

Preserving Alaska's Early Cold War Legacy¹

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Abstract

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The U.S. Air Force owns and operates numerous facilities that were constructed during the Cold War era. The end of the Cold War prompted many changes in the operation of these properties: missions changed, facilities were modified, and entire bases were closed or realigned. The widespread downsizing of the U.S. military stimulated concern over the potential loss of properties that had acquired historical value in the context of the Cold War. In response, the U.S. Department of Defense in 1991 initiated a broad effort to inventory properties of this era. U.S. Air Force installations in Alaska were in the forefront of these evaluations because of the role of the Cold War in the state's development and history and the high interest on the part of the Alaska State Historic Preservation Officer (SHPO) in these properties.

The 611th Air Support Group (611 ASG) owns many of Alaska's early Cold War properties, most were associated with strategic air defense. The 611 ASG determined that three systems it operates, which were all part of the integrated defense against Soviet nuclear strategic bomber threat, were eligible for the National Register of Historic Places (NRHP) and would require treatment as historic properties.³ These systems include the Aircraft Control and Warning (AC&W) System, the Distant Early Warning (DEW) Line, and Forward Operating Bases (FOBs). As part of a massive cleanup operation, Clean Sweep, the 611 ASG plans to demolish many of the properties associated with these systems. To mitigate the effects of demolition, the 611 ASG negotiated agreements on the system level (e.g., the DEW Line) with the Alaska SHPO to document the history and architectural/engineering features associated with these properties. This system approach allowed the U.S. Air Force to mitigate effects on many individual properties in a more cost-effective and efficient manner.

Historical Background and Context

In the late 1940s and early 1950s, the United States developed several aircraft warning radar systems to detect polar flights by Soviet bombers. These radars were some of the first technical systems developed and deployed during the Cold War. In addition to the aircraft warning radars, the U.S. Air Force deployed fighter-interceptor aircraft at Forward Operating Bases (FOBs) in central Alaska to provide protection of the radar systems as well as protection of Alaska and the lower 48 states. These systems represented an important strategic shift in the Cold

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³ (The White Alice Communications System [WACS], which facilitated communication among the defense network, was determined eligible for the NRHP in 1988 [Reynolds 1988].)

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War away from the initial confrontations between the Soviet Union and the United States in Europe between 1946 and 1948 and toward a more global nuclear standoff that characterized the remainder of the era.

Early Warning Radar Networks

In early 1947, the U.S. Air Force began planning for a radar warning network to provide strategic air defense for North America, but Congress was reluctant to fund an upgraded or expanded network because of costs and doubts about the effectiveness of World War II era radar equipment. However, when the Soviet Union exploded its first atomic bomb and developed an intercontinental bomber in late 1949, well ahead of American predictions for this capability, Congress quickly appropriated money for the Aircraft Control and Warning (AC&W) System.

Construction contracts were issued for the AC&W System in early 1950. Plans called for 10 permanent Alaskan radar sites, including 5 coastal surveillance sites, 3 interior ground control and intercept sites, and 2 control centers.

In June 1950, following the attack on South Korea, the U.S. Air Force put air defense systems on around-the-clock operation. Defense appropriations from Congress increased significantly in the wake of the Korean attack, and the U.S. Air Force was able to accelerate completion of the AC&W system and installation of new radar equipment. The 10 original sites became operational between 1952 and 1954. Two additional sites were selected in 1951 to expand radar coverage in the interior; these sites became operational in 1954.

Each AC&W site consisted of a complex of 10 to 15 wood frame buildings connected by enclosed passageways. The buildings included radome towers, operations, administration, dormitories, power plant, and other facilities. The permanent sites were equipped with the AN/FPS-3 and other new radar systems that provided better coverage than the types used in World War II (e.g., AN/CPS-5).

Even as the AC&W System was under construction, plans were being made to improve and expand air defense coverage with better radar and more stations located throughout the polar region, including Canada, Iceland, and Greenland. Soon, the Distant Early Warning (DEW) Line was constructed by the United States and operated by the North American Air Defense Command (NORAD), a joint United States-Canadian command formed in 1957. The DEW Line was the most ambitious, expensive, and comprehensive system to be developed for aircraft control and warning.

The DEW Line consisted of a series of radar stations located near the Arctic Circle (at the 70th parallel) to provide several additional hours of warning and interception time. In 1954, largely in response to advances in Soviet air power, the DEW Line construction became the highest priority in the U.S. Air Force (Shaffel 1991). The U.S. Air Force contracted with General Electric to design and construct 57 DEW Line installations spaced about 100 miles apart — from the northwestern tip of Alaska to Cape Dyer in eastern Canada. In addition to the main receiver stations, unmanned transmitters were located between the posts (Buderi 1996).

Construction began in the spring of 1955 and was completed by early 1957. In 1958, at a cost of over \$1 billion and after remarkable engineering construction achievements, the DEW Line reached initial operating capacity.

The DEW Line stations employed new, longer-range radar with auto-warning capabilities (Buderer 1996). These radars not only provided better coverage, but also required significantly fewer men to operate them than earlier systems. Unlike earlier systems, which required over 200 radar personnel, DEW Line radar could be operated around-the-clock with as few as 10 men (Neufeld 1996).

The DEW Line buildings also incorporated improvements on the earlier aircraft warning networks. Rather than constructing separate buildings interconnected through utilidors (enclosed passageways), the DEW Line buildings were modular structures that fit together in a train-like fashion. The modular buildings were fabricated, shipped, and assembled on-site to meet the requirements of the particular installation. Intermediate stations consisted of 5 modular buildings, auxiliary stations had 25, and main stations required 50.

Because of the extreme weather conditions and geographic isolation of the sites, large supplies of heating oil and other supplies were needed, so large tanks and warehouses were present at all of the DEW Line installations.

The North American air defense radar networks operated from the 1950s until the end of the Cold War. However, they declined in importance after the emergence of intercontinental and submarine-launched ballistic missiles (ICBMs and SLBMs). The Soviet Union first tested an ICBM and launched its first satellite, *Sputnik*, in 1957. From that time forward, resources in both countries were focused on missile delivery and warning systems (Levine 1994).

Forward Operating Bases

The FOBs supplemented the radar defense network. The two primary FOBs – Galena and King Salmon – were originally constructed during World War II to provide a rest and refueling stop for Lend Lease aircraft en route to the Soviet Union.

Following the Soviet-backed coup in Czechoslovakia and the blockade of Berlin in 1948 and 1949, respectively, the U.S. Air Force deployed Lockheed F-80 aircraft (Shooting Stars) at the reactivated King Salmon Airport (formerly Naknek Field). For the next couple of years, the U.S. Air Force increased defensive capabilities in Alaska. In early 1951, the Alaskan Air Command negotiated an agreement for joint military-civilian use of Galena Airport. Located less than 400 miles from the Soviet Union, Galena was the most forward of the FOBs and was responsible for more interceptions of Soviet aircraft than any other base during the Cold War. Throughout the 1950s, the Air Force deployed improved versions of its fighter aircraft at both Galena and King Salmon.

At the height of the Soviet bomber threat (mid 1950s), six fighter-interceptor squadrons were based in Alaska. These squadrons were equipped first with F-89 Scorpion aircraft and later (end of 1957) with the first supersonic fighter-interceptor (F-102 Delta Dagger), armed with air-to-air nuclear missiles. Specially designed alert hangars (Combat Alert Cells) were constructed at both Galena and King Salmon to house the aircraft. F-102s operating from Galena in December 1961 made the first successful interception of a Soviet aircraft (Tu-16 bomber).

After 1957, only one fighter-interceptor squadron was assigned to the Alaskan Air Command. However, the FOBs continued to operate throughout the remainder of the Cold War with periodic upgrades to their fighter-interceptor aircraft and facilities. The Convair F-102 Delta Dart was deployed at Galena and King Salmon in 1963, and the McDonnell Douglas F-4E Phantom II was introduced in 1970. The increasing range and speed of the aircraft ensured a growing number of successful interceptions of Soviet planes. A total of 314 intercepts occurred during 1961-1993, most of which were made by fighter-interceptors based at Galena.

Management of Aircraft and Missile Warning Systems as Historic Properties

The Department of Defense began a broad evaluation of its Cold War era properties in 1991. Downsizing, realignment, and base closures create an urgency to complete evaluations before important properties are unintentionally altered or destroyed without documentation. The U.S. Air Force—itsself a creation of the Cold War—owns numerous properties built during this era. Over the past 5 years, the U.S. Air Force has conducted hundreds of inventories to determine which of its thousands of Cold War era properties are historically significant. Although sites and facilities less than 50 years old must possess “exceptional importance” to qualify for inclusion in the *National Register of Historic Places* (NRHP), some properties, including those associated with the Cold War era aircraft early warning systems, clearly meet this criterion. Federally owned properties eligible for the NRHP require some form of treatment as historic properties.

The U.S. Air Force determined that Alaska’s Cold War bomber defense network, including the AC&W network, the DEW Line stations located in Alaska, and the two FOBs at Galena and King Salmon, are eligible for the NRHP and require management as historic properties. Many of the eligible properties have been vacated as a result of post-Cold War downsizing. For the most part, these properties are being documented and dismantled/demolished.

The original AC&W network was mostly abandoned in the 1970s. All of the original radar equipment was removed, and many of the buildings were demolished or abandoned. Abandoned wood frame buildings exposed to arctic conditions quickly fell into disrepair and now represent safety hazards. The U.S. Air Force plans to demolish the remaining buildings and withdraw personnel from the sites. (Most of the installations have minimally attended radar with a mission of ensuring air sovereignty over Alaska. These radars can be operated remotely and do not require on-site manning.) Before demolition occurs, the U.S. Air Force has committed to recordation of the network through the compilation of a systematic history and the photographic and architectural documentation of one representative site. In addition, the U.S. Air Force will prepare a popular brochure describing the historical significance of this system.

The DEW Line installations were closed in the late 1980s, but much of the infrastructure remains. Photographic documentation and collection of as-built drawings for two of the sites — Bullen Point in Alaska and BAR-1 in Canada — have been completed. The U.S. Air Force intends to document the history of the DEW Line in a popular brochure and identify materials from the system to be archived for future historical research.

The FOBs have been drawn down and are now operated by contractor personnel. The facilities are being maintained as contingency airfields for periodic exercises or weather-related emergency landings. Most of the facilities at these installations are vacant but in relatively good condition. Some buildings have been transferred to other government or community organizations. The U.S. Air Force has committed to recordation at Galena that will involve the documentation of 19 structures from the Cold War era. Specific recordation has not been determined for King Salmon airport. Because structures at King Salmon are similar to those being documented at Galena, further documentation may not be required. Consistent with the recordation of the radar sites, the history of the FOBs will be documented from a system-wide perspective.

Conclusion

Alaska played a critical role in the early Cold War, providing the United States' first line of defense against bomber attack by the USSR. The remaining properties of the bomber defense network are associated with important technological, social, political, and military themes of the Cold War and are worthy of preservation. The scope and scale of these systems make physical preservation impractical, but the U.S. Air Force program of historical evaluation and documentation of these systems will provide valuable information to future generations studying this historic period.

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