

# USER PERSPECTIVE OF INTEGRATING OBJECTIVES: TESTING AND HISTORICAL PRESERVATION

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## ABSTRACT

TEXCOM Experimentation Center (TEC) is a unique Army organization conducting high quality field experiments and tests in a unique environment. TEC testing is critical to major Army decisions on acquisition of military equipment. The Operations Division of the Directorate of Operations, Instrumentation, and Testing (DOIT) has the responsibility to manage environmental and historical preservation issues for TEC. In the past year, DOIT coordinated two major tests as well as several smaller tests and soldier training requirements. TEC feels that they have taken the lead, not only at Fort Hunter Liggett but in the Army as well, in working with the environmental community to meet historic preservation and environmental protection requirements.

### Introduction

The environment impacts virtually every action and operation associated with testing and training. Similarly, testing and training impact the environment. The trick is to test and train wisely to minimize the impact. Environmental management means conserving, protecting, and restoring our natural and cultural resources while accomplishing the military mission. Cultural resource management, in particular the protection, preservation, and restoration of historical properties, is a critical element of our test planning at the U.S. Army's Test and Experimentation Command, Experimentation Center, commonly referred to as TEC.

### Background

TEC is a unique Army organization. It conducts high fidelity field experiments and tests in a unique test environment—Fort Hunter Liggett (FHL), California. FHL has served as a "field laboratory" since TEC was activated in 1957. TEC and FHL garrison are two different organizations with separate chains of command, but we share a common asset—the FHL range.

FHL is approximately 165,000 acres of varied terrain with mountains, valleys, rivers, and lakes and was a working ranch when the War Department purchased the land from William Randolph Hearst in 1941. FHL was a maneuver area and an artillery range for troop training throughout World War II (WWII). During the post WWII years, FHL was a field training site for active and reserve units. Today, FHL is still used for training by Active Army and Reserve units as well as by the National Guard, Air Force, Navy, and Marines. TEC and other Department of the Army and Department of Defense agencies use the land and airspace above it for testing.

The physical characteristics—relative emptiness and the diverse terrain features including mountains, flat lands, hills, rivers, creeks, and lakes—are all key contributors to selection

of FHL as the Army's field laboratory site. Other factors stemming from its remoteness are low artificial light and sound levels, "quiet" electromagnetic spectrums and the fact that airspace over FHL is restricted for Army/Department of Defense use.

Fort Hunter Liggett is rich in historical properties. Two buildings, the Hacienda Ranch house and the Gil Adobe, are listed on the National Register of Historic Places. The hacienda was designed by Julia Morgan for the previous owner of the property, Mr. William Randolph Hearst. Historical records show that the hacienda was used by Hearst's ranch hands and friends when they visited the area. The Gil Adobe was the Gil family ranch home built about 1865. A third landmark site, the San Antonio Mission, is a private inholding, dating back to the 1700s when the Spanish first settled the area. Throughout the range, traces of archeological sites are evident; some have fragile surface features, marked so that traffic will avoid them. These sites are traces of former occupation or land use.

### Testing

While the ancient hills and valley floors at FHL appear to have changed very little over the years and are rich in historical value, the development of TEC's complex instrumentation systems for sensing, recording, controlling, and reducing experimentation data reflects rapid evolution of state-of-the-art technology. Experiments are conducted under realistic battlefield conditions. For example, in 1993, we conducted the JAVELIN test demonstrating the capability of this man-portable weapon system to perform under realistic combat conditions. We recently tested the Longbow Apache (LBA) helicopter by which we conducted a force-on-force test to simulate a real world scenario. The Range measuring System for Real-Time Casualty Assessment at TEC allows testers to monitor the actions of dozens of instrumented players, vehicles, and events. This system also allows testers to gather data relating to the actions of

all instrumented players and aids in making decisions on the effectiveness of weapon systems.

The Operations Division of the Directorate of Operations, Instrumentation and Testing is responsible for integrating environmental and cultural resource preservation issues into TEC's activities. In the past year, we coordinated the execution of two major tests (Simulated Area Weapons Effects—Radio Frequency and the LBA helicopter) as well as several smaller tests and soldier training requirements. During the past year, soldiers and their vehicles were on the range almost daily.

Some might say that testing and cultural resource preservation are contradictions in terms. We would disagree. TEC has always honored the requirements of environmental procedures, policies, and laws. TEC has always had an officer on the staff who is responsible for covering environmental issues. Until recently, we coordinated all actions with the Fort Ord Environmental Office, 90 miles from FHL. With the closure of Fort Ord, the way we do business has changed. FHL garrison established an environmental office that understands the unique terrain, wildlife, and cultural resources that are located here. They help us prepare documents for conducting tests. Between the FHL Environmental Office and TEC, there is an increased awareness, better coordination, and faster response to facilitate testing activities. TEC has always been committed to compliance with applicable regulations and to aid in the development of documentation for future military use of FHL. We feel that TEC has taken the lead, not only at FHL but in the Army as well, in working with the environmental community to meet the needs of historical preservation and environmental protection responsibilities.

### Environmental Education

The learning curve has been tremendous, not only for TEC but also for the FHL Environmental Office, as we all attempt to understand one another's responsibilities and produce viable environmental assessments. While TEC had to learn environmental and cultural resource preservation rules and how these rules affect testing and training, the FHL Environmental Office had to gain an understanding of why and how we test. They had to learn about the tactics, techniques, procedures, equipment, and the military jargon, which can be quite confusing. Unlike regular soldier training, our tests are conducted under much more rigid control measures such as time, place, and specific scenarios. We make a concerted effort to work with the FHL Environmental Office to aid in their understanding of the proposed testing and training actions.

TEC melds the environmental assessment process into the test planning process; in fact, during early planning, we ensure that all tests are coordinated with the FHL Environmental Office for environmental approvals. When assigned to a test, test officers are reminded of their responsibility to work with the Operations Division to develop a request for environmental consideration. This requires test officers to lay out details much earlier than required in the past. In an environmental assessment we try to describe worst case scenarios for the test. Then, if the test is changed, the activities described would most

likely not be affected. Because of our experience and understanding of historical and archeological sites we are more cognizant of our responsibility to coordinate approval for every proposed activity. It now takes much more detailed planning. As difficult and inconvenient as it sometimes seems, we have made it work. Our experience, and a new understanding of historical and archeological sites on the landscape, combined with coordination with the cultural resource manager, enables us to accomplish our testing mission. This interaction takes time and additional planning, but we are doing it.

TEC continually educates the testers on responsibilities and requirements of documentation. Within our headquarters exists a strong awareness and support for environmental and cultural concerns. We conduct environmental training and awareness classes for our assigned soldiers and civilians as well as for personnel from outside agencies participating in our tests. We invite the FHL Environmental Office to participate in our test orientation briefings. We also invite the FHL Environmental Office to participate in our regular in-process reviews to provide input and guidance.

TEC, as mentioned earlier, has educated the FHL Environmental Office. This included conducting joint range tours to explain tactics and to observe maneuver areas. The FHL Environmental Office has educated TEC on locations of cultural sensitivity as well as wildlife and natural resource concerns. The FHL Historic Preservation Program requires monitoring marked sites before and after every activity. We invite the FHL Environmental Office to take a range tour before and after each test to identify existing or potential problem areas and acknowledge TEC's commitment to maintaining the range and demonstrated efforts toward protection of culturally sensitive areas.

TEC also works with the FHL Environmental Office to manage the joint use of land. We actively support their required surveys and accommodate them whenever possible during our testing activities. They, in turn, now better understand the limitations that TEC places on them when they are not allowed on the range because of testing restrictions

### Improvements

With the help of garrison activities and the FHL Environmental Office, TEC dramatically improved the way it does business in the environmental arena. Since the 7th Infantry Division in the 1970s, TEC was the first activity using the FHL training areas to produce (with the help of the FHL Environmental Office) an environmental assessment. We have written several environmental assessments and executed both large and small tests since the first environmental assessment. In addition, we are actively participating, along with FHL garrison, in the creation of a FHL Environmental Assessment that will be an umbrella document covering almost all future testing and training. The team effort at FHL to produce this document has been very positive. Everyone is working together to produce a document that clearly addresses requirements for testing and training and is acceptable to the environmental community.

TEC personnel and visiting units that participate in our tests are receiving continual updates on new information that could affect our use of the range. This effort is due in large part to the outstanding communications between TEC and garrison and the increased awareness of the urgency and importance of environmental management responsibilities.

TEC is included in environmental meetings concerning FHL and we are now considered an integral part of the FHL environmental management team. The understaffed FHL Environmental Office is very responsive to our needs. We receive help in a timely manner with excellent results. We have shown the environmental staff our commitment to environmental management by protecting the range and abiding by applicable rules and regulations. When we have problems, we do not try to hide them. We try to correct them and to learn from our mistakes.

## Conclusion

TEC expects the FHL environmental assessment to become the baseline document by which we can conduct most future testing and training. This will preclude the necessity for developing a new environmental assessment for each test that we conduct. We feel that the uniqueness of FHL makes it critical to the success of Army testing and could not be duplicated anywhere else. We realize that we have a responsibility to manage our historical and archeological sites, and wildlife and natural resources for present and future generations. In our efforts to comply with environmental rules and regulations and be responsible environmental managers, we are successfully demonstrating that our military mission and FHL can continue to work in harmony for many more generations.