, SAC chose a tentative alert apron configuration that consisted of a 90-degree parking stub for each aircraft, which was similar to ADC and already existed on most installations. Most of these were placed along the runway length rather than at the end; however, this was not optimal for strategic aircraft, because SAC aircraft was heavier and required the full distance of a runway to takeoff. As such, SAC preferred positioning alert facilities at the end of the principal runway with angled taxiways and aircraft parking stubs that would allow aircraft to quickly pull

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[10] Narducci, p. 33.
[11] Karen Lewis, et al., *A Systemic Study of Air Combat Command Cold War Materiel Culture, Volume I: Historic Context and Methodology for Assessment* (Langley AFB, Virginia: HQ Air Combat Command), p. 32.
[12] Dase and Katauskas, Section 8, p. 11.
[13] J.C. Hopkins and Sheldon A. Goldberg, *The Development of Strategic Air Command 1946-1986 (The Fortieth Anniversary History)* (Offutt AFB, Nebraska: Office of the Historian, HQ SAC), p. 34.
[14] Weitze, *Volume II*, pp. 317-19.

onto the runway. So, by the end of the year SAC altered the configuration to a 45-degree herringbone pattern projecting from the alert ramp, which itself was set at a 45-degree angle from the runway. The angled aprons/taxiways aided SAC in achieving the desired rapid response times and allowed increased numbers of bomber aircraft to be parked on the aprons. Pilots could easily and directly maneuver their aircraft from the angled parking stubs to the angled taxiway onto the runway—using the herringbone arrangement permitted the bombers to be in flight within 1 minute of each other, which diminished the alert time from an hour to 15 minutes. By October of 1957, none of the sites yet had permanent crew quarters and only 1 of the herringbone pattern aprons had been completed. These herringbone aprons eventually became known as "Christmas-trees."[15]

Following the Soviet launching of Sputnik in 1957, SAC moved from interim alert status to a formal alert. In order to accomplish this, the command devised a concept to keep one-third of its aircraft on ground alert with crews standing by for takeoff; however, while SAC wanted to implement this, the command was not prepared to make this operational. In order to affect this, 3 tests were devised: Operation Tryout, Operation Watch Tower, and Operation Fresh Approach. Tryout proved that the concept was feasible, but showed areas that required improvement to make it practical, so the other two tests were completed to further develop the aspects of practicality, with Fresh Approach being completed by the 9th Bombardment Wing at Mountain Home AFB. After the tests, General Power was convinced that the alert would work and directed ground alerts to commence on several CONUS and OCONUS bases on October 1, 1957.[16]

In November, 1957 General Power informed the world press that SAC had an operational ground alert: aircraft at the end of runways, bombs loaded, and crews nearby ready to takeoff within 15 minutes. While the ground alert was the backbone of the SAC strategy, the command was also developing an air alert and the general let the public know, "Day and night I have a certain percentage of my command in the air." The political environment in Washington D.C. prevented General Power from stating precisely what the ground or air alert entailed—which he found intolerable, because he thought the best deterrent was to let the Soviets know in no uncertain terms the extent of the readiness of his command. Although he could not provide specific detail, he did get his message across with saying to the press, "These planes are bombed up and they don't carry bows and arrows…We must impress Mr. Khrushchev that we have [24 hour alerts], and that he cannot strike this country with impunity." While General Power could not state the details at the time, we now know that 11 percent of SACs 1,528 bombers and 766 tankers were on ground alert that year and that the percentage of alert aircraft grew to 12 percent in 1958 and 20 percent in 1959, until it reached the goal of 33 percent in 1960. By 1961 there were also B-52 crews that were on a 24-hour airborne alert, which continued until 1968 when a B-52G attempting an emergency landing crashed at Greenland's Thule AB, resulting in an OCONUS nuclear cleanup.[17]

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[15] Ibid.
[16] Norman Polmar and Timothy Laur, *Strategic Air Command: People, Aircraft and Missiles* (Baltimore, Maryland: The Nautical & Aviation Publishing Company of America), p. 49-50.
[17] Narducci, pp. 4-6 and 16.

To support the interim ground alert efforts, the command also continued to bring trailers and renovated barracks near aprons to serve as temporary crew housing, which continued well into 1958. The 2nd Air Force at Barksdale, Louisiana was the first to use trailers for alert crew quarters, but during the year seven other installations followed suit. While bases were ramping up with temporary quarters, Leo A. Daly Company was completing the drawings for permanent alert crew quarters with three sizes of alert: 70 men (18,000 square feet), 100 men (22,500 square feet), and 150 men (31,000 square feet). Regardless of the size, the quarters were constructed of reinforced poured concrete, concrete masonry unit, and steel truss with one story above ground and one story that was either below ground or heavily bermed (subterranean). The subterranean egress was typically supplied by corrugated steel covered tunnels with ramps up to grade and the upper story with concrete ramps down to grade. Because these structures did not have windows and were primarily below grade, they became known as "moleholes."[18]

In 1958, SAC adopted the "Peace is our Profession" motto and went through a major reorganization to support the bomber ground alert, which included adding a fourth squadron to each wing to support the new alert cycle.[19] In addition, SAC received $24.6 million in supplemental funding for the bomber alert facilities. With funding secured, the SAC mission was moving from traditional military tactics to adapt to the very real threat of nuclear war: deterrence on a global scale and the SAC mission was the first line of defense. To carry out this mission, SAC ran alert duty and training missions using a network of installations and command posts throughout the United States and overseas, all based on Greenwich Mean Time so there would be a common timing method for coordination between facilities.[20] Early on, SAC bomber aircraft that were on alert status were actually launched with armed weapons; however, the air force realized that there was a great risk in traveling across the continent with armed special weapons, so eventually systems were set up so that weapons would stay unarmed, but could be armed in mid-air if necessary.

By 1959, the 2nd, 8th, and 15th Air Forces and their tenant bases comprised 65 moleholes, which included ten of the 150-man facilities, ten of the 100-man, and forty-five of the 70-man.[21] SAC also purchased a fleet of 539 station wagons and 93 panel trucks to transport airmen to and from alert duty and from the molehole to the Christmas-tree in an effort to increase the efficiency of the scramble. By 1961, there were 65 SAC alert compounds with permanent alert crew quarters and the majority of the associated alert aprons were constructed in the Christmas-tree pattern. This apron layout included three typical schemes and approximately four different sizes. One version featured a single large apron with 4 to 11 individual stubs, while another included two lines of aprons angled toward a shared taxiway. The SAC alert molehole and Christmas-tree infrastructure reached the height of its mission support importance during the early 1960s.

Mountain Home

During World War II, Mountain Home was chosen as the site for a new army base that would provide heavy bombardment training. It was established as the Mountain Home Army Air Base

[18] Weitze, *Volume II*, pp. 317-19.
[19] Polmar and Laur, p. 56.
[20] Major Clifford B. Goodie, *Strategic Air Command: A Portrait* (New York: Simon and Schuster), p. 10.
[21] The command also constructed seven moleholes outside the continental United States.

in April of 1942 and construction began that November.[22] The military stipulated that the base would be completed by March of 1943; however, even with the use of standard plans, locally available materials, and a 1,000-man construction crew the installation was not officially opened until August of 1943. The air base was originally slated for the B-17, but by the time it was ready B-24 Liberator crews were stationed there.[23] Eventually fighter aircraft were added and for a few months towards the end of the war the base accommodated B-29 training. As with Kirtland AFB in New Mexico, it was able to provide training for the B-29 because the runways were long and strong enough to handle the aircraft.

The runways and taxiways constructed in 1942 at Mountain Home were of unprecedented dimensions and detailing in order to withstand large aircraft with the heavy load capacities, as well as southwestern Idaho's extreme weather conditions. Most World War II runways were approximately 5,000 feet long, while the primary runway at the Mountain Home installation was twice that length. The runways consisted of three legs that were laid out in a triangular configuration to allow for optimal takeoff and landing under all weather conditions. Two were 10,000 feet long and one 8,500 feet long.[24] The primary runway (one of the 10,000 feet long units) was 500 feet wide and oriented southeast/northwest to take advantage of the prevailing wind pattern for takeoff and landing. The runways and taxiways were constructed with poured-in-place concrete set on an aggregate base and topped with an asphaltic coating. Because the runways were constructed during the winter, work crews mixed 6,500 pounds of salt in water and applied it to the subgrade to thaw the frozen ground before laying heated aggregate on the surface and then pouring the concrete. Once the concrete had been laid, they used calcium chloride, insulated tank trucks, tarpaulins, and straw to prevent freeze damage as the concrete cured. Because of these cold-weather construction techniques, these runways did not collapse during the spring thaw as did many others that were built during the war.[25]

After the war, the installation was inactivated and reactivated a few times. However, in 1953, Mountain Home AFB was chosen for the bomber alert program, and in May of that year 4,000 members of the 9th Bombardment Wing were transferred from Travis AFB in California to begin practice missions at the Idaho installation.[26] To accommodate the 9th Bombardment Wing's B-29 bombers and KB-29H refueling aircraft, a series of five prefabricated steel nose docks were constructed on the north side of the flight line.[27]

A year later, in 1954, in order to accommodate the B-47 Stratojet and the KC-97 Stratotanker, the aircraft to which the 9th Bombardment Wing was converting, the runways were lengthened to 12,000 feet, the shoulders were expanded with 250-foot-wide bituminous strips to prevent jet blast damage, and the surface of the runway was stabilized with new material. In addition, lights were upgraded for approach facilities, variable intensity lights were installed on the northwest end of the runway to provide safer night taxiing, World War II Birchwood hangars were

[22] The installation name changed to Mountain Home AFB in 1947 when the U.S. Air Force was established.
[23] Mueller, p. 430.
[24] Ibid.
[25] Dase and Katauskas, Section 8, p. 6.
[26] Ibid.
[27] Mountain Home AFB building numbers1329–1333.

expanded to accommodate the B-47, and various other facilities for operations were built at the installation.[28]

On September 14, 1954, Commander Colonel William C. Kingsbury landed at Mountain Home AFB in the first B-47 bomber aircraft assigned to the wing; a month later, the installation officially re-opened with a public ceremony.[29] By February of 1955, the 9th Bombardment Wing conversion to their 45 B-47 bombers was complete; however, SAC was still in the interim alert period and the construction of the ready alert facility and Christmas-tree aprons were yet to be completed.

Once the installation runways and aprons could accommodate the larger aircraft, SAC focused on developing the ready alert building for the crews. It was in the first group of eight SAC alert quarters of various sizes that were constructed in the northern tier of the United States. The drawings for the alert aprons are dated April of 1958; presumably the apron construction began shortly before the molehole. The apron configuration used at Mountain Home AFB was also used at nine other installations. Two Christmas-tree alert aprons were positioned at a 45-degree angle to the taxiway: one with seven parking stubs for B-47 bomber aircraft and the other (a half Christmas-tree) with four parking stubs for KC-97 refueling tankers. A perimeter road, other access roads, and a security fence were also under constructed.[30]

Construction of a 150-man ready alert facility began on July 31, 1958. While the molehole constructed at Mountain Home AFB was designed to support the required military personnel for a six man flight crew of a B-52, it was used to support the three man flight crew of a B-47—which served as a permanent team that trained together and all had top-secret clearance that required Federal Bureau of Investigation background checks.[31] The building was complete on February 25, 1960, the first alert crews occupied it on March 1, and the official opening was on March 3, 1960. The building was two levels and was self-sustaining with its own utilities. The subterranean level included living quarters and two sets of bathrooms, while the upper level included operational support with offices, briefing, training and operations rooms, a cafeteria, lounge, library, and recreational space with pool and ping pong tables, television, and writing rooms. In the evenings, the briefing room doubled as a theater where 16mm films were shown for the crews.[32] There were a number of flight crews on each shift, there were typically two men per room, and all members of a specific flight crew were assigned to a group of rooms adjacent to each other. The aircraft maintenance and support personnel were also housed in the subterranean rooms. Many of the men painted their rooms and added their own furniture to make them more comfortable.[33]

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[28] Dase and Katauskas, Section 8, pp. 7 and 14.
[29] *The Strata Courier*, Vol. VI, No.5.
[30] Dase and Katauskas, Section 8, p. 16.
[31] Ibid., Section 8, pp. 22. Note: Only the B-47 bomber and KC-97 refueling tanker aircraft were flown from Mountain Home AFB until 1966 (Bowden 2004b; Robertson 2004:1).
[32] *The Strata Courier*, Vol. II, No. 27, March 3, 1960, p. 1.
[33] Dase and Katauskas, Section 8, pp. 21-22.

To secure the new ready alert facility, the 9th Combat Defense Squadron kept 24-hour watch with armed guards and sentry dogs to protect both inside and outside the fenced perimeter.[34] The squadron included 162 air police grouped into 23-man teams that were trained in weapons handling and unarmed defense. There were at least two teams always on call and the teams worked on 8-hour shifts that began with a briefing and inspection before the members took their positions. There was also a heavily armed mobile strike team that would check for sabotage devices.[35] The highest level of warning was the "seven-high" alert, which indicated sabotage or other suspicious act. This would be communicated via a dedicated telephone in the combat defense squadron office, which would be followed by a strike team investigation.[36]

While the security detail worked in 8-hour shifts, the SAC airmen were on duty 24 hours each day, continually wearing their flight suits, and measuring their days by Greenwich Mean Time (a 7 hour time difference). The shifts were typically 4 days on, 3 days off, 3 days on, and 4 days off. Initially the 9th Bombardment Wing's four squadrons with 20 personnel completed their shifts separately, but over time the alert shifts would include more than one squadron.

At the start of a shift, airmen would verify their room numbers, aircraft location, and tunnel access, as well as go to the command post situated in the control room to check out a large, black leather box which contained their mission—a flight route and the strike targets that would be used in the event of an alert. Airmen would study the provided data within their own crew, but did not share this information with other crews and would return the materials to the command post at the end of their shift. Although, ultimately, no alert operations were ever the result of an actual attack, the SAC airmen never knew whether their mission was a real world event or training until well into a flight. In addition to studying the mission and being ready to move to their aircraft at a moment's notice, while on alert the airmen attended training lectures and participated in recreation that was available at the molehole. Also, although they could not leave the facility while on duty, they could meet family at a visiting area just outside the alert facility boundary.[37]

While the bomber crews remained at the molehole 24/7, the refueling tank crews were allowed to leave the facility for activities on the main base, because they had a longer response time. They would know to speed back to the facility when the base klaxon sounded. Different sounds from klaxons, buzzers, and traffic signs indicated various levels of alert based on the severity of the proposed situation.[38]

In addition to the bomber and refueling flight crews, the maintenance crew was a critical part of the alert mission. There was a chief of the maintenance crew, which included line chiefs and mechanics. Each branch of the Christmas-tree had a line chief and each plane had a qualified mechanic. The maintenance crew was also in a constant state of readiness, keeping equipment

[34] Ibid.
[35] Ibid.
[36] Barrett F. Rainey, "Seven-High Has Special Meaning to SAC Men." *The Strata Courier,* Volume VIII, No. 50, p. 19.
[37] Ibid.
[38] *The Strata Courier,* Vol. VI, No.5., pp. 1 and 4.

operable so aircraft were ready for takeoff at a moment's notice.[39] Alert aircraft switches were in the on position. During practice alerts, ground crewmen or air police guards pulled covers from the jet intakes and tail pipes and manned fire bottles. By 1961, alert aircraft were ready for takeoff within 3 minutes of a message from SAC and the last plane was airborne within 15 minutes.[40]

SAC headquarters would dispatch alert exercise messages to control rooms at its installations where the combat defense squadron office received them. From the time those messages were received crews would scramble to the aircraft and be ready to fly within 3 minutes. During an alert, as the engines were roaring to life, the crew was copying the first message and operating under a protocol known as "positive control." This was a series of coded messages sent from SAC that directed the actions of the flight crew. At every level in the command—from headquarters to the squadron office to the aircraft—there were two or more positive control officers that were required to authenticate the message and agree on its meaning before actions were taken. When there were scrambles, there were four levels of alert: Alpha, Bravo, Cocoa, and Delta, each with progressive degrees of intensity. For an Alpha exercise, the crews would just scramble to the aircraft; a Bravo level would require them to start the engines; a Cocoa level would require the crew to taxi to the runway and be ready for takeoff; and a Delta level exercise would result in the aircraft being airborne. The Delta level exercise was the rarest and the bomber/refueling tanker crews would fly to positive control points—short of enemy territory, only to enter that territory if they received the "Go Code."

The Go Code was a coded voice message transmitted by the authority of the President through SACs ultrahigh-frequency radios or, if the President had already determined the nation was at war, in the takeoff message. The Go Code would be checked by positive control and then decoded by three officers.[41] The decoding ensured that no one individual ever had access to complete control and that nuclear war would not be initiated in error. If the Go Code was not received during a Delta mission when the bomber was at its control point, the aircraft would return to its home base.[42]

In addition to exercises, there were operational readiness inspections. These were surprise inspections designed to ensure that ready alert personnel—from the pilot to the cook in the kitchen—were able to meet SAC expectations. They often occurred during vulnerable periods, such as nights, weekends, or on holidays. A cargo aircraft would land and, within minutes, the inspection team members would be at posts throughout the installation. The klaxons would sound and be followed by a practice Bravo or Cocoa alert. The inspection team would time everything with stop watches. Operational readiness inspections could last hours or as long as a few days to evaluate second-strike capability.[43]

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[39] Rainey, p. 19.
[40] Weitze, *Volume II*, p. 318.
[41] This is true for the B-52, but is unclear whether it was the same for a B-47, as the entire crew consisted of three officers.
[42] Goodie, p. 12.
[43] Dase and Katauskas, Section 8, pp. 24.

At the completion of each alert duty shift, alert crews would participate in training missions that would last 6 to 7 seven hours. The training included scrimmages, 6-hour night missions, low-altitude bombing runs, simulated combat missions, tactical maneuvers, navigation, and refueling. The refueling training missions focused on putting loaded bomber and refueling tanker aircraft in the air as quickly as possible and practicing mid-air refueling. Refueling typically took about 15 minutes and communication between the aircraft was completed by radio. The bomber pilot would position the B-47 at a lower altitude that was miles behind the KC-97, whose pilot kept the tanker aircraft straight and level. The B-47 would then ease up within feet of the KC-97 and wait for the boom operator to telescope the boom (a distance of 12 to 18 feet) to the B-47 fuel nozzle. Inside the KC-97 an operator would rest on his stomach in the tanker's tail and direct the boom with hydraulic controls and press a switch to release the fuel at 500 gallons per minute. If either aircraft swerved, the boom would automatically disconnect.[44]

Although it did not affect the type of aircraft at Mountain Home AFB until the mid-1960s, the air force had began to phase out the B-47 bomber aircraft in 1957 as they were ramping up the B-52 to serve as the strategic bomber.[45] As the strategic aircraft was transitioning, military materiel changes from bombers to ICBMs were beginning to have a greater effect on the SAC ground alert program. In the early 1960s, ICBMs became part of the SAC mission and Mountain Home AFB was selected as one of the sites for a Titan I missile complex. From launch to target, the Titan I missile could travel 15,550 miles in 33 minutes. In 1960, construction began on three launch control centers and underground missile silos that were between 36 and 55 miles distant from the installation: Complex 1-A was at Bruneau, Complex 1-B was at Oceana, and Complex 1-C was southeast of Boise. Each 35-acre site had three missile silos 42 feet in diameter and 14 feet underground. Each silo connected to the other and to a complex of living and working quarters with a domed control center. The bomb-proof launching centers were finally complete in the spring of 1962, at a final cost of more than $51 million. The 569th Strategic Missile Squadron, activated on June 1, 1961, controlled the missile sites, and included 48 officers and 242 airmen that provided fifteen 10-man crews for continuous 24-hour launch and guidance capability.[46]

Concurrent with the development of the Titan I missile complexes at Mountain Home AFB, SAC began to reduce its ready alert mission. On 21 April 1964, as the Mountain Home AFB missile complexes were coming online, the number of United States ICBMs on alert finally equaled the number of bombers on ground alert. From that day forward, the ICBM alert force gradually outdistanced the bomber alert force.[47] When the complexes came online, the 9th Bombardment Wing was redesignated the 9th Strategic Aerospace Wing and that August, the 569th Strategic Missile Squadron was assigned to the wing to control the Titan I missile sites. Later that year, the 9th Strategic Aerospace Wing was reassigned to Beale AFB and redesignated the 9th Strategic Reconnaissance Wing.[48]

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[44] Ibid.
[45] J.C. Hopkins and Sheldon A. Goldberg, *The Development of Strategic Air Command 1946-1986 (The Fortieth Anniversary History)* (Offutt AFB, Nebraska: Office of the Historian, HQ SAC), p. 51.
[46] Dase and Katauskas, Section 8, pp. 25-26.
[47] Narducci, Brief History, p. 14.
[48] Mueller, p. 430.

In November 1964, it was announced that TAC's 67th Tactical Reconnaissance Wing would become host of Mountain Home AFB, in June of 1965 the Titan missile silos were closed, and at the end of 1965 SAC completed its 12-year run as host at Mountain Home AFB. On January 1, 1966, the 67th Tactical Reconnaissance Wing arrived to serve as host unit and the installation control officially passed to TAC. The last SAC personnel left the installation on February 17, 1966, when Colonel Earl Lilley, deputy commander for operations of the 9th Strategic Aerospace Wing, Captains Leslie Swanson and Larry Benson, and Major Herbert Mallard flew remaining B-47 bomber aircraft to the storage and disposition center at Davis-Monthan AFB in Arizona.[49]

Part II. Architectural Information

A. General statement

The Mountain Home AFB ready alert facility is a cohesive collection of SAC resources on approximately 103 acres at the southeast end of the installation's flight line. The facility comprises one contributing building and four contributing structures: a 1958-1960 ready alert crew building (Building 291), two 1957-1958 Christmas-tree alert aprons (Buildings 31020 and 31021), and the contemporaneous road system and security fence. Noncontributing properties within the boundary include a 1969 traffic check house, 1970s tennis court, 1985 carport, and post-1987 metal building.

1. Architectural character: The ready alert building was constructed using "hardening" techniques; i.e. strengthening a building to protect it from attack. These techniques included making the facility subterranean, eliminating windows, using reinforced, poured concrete, and providing engineering systems to make it self-sustaining. In addition, the building was constructed to support the mission and provide egress to ensure the airmen would get to their aircraft in minimal time. This included long, straight corridors leading directly onto tunneled ramps that in turn led to grade. Every aspect of the complex was designed to minimize the response time and maximize the speed of becoming airborne.

2. Condition of fabric: In general the building is in good condition; it has however, been left vacant for a number of years and is beginning to show the effect of this through weathering, vandalism (some caused through military exercises), infiltration of rodents, and other typical deterioration association with disuse.

B. Description of Exterior

1. **Overall dimensions:** Two stories, one of which is subterranean. Eight ramps down to grade (from upper floor) and eight tunnels (from subterranean floor) up to grade. The overall dimensions of the building are 242 feet by 162 feet.

2. **Foundations:** Twelve inch thick, reinforced poured concrete.

[49] *Phantom Photogram,* Vol. 1, No.7, 1.

3. **Walls:** The exterior ground floor walls are constructed of reinforced poured concrete and the exterior top floor and all interior walls are constructed of concrete masonry unit.

4. **Structural system, framing:** The exterior, a wall at the center of the building and the two outside longitudinal walls of the hallways are load-bearing and support steel trusses. The roof trusses are slightly gabled. A masonry wall that separates the top floor room from the mechanical room runs parallel to the bearing walls and rests on the perpendicular walls at the end of the mechanical room.

7. **Porches, stoops, balconies, porticoes, bulkheads:** There are eight corrugated steel tubes with concrete ramps angling upward that lead from the ground floor rooms. Three on each long elevation and one at each end. These are connected to the building with a poured concrete, rectangular airlock from the main wall; there is a door into the airlock from the building and a door leading from the airlock into the tube. Each tube ends at a concrete curb 42 feet from the face of the building and it terminates with a concrete wall with a door. In addition to the tubes there are eight concrete ramps leading from the top floor down to grade. They have the same airlock as the tubes and pipe rail at the edges.

8. **Chimney:** There is a chimney for the mechanical room.

9. **Openings**
   a. Doorways and doors: Steel hollow core doors with steel frames and vision panels.
   b. Windows and shutters: There are no windows on this building; however there is corrugated fenestration on the tunnel tubes.

8. Roof
   a. Shape, covering: The roof is slightly gabled, constructed of poured concrete and topped with an asphaltic roofing system.
   b. Cornice, eaves: There is a very slight overhang with a metal coping.

C. Description of Interior

1. Floor plans: The lower floor has two hallways that run the longitudinal length of the building, with one bay of rooms on the exterior walls and two bays at the center. There is a large mechanical room on the north side. The plan is transected by three hallways cutting through the building. All hallways lead to ramped, corrugated steel tunnels. The upper floor has a single hall at the center and rooms from either side. There are five other smaller hallways leading to rooms and exits. The main hall has ramps from either end and there are a series of three ramps on either longitudinal side that lead primarily from rooms.

2. Stairways: There are two internal concrete stairwells with pipe handrails and carpeted treads.

3. Flooring: Asphaltic tiles in a variety of colors.

4. Wall and ceiling finish: Walls are primarily painted; in some locations they have been furred out; most ceilings are hung tile.

5. Doorways and doors: Most of the doors are hollow core steel with steel frames. Some include vision panels.

6. Decorative features and trim: No designed decorative features; however there are some stripes and aircraft painted on hallway walls that were not original to the building.

7. Hardware: The doors include push plates, vertical handles, and panic bars. All hardware is functional rather than decorative.

8. Mechanical equipment

- **a. Heating, air conditioning, ventilation:** The heating, ventilation, and air conditioning system was replaced in 1989. The original and new systems used for the ready alert facility were housed in a two-story room on the northwest side of the building. Stairs to the room led down from the subterranean level.
- **b. Lighting:** Florescent tube fixtures.
- **c. Plumbing:** There are two back-to-back restrooms with toilets and sinks on the upper level and two restrooms with toilets, sinks, and showers—one off of each major hallway—on the lower level. There is nothing distinctive about the fixtures.

9. Original furnishings: None remaining.

D. Site

1. Historic landscape design: The most important aspect of the site design was the subterranean nature of the building and its relationship to the flight line. The berm protecting the lower level slopes from the building out to a concrete curb at the edge of the ramps and tunnels. The area around the building was coated with asphalt and access roads led from the building to the Christmas-tree aircraft aprons. The herringbone design of the aprons allowed the aircraft to line up and takeoff within 15 minutes. The entire complex was located to the south of the main base and enclosed within a barbed wire topped fence.

2. Outbuildings: A guard shack was added to the complex after the ready alert mission had ended. It is a one-man wooden structure with a shed roof.

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