

GAO

Report to the Chairman, Subcommittee on
Military Construction, Committee on
Appropriations, U.S. Senate

September 1988

MILITARY FAMILY HOUSING

Opportunities to Improve Operations and Maintenance of Military Family Housing



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The Honorable Jim Sasser
Chairman, Subcommittee on
Military Construction
Committee on Appropriations
United States Senate

Dear Mr. Chairman:

This report responds to your request that we evaluate the Department of Defense (DOD) family housing program. It discusses our review of the operations and maintenance of family housing at the installation level to determine whether this program was being performed in the most economical manner.

In summary, we identified three areas in which DOD's family housing operations and maintenance program needs attention. These involve (1) the use of substantially greater amounts of energy (gas and electricity) by some military housing tenants compared to other military housing tenants or local private sector consumers, (2) the questionable economy of providing for the contract cleaning of military housing upon change of tenants, and (3) delays in repairing and returning unoccupied housing to use.

Background

In fiscal year 1988, Congress appropriated about \$2.5 billion for DOD to operate and maintain about 420,000 military family housing units worldwide. The three major cost elements in DOD's operations and maintenance of family housing are (1) utilities, (2) operations, and (3) maintenance. Utilities costs include expenses for electricity, natural and propane gas, steam, hot water, fuel oil, coal, water, and sewage but do not include telephone service. Operations costs include the day-to-day expenses of managing and providing services to family housing, such as housing office operations, administrative support, and refuse collection and disposal. Maintenance costs include expenses associated with maintaining and repairing military dwellings as well as costs for maintenance and repair of sewer, water, and electric lines and other exterior utilities within family housing areas. Maintenance costs also include the cost of work on the grounds and other property serving housing areas and dwelling units. Budgeted costs for operating and maintaining family housing for all three branches of the armed services for fiscal year 1988 are shown in table 1.

Table 1: Fiscal Year 1988 Family Housing Operations and Maintenance Budget for the Armed Services

Dollars in millions				
Major Cost Element	Army	Air Force	Navy	Total
Utilities	\$273	\$236	\$175	\$684
Operations	269	110	86	465
Maintenance	530	267	231	1,028
Other	180	77	36	293
Total	\$1,252	\$690	\$528	\$2,470

Potential for Energy Conservation

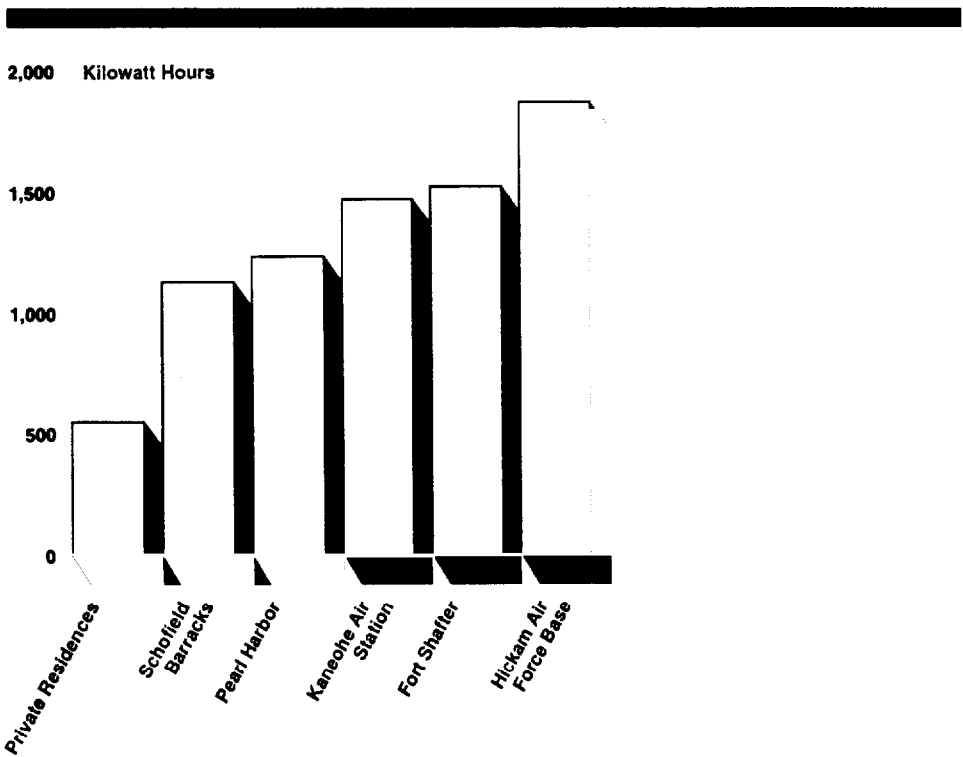
Some service families living in military housing use substantially more electricity and natural gas than do their neighbors in military housing or private sector residences. Military officials at some of the installations we visited suggested that excessive use may occur because service members living in military housing do not have any financial incentive to conserve energy since utilities are provided by the government. Other possible explanations for the variances in energy use include differences in the basic construction of the housing, the types and amounts of insulation used, and the residents' living standards. The fiscal year 1988 military family housing operations and maintenance budget included about \$684 million to pay for military family housing utilities. Although we cannot estimate with any degree of certainty the savings that might result from greater energy conservation, even a minimal reduction of the costs for utilities would represent worthwhile savings.

At the nine installations we visited, only limited data was available on individual military housing units' energy consumption. More complete data was unavailable because most military housing units were not individually metered to permit the identification of energy use by individual housing units. Further, our comparisons are not statistically valid in that we made no analysis to identify similarities or dissimilarities between military housing and the other housing we compared. We believe, however, that the data we obtained indicates there are opportunities for energy conservation.

Statistics on electrical use for five installations in Hawaii with about 19,000 military family residences indicated that during 1985, the most recent year for which comparable data was available, electrical consumption by military residents averaged almost three times higher than the consumption by Hawaii's 285,000 private sector customers. An Army installation official in Hawaii told us that, based on our analysis, they plan to place increased emphasis on determining why military

residents use more electricity than the private sector residents. Figure 1 shows the average monthly consumption of electricity by the various installations' military housing units compared to the average consumption by private Hawaiian residences. A portion of the military residences' electrical use includes outside street lighting; however, it was the opinion of an installation facilities engineering official that outside lighting did not represent a significant portion of the residential electrical use.

Figure 1: Comparison of Average Monthly Electrical Consumption



At Travis Air Force Base, California, 980 of the installation's 2,165 residences are metered for natural gas. For the metered units, we found that the military housing tenants' average consumption of gas during the July 1987 billing period was about 36 therms.¹ This consumption is 13 therms, or about 56 percent, more than the 23-therm average use of natural gas by private households in the nearby community during this

¹A therm is a measure of the heating value of gas.

same period. Further, the wide range in the consumption of natural gas suggests that some Travis tenants use an excessive amount of gas. For example, our review of gas use by a random selection of 348 of the 980 residences metered during the July 1987 billing period showed that 99 residents, or about 28 percent, used 21 therms of natural gas or less, while 54 residents, or about 16 percent, consumed 50 therms or more. The variance in the energy used by these tenants can be attributed, to some extent, to the number of occupants and differences between these units, as they range in size from two-bedroom homes (934 square feet) to four-bedroom homes (1,527 square feet). However, these variables are not sufficient to explain the wide variance in natural gas consumption. In fact, we noted that adjacent and similarly sized residences on either side of those residences that had high gas consumption used, on average, about one half as much natural gas.

The Presidio of San Francisco, California, has almost 1,200 military residences, including 445 residences metered to record the use of natural gas and about 150 residences metered to record the use of electricity. Information on natural gas used during the June 1987 billing period showed that the average amount of gas consumed was about 127 therms, which is about 144 percent greater than the average of 52 therms used by private households in San Francisco during this same period. The consumption of electricity by Presidio military housing residents averaged 660 kilowatt hours (kwh) during this same billing period, which is about 117 percent more than the average of 304 kwh used by private households during this same period.

We also found a wide range of consumption among Presidio military housing residents. For example, in one group of 67 residences, each having 1,280 square feet of space, the consumption of electricity during the June 1987 billing period ranged from a low of 80 kwh to a high of 1,671 kwh. Similarly, we found a wide range in the use of natural gas during the June 1987 billing period among Presidio military housing residents. In one case, one residence used 586 therms, over 11 times more than private households' average use of 52 therms for this period. The month's utility expense for natural gas for this single residence was about \$427. We noted that the natural gas expense for this residence during the same period in the previous year, June 1986, was also over \$400.

Installation officials in Hawaii attribute the high energy use by some military residents to the lack of incentive for service members to conserve energy, as they do not pay for their utilities. In California, installation officials explained that they do not monitor energy use on an individual basis since no policy or program exists to charge military family housing residents for excessive utility use, even though individual energy consumption information was available in some cases.

Alternative for Cleaning Military Residences

Under a new program implemented in 1987, DOD authorized the armed services to relieve military housing residents of the task of performing extensive cleaning² of their military residences when they move. Now, with the exception of the Navy, extensive cleaning of the residences may be performed under government contract by private cleaning services. DOD initially estimated that it would cost about \$51 million in fiscal year 1988 to clean military residences using contract cleaners. We noted, however, that the Navy plans to achieve the objectives of this program without incurring significant additional costs.

DOD officials told us that the major justification for the contract cleaning program was that it would substantially improve the service members' quality of life. Also, DOD believed that savings generated in the military personnel temporary lodging allowance (TLA) program would, to some extent, offset the cost of contract cleaning in overseas areas.

TLA is provided to service members stationed overseas to reimburse them for expenses incurred for temporary lodgings and meals when quarters are not available at their permanent stations. We were told by an Army official that service members are entitled to this allowance when they vacate their military residences prior to moving in order to clean the residences to military standards. DOD officials told us that, while no specific studies or analyses had been conducted, they believed that releasing service members from the responsibility of cleaning their residences would reduce the length of time TLA would be provided. According to DOD estimates, the savings in TLA may be about \$17 million, compared to the initial estimated cost of \$51 million to provide cleaning services to all branches of the armed services.

In November 1987, the Navy deferred implementing the contract cleaning program, except, we were told by a Navy official, for a test project in

²Extensive, or "white glove," cleaning includes cleaning behind and under the refrigerator and taking the kitchen stove apart to clean burners.

Spain. Navy officials told us that they had decided not to implement the contract cleaning program because they were concerned that the cost of the program would exceed expected savings. In addition, it was their opinion that the primary objective of this program—improving the service members' quality of life by eliminating the requirement that they extensively clean their residences—could be more effectively achieved, at less cost, by adopting the less stringent cleaning requirements expected of private sector tenants, like dusting, sweeping, vacuuming, and cleaning accessible portions of appliances.

At the time of our review, the other services were planning to implement this program as originally proposed. Table 2 shows DOD's fiscal year 1989 budget request for the contract cleaning program.

Table 2: Armed Services' Contract Cleaning Budget Request for Fiscal Year 1989

Dollars in millions	
Service	Budget
Army	\$22.3
Navy	1.7
Air Force	13.6
Total	\$37.6

DOD and installation officials have expressed concern that the cost for this new cleaning program will have to be absorbed by the existing housing operations and maintenance budget, if the additional funds requested are not appropriated, and could adversely affect other operations and maintenance efforts. DOD officials told us that, because of this concern, DOD is currently assessing the impact of this program. Each service has been asked to provide the Secretary of Defense with a progress report on the program, including costs, pitfalls, benefits, and recommendations. This information is expected to be available to the Secretary before the end of fiscal year 1988.

Repairing Military Residences Often Takes Too Long

At the nine installations we visited, we found that some critically needed military housing units were not available for occupancy because they needed maintenance and repairs. In some cases, needed repairs and maintenance were clearly taking too long compared to established criteria. In other cases, military residences had been placed on the inactive list because of needed repairs. The time some units had been awaiting attention seemed excessive based on the type of repair needed.

DOD and installation officials told us that the inability to occupy military housing results in excess costs because service members must be reimbursed for living in private housing when military housing is not available. In addition, we were told that in some areas, such as San Francisco and Hawaii, the high cost of private housing for service members when military housing is not available often causes financial hardships for service members and their families because the military housing reimbursement does not adequately cover service members' housing costs. Installation officials at all locations we visited told us there were waiting lists for military housing. Explanations for delays in conducting necessary repairs and maintenance to make residences ready for occupancy varied. In some cases, other projects had been assigned higher priorities. Other cases were attributed to problems with contractors and oversight on the part of installations' staffs in performing the repairs.

At Travis Air Force Base and Fort Sam Houston, military residences often remained unoccupied for extended periods during changes of occupancy because normal maintenance and repairs had not been performed in a timely manner. DOD policy stipulates that normal maintenance and repairs, such as touch-up painting and minor interior repairs, during a change of occupancy should not exceed one working day and take no more than 3 days to perform if some extensive work is needed. However, in June 1987, tenants in Travis Air Force Base military family housing vacated 46 residences that needed normal maintenance and repair. This work took an average of about 22 days per residence to complete. Similarly, during the first 9 months of fiscal year 1987 at Fort Sam Houston, the time needed to perform this work averaged about 46 days.

At the time of our review we found 187 vacant military houses in Hawaii and the Presidio (155 residences in Hawaii and 32 residences at the Presidio) classified as "inactive" because repairs and maintenance needed to be performed. We noted that the length of time the 187 housing units had been vacant varied considerably, some having been awaiting repairs for over a year. In some cases, the needed repairs were extensive because of major fire or termite damage, while in other cases these units required relatively minor repairs, such as fixing dry rot and refinishing floors. Army officials in Hawaii and California told us that in cases of severe fire or termite damage, they had not repaired the residences due to a lack of funds. Presidio officials told us that problems with contractors performing work in a timely manner often accounted for delays in repairing residences. They also stated that in some cases the delays appeared to be due to the work being overlooked. In Hawaii,

we were told that needed housing repairs and maintenance had not been done because other projects, such as building “tot lots” and tennis courts, had been given priority.

Conclusions

Our review identified three potential opportunities for improving the operations and maintenance of DOD’s family housing: (1) reducing the amount of energy used for family housing, (2) reducing or eliminating the cost of the contract cleaning of family housing, and (3) expediting the return to service of housing units needing repair and maintenance. Improvements in these areas could result in significant savings, and quicker return of housing units to service could contribute to the morale and quality of life for the military family. While we were not able to quantify potential savings or other benefits, we believe that the possibilities are sufficient to warrant further consideration and action by DOD.

Recommendations

We recommend that the Secretary of Defense implement, at least on a test basis at selected installations, a program to monitor the use of energy by individual housing units and compare this information with like units both on and off the installations. As the results warrant, we recommend that the Secretary undertake additional monitoring and conservation measures. We also recommend that the Secretary, after receiving and analyzing each service’s progress report on the contract cleaning program, take the action needed to bring the cost of the program in line with related savings and intangible benefits. Further, we recommend that the Secretary direct installation commanders to reexamine their performance in completing the repair and maintenance needed to return housing units to use promptly and within existing guidelines.

Objective, Scope, and Methodology

The objective of our review was to determine whether existing military family housing is being operated and maintained in the most economical manner. In doing so, we primarily focused on the operation of DOD’s family housing program at the installation level.

We reviewed the family housing operations and maintenance functions at the following nine installations, which have a total of over 24,000 military housing units, or about 6 percent of the total inventory of housing units worldwide:

- Travis Air Force Base, California (2,165 housing units);

- Presidio of San Francisco, California (1,372 housing units);
- Fort Sam Houston, Texas (1,169 housing units);
- Lackland Air Force Base, Texas (724 housing units);
- Hickam Air Force Base, Hawaii (2,947 housing units);
- Pearl Harbor Naval Station, Hawaii (6,877 housing units);
- Fort Shafter, Hawaii (3,516 housing units);
- Schofield Barracks, Hawaii (3,606 housing units); and
- Kaneohe Marine Corps Air Station, Hawaii (1,837 housing units).

We also discussed DOD's housing operations and maintenance program with representatives of the Office of the Secretary of Defense and the Departments of the Army, the Air Force, the Navy, and the Marine Corps and obtained and reviewed regulations, directives, instructions, and other documents relating to the planning, programming, and processing of DOD's housing operations and maintenance functions.

Our work primarily focused on DOD's military family housing operations and maintenance functions at major installations in various locations that were selected to provide representation of each of the armed services. We did not review DOD's military housing operations and maintenance functions in foreign countries. Although installations of each of the armed services were included, our review may not be representative of the worldwide military family housing program. However, because of the significant number of housing units covered by our examination, we believe that the problems noted are indicative of DOD's housing operations and maintenance conditions on a broad scope.

As you requested, we did not obtain official agency comments on this report. However, we did discuss the results of our review with DOD officials and considered their views in preparing it.

Our work, which was completed in May 1988, was performed in accordance with generally accepted government auditing standards.

Unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of the report. At that time, we will send copies to the Secretaries of Defense and of the armed services and make copies available to others upon request.

Sincerely yours,



Frank C. Conahan
Assistant Comptroller General

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