UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

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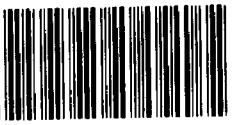
LOGISTICS AND COMMUNICATIONS
DIVISION

SEPTEMBER 16, 1980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B-199767

The Honorable Hans M. Mark
The Secretary of the Air Force

Dear Mr. Secretary:

Subject: Survey of the Readiness of Minuteman Missiles (LCD-80-102)

In April 1980 we began a survey of the readiness of Minuteman strategic missiles. Our principal objectives were to examine the missiles' state of readiness, including (1) the adequacy of readiness reporting procedures, (2) the crews' status and training, (3) impacts of planned modifications and modernization programs on the missiles' capabilities, and (4) efficiency of logistics support systems.

We performed our work at the Strategic Air Command (SAC) Headquarters, Offutt Air Force Base (AFB), Nebraska; Whiteman AFB, Missouri; and F.E. Warren AFB, Wyoming.

Because of severe constraints on our audit resources and because our limited tests indicated that reported high levels of missile readiness appeared accurate, we have suspended this audit.

During the survey, however, we noted several situations which we believe should receive management attention:

--The Air Force may be able to use 30 currently unused magnetic drum memory units as spares. This would eliminate the need to purchase additional units as spares and reduce the need for a planned repair program for such units.

--The Air Force has stopped assigning rated pilots and navigators to missile launch crews and plans to reassign, over the next 3 years, those currently serving as launch crewmembers. The Air Force, however, has no plans for achieving the significant savings possible through accelerating reassignment of these personnel to flying duties whenever practical.

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--The Office of the Secretary of Defense and the Secretary of the Air Force apparently do not fully agree on the necessity for an extended emergency survivable power source for Minuteman missiles. Efforts are underway to resolve the issue. Our survey identified a number of matters which warrant consideration in reaching a final decision.

Details on each of these matters are included in the enclosure.

We recommend that you direct the Air Force to

--use the magnetic drum memory units installed at the two Minuteman II wings as spare parts for the other sites and

--reassign qualified pilots and navigators to flying duties as soon as possible and practical.

As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and the Senate Committee on Governmental Affairs not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to the Chairmen, Senate and House Committees on Appropriations and on Armed Services, and the Secretary of Defense.

Sincerely yours,

Donald J. Horan

for R. W. Gutmann
Director

Enclosure

OUR OBSERVATIONS FROM THE SURVEY ON READINESS OF MINUTEMAN MISSILES

MAGNETIC DRUM MEMORY UNITS ARE NOT BEING USED

The Air Force has installed 30 magnetic drum memory units, costing about $18.2 million, at two Minuteman II wings, where they have no functional purpose--power to units has been turned off. Moreover, three spare drum units, costing about $1.6 million, were recently acquired to support these units.

The magnetic drum memory unit (Stock No. 1430-00-144-0217AH) and its controller synchronizer (Stock No. 1430-00-1440383AH) are part of the launch control equipment in five Minuteman wings. The equipment is not launch critical, although no remote missile targeting can occur without it. Remote targeting has been provided for Minuteman III missiles and was originally planned for Minuteman II wings. However, the Minuteman II missiles at Whiteman AFB, Missouri, and Malmstrom AFB, Montana, are not equipped for remote retargeting from the launch control facilities. Therefore, the 30 magnetic drum memory units at these bases are not currently needed.

Moreover, in 1980, the Ogden Air Logistics Center acquired two spare magnetic drums, costing $529,000 each, for use as spares for Whiteman AFB and Malmstrom AFB. The center also had a controller synchronizer, costing $173,000, on order for delivery in September 1980.

As of June 1980, Whiteman AFB had the spare magnetic drum memory unit on hand and the controller synchronizer on order to provide support for the same items that were not in use at the base. A magnetic drum memory unit was also shipped to Malmstrom AFB, which has one squadron of Minuteman III missiles that uses the unit. However, since the 15 Minuteman II launch facilities at Malmstrom AFB have the magnetic drum units installed but not in use, the need for the additional spare at this base is questionable.

The Ogden Air Logistics Center, which manages and overhauls the magnetic drum memory units, plans to repair 4 controller synchronizers and 10 magnetic drum memory elements in fiscal year 1981. However, it appears plans for repairing such units could be discontinued and the unused units at Whiteman and Malmstrom AFBs could be used as replacements.

According to SAC officials, recent action by the Senate Committee on Armed Services to authorize replacement of 100 Minuteman II missiles with Minuteman III missiles also provides for installment of remote retargeting for Minuteman II missiles. If this happens, some of the unused magnetic drum memory units may be needed. However, SAC officials did not expect the Congress to approve the Committee's action.

Since the magnetic drum memory units in Minuteman II sites at both Whiteman AFB and Malmstrom AFB are serving no functional purpose, we believe the Air Force should be alert to other possible uses for this equipment. Moreover, because of this equipment's high cost and potential later use, we do not advocate its removal and disposal. Accordingly, we believe that the magnetic drum memory units in the Minuteman II sites at Whiteman and Malmstrom AFBs should be used as spares for other sites, that additional spares not be purchased, and that the Ogden Air Logistics Center's planned repair program for such units be reexamined.

ASSIGNING SKILLED PILOTS AND NAVIGATORS TO MISSILE CREW DUTIES IS COSTLY

Assigning pilots and navigators to Minuteman launch crew duties is costly because of the Air Force's training investments in these officers, existing shortages of pilots and navigators, and scheduled training of such personnel. Although SAC officials stated that they do not expect pilots and navigators to be assigned as missile crewmembers in the future, they have no plans for rapid reassignment of the personnel currently assigned. We believe these officers' rapid reassignment would be both cost effective and a more efficient use of trained personnel.

The following chart depicts the experience of the 63 pilots and navigators assigned to Minuteman launch crews as of May 1980.

	B-52	KC-135	C-141	C-130	F-4	Other aircraft	Total
Pilots	4	8	1	4	-	13	30
Navigators	12	10	2	5	2	2	33
Total	16	18	3	9	2	15	63

The cost of training missile crewmembers is significantly less than that for pilots and navigators. For example,

during fiscal year 1979, training costs for a missile crewmember ranged from about $22,700 to about $29,200 for up to 15 weeks of training. On the other hand, training costs for B-52 pilots and navigators were about $375,000 and $244,000, respectively.

The following example shows the potential training cost savings associated with reassigning pilots and navigators from missile crew to flight duties. As of June 1980, SAC lacked 38 pilots and 101 navigators for its B-52 aircraft. The command plans to train 124 pilots and 220 navigators for B-52s during fiscal year 1980. It also plans to train 472 Minuteman missile crewmembers during the same period. The cost of training the B-52 pilots and navigators currently assigned missile crew duties would exceed $4.4 million. SAC's overall B-52 pilot and navigator training costs would be significantly reduced if the qualified pilots and navigators currently assigned to missile crews were reassigned to flying duties and the number of missile crewmembers to be trained were increased correspondingly.

According to SAC officials, pilots and navigators will be phased out of missile crewmember positions in the next 2 to 3 years--as their 4-year missile crewmember duties conclude. But SAC has no plans for earlier reassignment of these personnel.

We recognize that practical considerations are involved with reassigning these personnel before the end of their scheduled tours of duty. These include (1) administrative requirements, such as the need to provide advance notification of reassignments, and (2) consideration for the personal hardships, such as housing and children's schooling, the reassignments might cause affected personnel and their families. Certainly, such factors should be considered to the same extent for these as for normal reassignments.

Because it costs more to train Air Force pilots and navigators than to train missile crewmembers, we believe the Air Force should use trained pilots and navigators in flying positions rather than as missile crewmembers. Accordingly, the Air Force should direct the reassignment of pilots and navigators currently assigned to missile crew duties to flying duties as soon as possible and practical.

THE NECESSITY OF EXTENDED SURVIVABLE POWER FOR MINUTEMAN MISSILES IS BEING DELIBERATED

The Air Force plans to install lithium batteries, costing about $269 million, at Minuteman III missile sites

to provide extended post-attack survivable power capability. Apparently, the Office of the Secretary of Defense and the Air Force do not fully agree on the program's necessity in relation to the projected costs. The final decision on whether to install the batteries has not been made.

Minuteman III missiles currently have three power sources. In addition to commercial power, all Minuteman III missiles have diesel emergency power generators installed in launch equipment buildings adjacent to the missile silos. The generators switch on automatically whenever commercial power is lost and can operate for relatively long periods on available fuel supplies. Lead acid batteries are installed in the missile silos for shorter-duration emergency power needs.

The Air Force has established a requirement for an extended post-attack survivable power source for the Minuteman missiles. After extensive studies, lithium batteries were selected as the survivable power source. The batteries would be expected to provide power for a certain period after the other power sources were interrupted or consumed. Plans call for the batteries to be installed within the nuclear hardened missile silos to optimize chances of survivability from a near-miss attack. (Although all the launch equipment buildings containing the diesel emergency power generators have some degree of nuclear hardness, some have been hardened to greater strength than others. All the lead acid batteries are installed in the missile silos.)

Recent information from Defense officials indicates tentative cancellation of the Minuteman emergency survivable power program. The reasons for the decision, according to Air Force officials, were (1) the missiles' questionable survivability in a nuclear attack and (2) the need for more funds in conventional areas. The Air Force has submitted a reclama to the Defense position on the lithium battery program. Air Force officials told us Defense will review the reclama in late August and decide on whether to fund the program in early September.

Because of the various existing Minuteman emergency power sources, the apparent lack of full agreement on the necessity for extended survivable power, and the program's cost, we believe Defense should examine the Air Force reclama closely, evaluating all appropriate trade-offs. Appropriate trade-offs might include (1) reassessing the risks associated with relying on existing emergency power sources, (2) reassessing extended emergency survivable power requirements and

achieving additional capability by installing more lead acid batteries and/or increasing the hardness of existing facilities, or (3) installing lithium batteries in only a portion of the silos.