



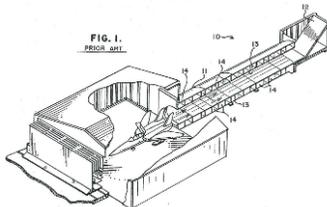
A National Historic Context for Hush Houses and Test Cells on Department of Defense Installations

Project No. 07-342

Background:

In the mid to late 1940s, new aviation technology was rapidly developing in the U.S., mostly driven by the Cold War. By the 1950s, the jet engine had revolutionized modern warfare and the U.S. military transitioned from turboprop aircraft to jets. The new complex technology resulted in a revolution in aircraft maintenance to circumvent catastrophic accidents. Thus, rigorous new testing and maintenance regimens were developed for jet engines.

The jet engine is many times louder than its predecessors and hush houses and test cells began to spring up across U.S. military bases. Hush houses and test cells are acoustical aircraft enclosures or hangars that allow testing of unmounted engines or entire aircraft in an enclosed space. The sound from the aircraft is absorbed and muffled by the enclosure. The building allows continuous maintenance on aircraft that could only previously be conducted outside or in open hangars, disturbing surrounding communities and in sight of prying eyes. The DoD has over 100 of these buildings and they range from permanent “brick and mortar” to temporary structures, and are tied directly to jet fighter and support missions.



Objective:

The objective of this project is to develop a nationwide, DoD-wide historic context detailing the evolution, development, and use of military hush houses and test cells, and examine and document the different types of hush houses and test cells.

Summary of Approach:

Research was conducted at the National Archives and Records Administration, Wright-Patterson and Maxwell AFBs, and the U.S. Patent Office. Research involved reviewing materials on hush houses, noise studies, regulations, jet technology, and military history. An inventory was developed from DoD real property and personal property inventories. Eighteen DoD extant buildings were documented, which provides a range of construction dates and aircraft types.

Benefit:

The report provides a context, methodology, and examples for a building type that can be applied consistently throughout the U.S., thus saving the DoD time and funding for identifying, evaluating, and managing these resources. In the future as more of these buildings reach fifty years of age, this project will assist with identifying hush houses and test cells that are the best examples of or most worthy of further management considerations.

Accomplishments:

This study originally was for hush houses only; however, combining hush houses and test cells into one report provides a more comprehensive overview of these resource types. The study addresses buildings designed and built for maintenance and repair of aircraft, not for research and development; although the overall design of test cells are similar for both applications, and this document would assist in the assessment of R&D test cells.

Early test cells at U.S. AFBs have been determined to be eligible for listing in the NRHP. Hush houses, in general, are less than 30 years old and do not meet the level of exceptional significance for individual eligibility under Criterion G. Hush house and test cell significance will likely lie within the installation’s historical context and not that of the hush house /test cell historic context, and may be contributing to an installation historic district. The information used in the development of this project has already been used in a Section 106 process for demolition of a test cell and an independent evaluation of a test cell. In both cases, the relevant SHPO concurred with the determination of non-eligibility.

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