

To fix it using traditional solutions would cost billions, so the Department of Defense will try something new.

The Housing Problem

By Suzann Chapman, Associate Editor

MILITARY housing has been called a disgrace—neglected and wholly inadequate for the needs of today's troops. Housing conditions are so bad, says the Defense Department, that they could undermine readiness and retention.

The problem is vast. The services argue that, if they are required to use standard construction procedures and conform with existing federal laws, they will never remedy the situation. Defense officials warn it would take forty years and \$20 billion simply to correct deficiencies in 387,768 family housing units. Similar problems afflict bachelor housing. Revitalizing 612,000 dorm spaces will take just as long and cost \$9 billion.

With such pressures crowding in on all sides, the Defense Department and military services have shifted course and embarked on a new get-well plan, one that relies heavily on the private sector. The effort stems from a pilot program that the Pentagon proposed last year and Congress enacted as the Military Housing Privatization Initiative in the Fiscal 1996 defense budget.

In the Pentagon's view, the new law paves the way for not only a

surge of privately financed and privately built houses but also housing built using current construction standards. If the US sticks with this effort, said Pentagon officials, it could reverse the decline in military housing and produce an acceptable situation in as few as ten years.

Years of Underfunding

The services have built housing over many years under various programs. Among the better known were the Lanham Act project of the World War II era and the Wherry and Capehart Housing Programs during the 1950s and 1960s [see box p. 38]. These houses were built according to the standards of the day. Even the more recent housing units—some 11,000 built under 1984 legislation known as Section 801—reflect earlier standards and legislation, which actually restricted room size.

Moreover, funding for housing upkeep and improvements has not kept pace with traditional home-maintenance requirements.

The average age of military family housing is thirty-three years. About twenty-five percent of those houses are more than forty years old.

Though USAF has been noted for having the best military housing, half of its houses still were classified as "unsuitable." Some 100 Lanham Act houses built in the 1940s, like this one at McChord AFB, Wash., are scheduled to be replaced in Fiscal 1996 and 1997.



The majority were built before the advent of the All-Volunteer Force in 1973, when the force was largely unmarried, but times have changed.

In 1955, only forty-two percent of the force was married. Today, married military men and women constitute sixty-one percent of the force. Moreover, out of the nearly 400,000 houses they occupy, the Pentagon considers nearly half to be unsuitable.

In several Congressional hearings last year, Joshua Gotbaum, then assistant secretary of defense for Economic Security, testified that houses "are too small, their layouts and amenities reflect the standards of the 1950s instead of the 1990s, and many are just plain dilapidated and falling down."

Even those that have been renovated, added Mr. Gotbaum, have not been brought up to today's standards.

A DoD Task Force on Quality of Life recently took a comprehensive look at the housing problem [see "Task Force Links Readiness, Quality of Life," December 1995 "Aerospace World," p. 15]. The panel found that the armed services had failed to ensure adequate funding for maintenance, repair, and replace-

ment, turning once-new homes "into poorly maintained, low-quality housing by the mid-1980s." The task force also noted that the then-modern housing lacked both the amenities and the size considered standard in the private sector today.

Pentagon officials attribute the poor condition of housing to the existence of higher priorities, which drained funds into other areas, and to rigid housing procedures, which made it difficult to get the most out of what money was available. DoD officials note that the problem did not appear overnight.

"When faced with trade-offs between force levels, modernization, and readiness [and] housing investment, [family and bachelor] housing has frequently come in second," stated Mr. Gotbaum. He stressed that housing's "rigid management practices" and "inflexible specifications and standards" have contributed to higher costs and an unwillingness of industry to work with government.

"Best" Is Far From Good

The DoD task force credited the Air Force with having the "best housing," despite USAF's listing of more

than half its family housing as "unsuitable" and some as "substandard." In the view of USAF's top civil engineer, Maj. Gen. Eugene A. Lupia, the Air Force traditionally has placed a "great deal of emphasis on family housing" and even more so in the last ten years. While praising this progress, he also warned, "We have a long way to go."

Within USAF, the "unsuitable" label can be applied to 60,000 family-housing dwellings, or fifty-four percent of its inventory of 114,000 single-family and townhouse-style homes. These are units that do not measure up to contemporary standards and that need major renovation.

General Lupia described the term "major renovation" as replacement of a kitchen, a house's entire electrical system, and heating and ventilation mechanical systems—fixes that would cost about \$100,000 per house. The service has tried to cover these major overhauls and new construction over the last ten years with annual investments of about \$250 million. At that rate, said the General, it would take twenty-four years to complete the process.

A Short History of Military Housing

(From the DoD Task Force on Quality of Life, Final Report, October 1995)

In the nineteenth century, the military focus was on providing housing for its officers rather than for enlisted men, who were considered to be "single." Officers either lived on post or received a housing allowance. Enlisted men lived in tents, aboard ship, in cantonments at forts, or in temporary wooden barracks.

Initially, the only members provided quarters on post were the commanding officer and a few senior officers and top-ranking enlisted men. The post quartermaster normally rented housing for other officers at no expense to them. Apart from the most senior enlisted men, the few permitted to marry had to find housing for themselves.

As many small frontier forts closed toward the end of the century, the Army consolidated its forces at larger posts and began to construct more permanent housing. By 1939, following a military housing construction program authorized by Congress, the armed forces had built about 25,000 family housing quarters, enough for less than ten percent of the troops.

During World War II, the Army and Navy built additional houses, although most were rental units or temporary construction, under the Lanham Act and other emergency legislation. (Some 100 Lanham Act houses still in use today at McChord AFB, Wash., are scheduled for replacement in Fiscal 1996 and 1997.)

After the war, construction slowed, with the services building a few new temporary houses and making existing temporary houses somewhat more permanent. However, the larger standing force required more housing, prompting Congress to authorize the Wherry Program in 1949.

Under the Wherry Program, the first use of private financing for military housing construction, the government guaranteed rent for houses constructed on government-owned land or near military installations. Military members or civilian residents rented the finished houses. Between 1949 and 1954, more than 83,000 Wherry homes were built.

As the Wherry Program took off, President Harry S. Truman also created the Defense Housing Commission in 1950 to study the issue of housing military families. The commission established the Armed Forces Housing Agency, which lasted only three years but laid the foundation for the Defense Housing Act, passed in 1954. Under this first major use of appropriated funds for housing construction, the services built 18,000 homes.

The following year, Congress authorized another housing project, the Capehart Program. Running from 1955 to 1962, this program produced more than 115,000 houses, built on government land by private contractors under mortgages insured by the Federal Housing Administration. Once the

houses were completed, the sponsoring military agency assumed responsibility for operating and maintaining them and paying the twenty-five-year mortgages. Residents of Capehart housing forfeited their Basic Allowance for Quarters.

In the 1950s, the composition of the services began to change, with the number of married members increasing from thirty-five percent to forty-five percent. By 1960, the housing inventory had reached 300,000.

In 1962, Secretary of Defense Robert S. McNamara centralized housing management and funding for all the services at the Pentagon. He also advocated an increased use of appropriated funds over private financing for construction. Although the Vietnam War diverted resources from housing, the services built about 8,000 houses per year during the 1960s and early 1970s. By the end of the 1970s, only 1,000 per year were built.

A change in 1982 placed responsibility for housing programs back with the individual services. Three third-party financing authorities developed in the 1980s had varying success.

Under Section 801 (Title 10, section 2836), essentially a build-to-lease program, the services signed a twenty-year lease/purchase agreement with a private developer who then built houses to military specifications. The services built about 11,000 houses, including more than 4,000 for the Air Force, using Section 801.

Section 802 (Title 10, section 2837), a housing rental-guarantee program, obligated the services to guarantee ninety-seven percent occupancy or subsidize payments under a twenty-five-year agreement with a private developer. Military members had first priority to rent the houses and would pay the developer directly. However, the rents were based on local Basic Allowance for Quarters/Variable Housing Allowance (BAQ/VHA) levels, which, at fifteen percent below the median national housing costs, produced little interest from private developers. The Marine Corps used Section 802 to build 276 houses.

With real estate out-leasing (Title 10, section 2667), the services could lease government land to private developers to build houses with terms up to ninety-nine years. There would be no rental guarantee; the developer would assume all risk. Rents again would be based on local BAQ/VHA levels but adjusted for inflation in later years. Individual service members would retain their housing allowances and enter into a lease with the developer. Only one project of 220 houses built for the Army has been successful using this provision.

Today, the services control a total of 387,768 family housing units, including townhouses and single-family houses.

Congress raised the funding for housing in Fiscal 1995 to about \$300 million, which, if maintained for the long term, would reduce the renovation cycle to twenty years. The Air Force and the other services are looking for a way to cut the cycle more dramatically. Each service emphasized to Congress the impact that housing has on military members.

"The living environments we provide our people contribute major dividends to the Air Force through increased productivity and retention of highly trained personnel who feel

the Air Force cares enough about them to provide them good facilities for their homes," Rodney A. Coleman, assistant secretary of the Air Force for Manpower, Reserve Affairs, Installations, and Environment told Congress last year. He added that the Air Force's housing improvement program has been "extremely successful"—improving more than 18,000 homes since 1988. (The number is now about 23,000, according to USAF housing officials.)

Currently, the Air Force is renovating or replacing about 10,000

houses, using traditional military construction funding from Fiscal 1992–95 appropriations. Apart from these major renovation and construction projects, the service expects to spend about \$3,800 per house in Fiscal 1996—up from \$3,600 in Fiscal 1995—for annual maintenance. That equates to about \$435 million over the entire stock of 114,000 houses.

"That's probably . . . in the ballpark of what most homeowners spend on their house over the year," said General Lupia.

However, a continuing problem is that the service has a backlog of maintenance work estimated to cost more than \$900 million. The increase of \$200 per house will slow the rate of escalation in the buildup of the backlog, but it will not eliminate it.

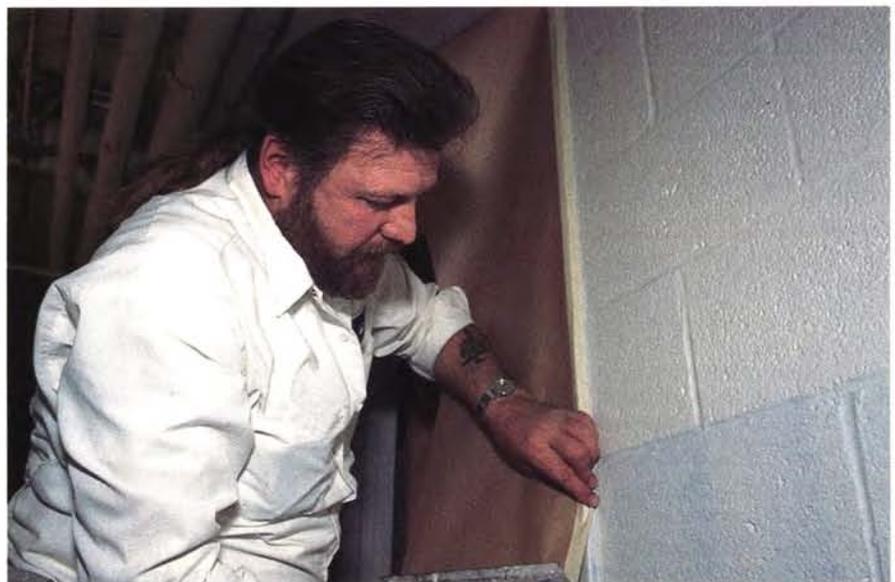
Some USAF housing is worse than merely "unsuitable." About 800 houses in the inventory are deemed "substandard." Air Force officials maintain that the dwellings are safe for habitation; however, they are in such poor condition that the families who live in them retain some of their housing allowance in compensation.

The Air Force is making headway on this problem. Compared with today's figure of 800 problem units, the figure twenty years ago was 6,700. General Lupia said that the 800 will be replaced by 1997.

Why the Waiting List?

The young, single, enlisted troop has no choice in housing. If a dormitory space is available, he or she must take it. However, many married troops place their names on long waiting lists—39,000 for USAF—for the few on-base houses available, regardless of condition. Given the dilapidated state of much military housing stock, why do so many military families want to live there?

One of the primary reasons is that the housing allowance provided by Congress has not kept pace with the off-base cost of housing. On aver-



Staff photo by Guy Aceto

Air Force officials have called the dorm that houses the USAF Honor Guard at Bolling AFB, D. C., a "hovel." It is so bad that the service recently had contractors recondition it enough to make it livable until it can be replaced.

age, about twenty-two percent of a service member's housing expenses comes out of pocket. When Congress changed the Basic Allowance for Quarters in 1985 and introduced the Variable Housing Allowance, it established a baseline of fifteen percent for that out-of-pocket expense. However, even with a 5.2 percent increase in the housing allowance approved in the Fiscal 1996 budget, the out-of-pocket expense will drop only to about nineteen percent, according to General Lupia. In view of

the goal of fifteen percent, he noted that the "out-of-pocket costs are still pretty high." Some lawmakers are working on legislation to further increase the housing allowance.

Cost is not the only factor attracting the troops to base housing. Last year's big USAF Quality-Of-Life survey showed that Air Force members considered security a big factor in deciding whether to live on or off base. With more frequent deployments, troops want to know that their family members are safe. Living in a community where neighbors are also military, as well as having a nearby hospital and commissary, are assets that rate especially high for young families with a single automobile. Indeed, General Lupia said that a much higher percentage of the family housing—roughly thirty percent more—goes to the enlisted force than to officers.

"We're far more concerned about [the financial impact on] our young enlisted people than [on] our officers," said the General. "We expect [officers] to take that money out of their pocket and go live downtown rather than [expect] a young enlisted person to do that."

Each year, every Air Force base reviews its housing situation, determining who is on the waiting list, how long they have waited, and the current distribution of houses by grade. Then, base authorities redistribute houses to different grades as



Photo by Bill Chian

USAF has renovated about 23,000 family homes since 1988. These 1960s-era townhouses, home to enlisted members and their families at McChord, were among the housing units renovated in 1995.

Historic Quarters Add To Funding Problems

The DoD Task Force on Quality of Life found that the historic-quarters housing maintained by the military "disproportionately drains overburdened housing accounts."

The 2,675 military houses listed on the National Historic Register (NHR) must be maintained in full compliance with the National Historic Preservation Act of 1966.

In Fiscal 1996, DoD plans to spend almost \$63 million on historic quarters, about \$23,000 per unit. As shown below, the Army will spend the most, about \$58,000 per unit.

Historic preservation boards regulate work done on historic houses. Stringent restrictions on changing the appearance of the houses usually add to the cost of upgrades, stated the task force report.

The task force recommended that DoD and the services review their inventories of historic quarters and initiate action to remove all but the most significant from the NHR.

Planned Fiscal 1996 Spending for Historic Houses

Service	Number of Units	Maintenance, Repair Costs	Average Cost Per Unit
Army	786	\$45,400,000	\$57,761
Navy	378	11,300,000	29,894
Air Force	1,511	5,900,000	3,905
Total DoD	2,675	62,600,000	23,402

Source: DoD Task Force on Quality of Life; FY 1996 DoD Budget Submission

needed. The larger portion goes to lower grades for both enlisted and officer families.

Mr. Coleman also emphasized the higher priority for young enlisted members. He said that eighty-four percent of the Fiscal 1996 budget request for capital improvements replaces or improves homes for enlisted families.

Though it is DoD policy to rely on local communities for family housing—providing government housing only when the local area cannot meet the demand—private-sector housing may not be the best solution in many cases. According to Mr. Gotbaum, one family in eight lives in unsuitable off-base housing.

"Hardships occur when rents are excessive or a family can only afford to live in isolated, sometimes unsafe neighborhoods," Mr. Gotbaum testified. "Problems are made worse when the family only has one car or perhaps none."

Mr. Gotbaum also said that some duty locations lack "good, safe, affordable housing" within a reasonable distance, a factor that has forced

some families to be "involuntarily separated," meaning that the military member transfers to the duty location but his or her family members do not.

Changing the Rules

Defense Secretary William J. Perry decided that taking thirty or forty years to fix the housing problem was "entirely inadequate." He asked for a solution that would produce results in ten years or less.

Defense Department officials concluded that the answer lay in attracting private capital. While the use of private financing is not new, a DoD Housing Finance "Tiger Team" came up with a pilot program it hoped would introduce a new flexibility to broaden and combine previous legislation. The panel's members also proposed using commercial building practices and standards.

"In real estate, one size does not fit all," Mr. Gotbaum told a Congressional committee, adding that solutions that work in one location can fail dismally at another. The Pentagon wanted to provide the ser-

vices the ability to tailor an approach to best suit a particular location.

Financial practices have changed since the construction of the Wherry and Capehart housing. Even the Section 801 legislation that produced some 11,000 houses is no longer an option since the Office of Management and Budget introduced "budget scoring" in the 1990 Budget Enforcement Act.

Under the scoring rule, DoD would have to fund an entire twenty-year lease in one year for any new houses built under Section 801. According to Mr. Gotbaum, the new approach would not eliminate OMB's scoring rule but would develop mortgage or loan guarantees that could be scored at less than 100 percent.

A key selling point in the Pentagon's push for the pilot housing program was the need to use commercial building processes to produce houses faster and cheaper. Statutory limitations on square footage have forced the services to build smaller houses that cost more and take longer to construct than comparable private-sector houses.

The average DoD house with three bedrooms has a net living area of about 1,200 square feet, compared with a similar private-sector house's area of about 2,100 square feet, yet costs more to build. General Lupia explained that, in some cases, a builder will have to spend more to build a nonstandard small house than to build a larger one using off-the-shelf materials precut at the factory, standard practice for private home builders.

The Air Force has already met with representatives from private-sector banks and architectural, engineering, and construction firms, as well as officials from the National Association of Home Builders and various government lending agencies. General Lupia also created a facilities privatization office and met with housing personnel from every major command.

The General contended that a great deal of interest has been shown by entrepreneurs, especially now that DoD demonstrates a willingness to eliminate costly regulations and specifications. "We have a great deal of confidence that the privatization thing is going to work," he said.

DoD also created a special joint office, the Housing Revitalization Support Office, last year. The HRSO

and the services are evaluating potential sites for private-sector housing proposals.

"Our target is to have about eight to ten projects with up to 2,000 family housing units awarded within the next year," Deputy Assistant Secretary of Defense Robert E. Bayer stated before a House National Security subcommittee March 7. He said they would serve as prototype sites to test the new legislative authorities.

Mr. Bayer added that DoD estimates it will take twenty-one months from site identification until families can move into the new or renovated housing. He called this a "vast improvement" over the standard military construction process, which normally takes about thirty-six to forty-eight months.

The Single Life

The good news for single enlisted members is that DoD has approved the so-called "one plus one" housing standard, beginning in Fiscal 1996 [see "One Plus One Approved," February 1996 *Aerospace World*, p. 15]. This means that a single enlisted person eventually will have a private sleeping room and share a bath and kitchenette with one other person. This stands in contrast to the previous "two plus two" standard, which placed two persons in each room with four sharing a bath. The bad news is that it will take a long

time to provide such privacy for dormitory residents.

Senior military leaders evidently have recognized that the lack of privacy in personal housing arrangements is a major irritant for the new breed of soldier, sailor, airman, and Marine. It was a reality that first became readily apparent in the Air Force's 1995 Quality-of-Life survey.

General Lupia said, "When eighty-eight percent of your people are telling you . . . 'If you want me to reenlist, I'd like a little privacy,' you ought to be listening."

DoD-wide surveys produced similar results, showing that today's single enlisted member wants more than just a bunk and a common, or "gang," latrine. Taken together, the services require some 450,000 junior enlisted members to live in barracks, and at least one-fourth of those still live in facilities with gang latrines that are deemed substandard, based on the two plus two standard adopted in 1983.

One of those substandard dormitories houses the US Air Force Honor Guard at Bolling AFB, D. C. Mr. Coleman described it as "a hovel" and reported that it is being replaced. He told Congress that the Bolling facility "looks bad, is bad, smells bad; the water's bad, the heat's bad, everything is bad." And there are other facilities in similar condition, he said.

Some of the worst Air Force hous-

ing units are the 152 gang-latrine facilities still home to 7,000 permanent-party airmen. In all, the service has 875 dormitory buildings providing shelter for approximately 70,000 enlisted members.

Since 1983, USAF has managed to move eighty percent of its permanent-party dormitory residents into facilities meeting the two plus two standard or better. The service expected to have every airman living in that configuration by 2000. Now, according to General Lupia, the goal is still to eliminate the gang latrine by the turn of the century but at the same time begin to implement the new, one plus one standard.

"Let's say, nominally, by about 2010 the Air Force [will be] at the eighty to ninety percent conversion to one plus one," he said.

However, officials must decide whether it is practical—structurally or financially—to renovate buildings that have already been reconfigured multiple times. General Lupia explained that the service doesn't plan to take every two plus two dormitory and convert it to one plus one. It's not that easy.

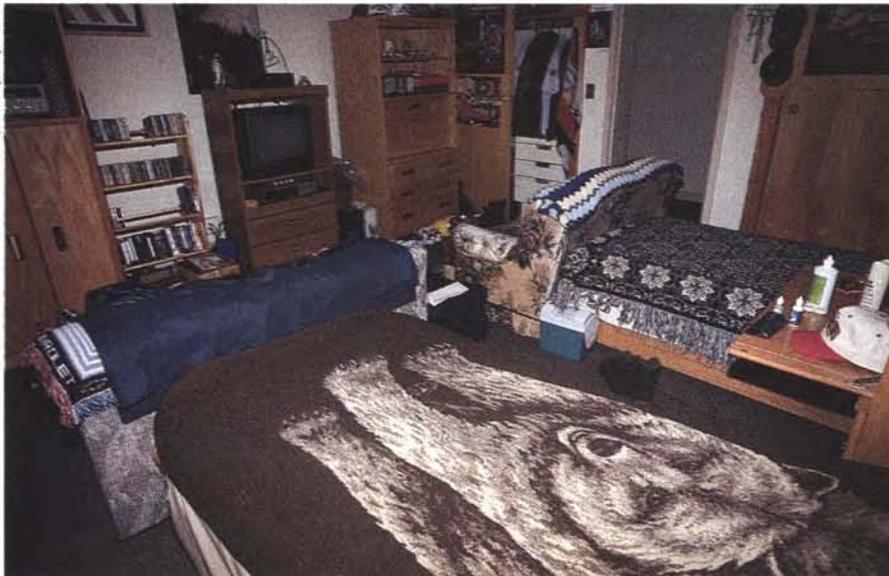
He said the average dormitory has a nominal useful service life of twenty years. The facilities "take a pretty good beating" from their eighteen-, nineteen-, and twenty-year-old occupants. Some of the buildings converted to the two plus two configuration will be at the twenty-year point within four years.

Nonetheless, the Air Force is stepping out with the new housing standard. The Fiscal 1996 budget request included about \$132 million for twenty-four dormitory projects that would apply the new private sleeping room standard.

On top of what service officials called the largest dormitory funding request since 1989, Congress added \$46 million for construction and \$100 million for maintenance and repair of existing dormitories.

The Air Force doesn't plan to stop there. Having launched its change-over to the one plus one standard, the service now wants to pursue "Vision 2020." This latest goal, which surfaced about two years ago, according to General Lupia, calls for the Air Force to provide each permanent-party airman a private sleeping room, kitchenette, and bath by 2020. ■

Staff photo by Guy Aceto



Cramped living arrangements, such as this two-to-a-room unit at Bolling AFB, will not encourage today's airman to reenlist, according to USAF's Quality-of-Life survey. This dorm is one of 152 gang-latrine facilities slated to be gone by 2000.