



IN FROM THE COLD

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The Pioneer Deep Space Station at Fort Irwin

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The Pioneer Deep Space Station is tucked away in a small natural bowl in the Goldstone area within Fort Irwin, California. This remote part of the Mojave Desert was a beehive of activity in the summer and fall of 1958 as the U.S. Army rushed to complete the station for the launch of the Pioneer 3 probe. The most important part of the facility was a 26-meter-diameter dish constructed of aluminum panels fastened to a steel tower and frame. The Pioneer dish, based upon radio astronomy antennas, was designed to track and maintain contact with space probes.

Pioneer and two other partner tracking stations, at Cape Canaveral and in Puerto Rico, served as the first operational deep space communication network to track spacecraft. The catalyst behind all of this activity was, of course, the Soviet Sputnik satellite launched in 1957. Today, only the Pioneer station remains as a testament to this effort and as an example of this early deep space communication technology.

The Pioneer Station was transferred to the National Aeronautics and Space Administration (NASA) just prior to the Pioneer 3 launch. The station continued to play an important role in the space program as it was used to track many unmanned space probes

including the Pioneer, Ranger, Surveyor, Mariner, Viking, and Voyager missions. The Pioneer station also tracked numerous manned missions including the Mercury, Gemini, and Apollo projects. The facility was eventually joined by five other Deep Space Stations in the Goldstone area. Whereas these other tracking stations continue to support NASA and Jet Propulsion Laboratory missions, the Pioneer dish was deactivated in 1981, after more than 20 years of mission support. Although most of the facility was eventually turned over to Fort Irwin, the antenna and several of its eight ancillary buildings remain the property of NASA.



Pioneer Antenna, Fort Irwin, California

Five years after deactivation, some of the ancillary buildings of Pioneer (which included the control building, generator building, storage facilities, a hydromechanical facility, pump house, training building, and a security building at the entrance) were utilized as work and storage space by Fort Irwin staff, contractors, and university researchers. For example, one building was used for a time to store Fort Irwin's large archaeological collections. It is perhaps appropriate that Pioneer, a truly groundbreaking facility, housed the remnants of stone tool technology that, combined with sophisticated environmental knowledge, enabled humans to survive in the Mojave Desert for thousands of years. Such uses continued from 1986 to 1994. Although the equipment and furnishings have been removed, the Pioneer ancillary buildings have a high degree of integrity because of their isolation and protection within Fort Irwin.

Today, under the National Historic Preservation Act and other legislation, Fort Irwin has responsibility for managing Pioneer. The National Training Center (NTC), Fort Irwin, is a 1,000-square-mile installation of the U.S. Forces Command (FORSCOM). Established just before World War II, Fort Irwin was selected as the location for the Army's first combat training center. Since its inception in 1980, the NTC has served as an

installation "where soldiers stationed in the continental United States could undergo combined arms training that could not be accomplished at their home stations because of physical limitations and the prohibitive cost of providing a realistic training environment" (Chapman 1997:2). As such, Fort Irwin has stewardship over a large portion of the Mojave Desert in the Barstow area. The Pioneer installation area is off-limits to Army training, and the dish is protected by a chain-link fence. In addition, the Cultural Resources Program of the Environmental Division of the Directorate of Public Works monitors the site at least monthly. This caretaking role is an interesting contrast to the duties of monitoring archaeological sites such as lithic scatters and petroglyphs.

The astounding dedication and ingenuity that went into the implementation and operation of Pioneer has been recognized by the Department of the Interior. Its significance was well established in the National Park Service's 1984 *Man in Space National Historic Landmark Theme Study*. This theme study was an attempt to identify the extant resources that had been crucial to the successes of the Space Program. The study found that, of the many sites that were part of this program, only a fraction had not been significantly altered, dismantled, or abandoned. The study also identified



**Pioneer Deep Station Complex in the
Goldstone Area of Fort Irwin**

over 20 installations and other resources that were the best surviving examples of particular types of facilities.

Because of its integrity and importance in the development of deep space tracking, the Pioneer dish and support tower were designated a National Historic Landmark in 1985 by the Department of the Interior in accordance with the Historic Sites Act of 1935 and the National Historic Preservation Act of 1966. In addition, a recent historic buildings inventory of Fort Irwin, including the Goldstone area, recommended that three of the support buildings at Pioneer are eligible for inclusion in the National Register of Historic Places (National Register) as contributing facilities to a Deep Space Station District because of their “direct association with the antenna” and because “they retain integrity of location, setting, materials, design, and association . . . the configuration of the control building, with its two added wings, is a visual reminder that the station handled a dual function, tracking the Apollo missions as well as the unmanned spacecraft” (Science Applications International Corporation 1996: 26-7). The California State Historic Preservation Officer (SHPO) has concurred with this assessment, and suggested that the entire complex be nominated as a historic district. The nomination is currently being prepared.

References and Further Reading:

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Corliss, William R., 1976. A History of the Deep Space Network. Washington, DC: National Aeronautics and Space Administration.

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The Department of the Army's Capehart and Wherry Housing Strategy

Capehart- and Wherry-style housing was constructed by and for the Department of Defense (DoD) under two separate programs. The housing dates from 1949 through 1962.

Recent Congressional hearings have addressed the issue of Capehart and Wherry housing as substandard and not acceptable for DoD housing. The housing stock, thus, is subject to major renovation and/or demolition. Housing budgets will also dictate actions regarding Capehart and Wherry housing.



Capehart Family Housing Duplex at Plattsburgh AFB, New York

The probable outcome is that Capehart and Wherry housing will soon be slated for action that may constitute an undertaking or a series of undertakings. In order to properly plan for this eventuality, the Department of the Army has initiated a strategy.

The first phase of the strategy is a preliminary assessment (PA) addressing identification and evaluation. This study will include preparing a historic context and a baseline inventory and assessing significance. This study is scheduled for completion by January 1998.

The results of the preliminary study will provide the necessary information to move to the next phase. If properties are determined eligible for inclusion in the National Register, the Army intends to enter into formal consultation with the National Council of State Historic Preservation Officers and the Advisory Council on Historic Preservation to develop the nationwide PA. The PA will provide for documentation and treatment measures based upon the determinations of eligibility.



Capehart Family Housing Fourplex at Plattsburgh AFB, New York

Every effort will be made in the course of this overall effort to inform the appropriate SHPOs on the status of this initiative. In the spirit of reinventing government, it is the Army's desire to be pro-active in its cultural resources responsibilities for Capehart and Wherry housing.

Cold War Studies and Reports

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Project Name: Environmental Services for a Limited Cold War Survey, Kelly Air Force Base (AFB), Texas

Location: Kelly AFB, San Antonio, Texas

Abstract: Thirty-two historic buildings and structures at Security Hill on Kelly AFB were inventoried and evaluated for their significance and eligibility for nomination to the National Register of Historic Places (National Register) based upon their role in Cold War intelligence activities. Security Hill served as the Headquarters of the Air Intelligence Agency from 1951 to the present. Plans have been made to transfer Security Hill to Lackland AFB administration by 2001. This report also presented the results of archival research and on-site inspection, a historic context, description of the 32 buildings, and an assessment of architectural and historic significance of the resources examined.

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Completion Date: Completion pending

Statement of Purpose

The purpose of *In From the Cold* is to provide a forum in which Cultural Resources Managers and Cold War experts throughout DoD, the Department of Energy, and the National Park Service may offer support and expertise to one another in their Cold War research efforts. It does not purport to reflect policy, practices, or doctrine.

Newsletter Information

Projects submitted directly by a federal agency or verified by the federal sponsor can be published in this newsletter. Copies of the newsletter are mailed to DoD and Department of Energy organizations and the National Park Service. Copies of studies and reports listed in the newsletter are not available from HQ AFCEE. Please contact the project sponsor directly. Your articles are welcome!

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