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GENERAL ACCOUNTING OFFICE
REPORT TO THE
SECRETARY OF THE NAVY

NAVY AIR-LAUNCHED MISSILES--
INCREASED AVAILABILITY THROUGH
IMPROVED INSPECTION AND MAINTENANCE
SCHEDULING PRACTICES

D I G E S T

The Navy's tactical air-to-air missiles are a key element of U.S. defense. Many of the Navy's surface-launched and air-to-surface missiles met or exceeded asset readiness objectives--the year-end percentage goal of serviceable assets divided by total assets--for fiscal year 1980. However, the Navy did not achieve its objectives for the Sparrow, Sidewinder, and Phoenix tactical air-to-air missiles for fiscal year 1980 and for the first 6 months of fiscal year 1981.

GAO made this review to determine the Navy's effectiveness in managing its existing inventory of Sparrow, Sidewinder, and Phoenix air-to-air missiles. GAO focused primarily on ways the Navy can optimize the availability of these missiles to sustain wartime operations.

The large number of unserviceable Sparrow, Sidewinder, and Phoenix missiles is one of several factors which limits the Navy's ability to achieve its asset readiness objectives. The Navy therefore must intensively manage its existing inventory by using maintenance practices that assure the optimum availability of a limited number of air-launched missiles.

The Navy has taken actions to improve missile availability by increasing intermediate maintenance production quantities and by purchasing more spare missile components for its naval weapons stations. However, the Navy can also improve the availability of its tactical air-launched missile inventory by (1) changing some of its current missile receipt and inspection practices at weapons stations and (2) improving inspection and transportation policies for missiles being returned from deployed carriers. (See pp. 7 to 11.)

Tear Sheet

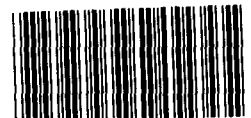
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C-PLRD-82-2

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GAO found that weapons stations and other activities using condition criteria to determine serviceable and issuable missiles encounter inventory management problems. This situation has occurred because the Naval Sea Systems Command and the Naval Air Systems Command have established differing criteria for remaining service life upon which the missiles' issuance to deployed carriers are based. (See pp. 14 and 15.)

After recognizing that serviceable missiles were being received into the naval weapons stations' inventory as unserviceable, the Navy took several actions to reduce the number of unserviceable missiles being admitted. However, additional actions are needed to further reduce the number of unserviceable missiles. In some cases, missiles arriving at the weapons stations are being placed in storage and must await inspection and maintenance because advance inspection results are not being adequately considered. As a result, the Navy is not always achieving the most rapid possible turnaround of its missiles and may be increasing maintenance costs. (See pp. 16 to 19.)

The Navy established missile presentencing procedures--the preliminary determination of a missile's condition by inspection teams on board returning carriers--to speed the identification and segregation of missiles by condition code upon the missiles' receipt at the weapons stations.

However, the Navy is losing the benefits of presentencing and opportunities to rapidly return missiles to ready-for-issue status because the teams' presentencing reports are not always provided to weapons stations. This information would be valuable in receiving, workload planning, and maintenance activities. (See pp. 19 to 21.) Furthermore, the Navy's transportation practices for fleet-returned missiles sometimes delay the missiles' prompt return to weapons stations for reissue or maintenance. (See pp. 22 and 23.)

RECOMMENDATIONS

To increase the number of serviceable air-to-air missiles, decrease maintenance turnaround time, and potentially reduce maintenance workloads and costs, GAO recommends that the Secretary of the Navy direct the Naval Sea Systems Command to:

- Coordinate with the Naval Air Systems Command in developing standard coding criteria for air-launched missiles. These criteria should be used in inventory records and reports to accurately reflect whether a missile is serviceable and issuable.
- Emphasize to weapons stations the importance of coordinating their fleet-returned missile processing with inspection work already done on board carriers during presentencing to avoid placing serviceable missiles into storage to await maintenance at the weapons stations.
- Provide to the appropriate management level data on the time required to return missiles from carriers to the weapons stations. The Command should use this information to establish policies and procedures that will ensure critically short air-to-air missiles are promptly returned to the weapons stations for rework and reissue.

GAO further recommends that the Secretary of the Navy direct the Naval Air Systems Command to:

- Provide presentencing data to the applicable weapons station immediately upon completion of the inspection to assist station personnel in scheduling maintenance work and improving turnaround time.
- Critically examine missile authorization and funding procedures, since some project orders (contracts) do not provide funds for cheaper missile sentencing inspections. The Command should consider the costs and benefits of establishing separate contracts for missile sentencing inspections and required intermediate level maintenance. If this practice proves to be cost effective, the command should institute separate contracts for these varying activity levels.

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The Secretary of the Navy should also direct naval weapons stations to:

- Inspect, code, and segregate applicable air-to-air missiles upon receipt or immediately thereafter to increase missile availability and assure minimum maintenance.
- Provide separate missile inspection facilities at each weapons station engaged in intermediate missile maintenance so that a missile's condition can be immediately determined upon receipt and serviceable missiles can be made available for issue.

AGENCY COMMENTS

The Departments of Defense and the Navy provided oral comments on a draft of this report. They generally agreed with GAO's findings, conclusions, and four of the seven recommendations. The Navy agreed in principle with the other three recommendations and offered suggestions for strengthening or clarifying statements made in the draft report. GAO has incorporated those suggestions, as appropriate, in this report.

The Navy stated that it was meeting the asset readiness objectives for several air-launched missiles but agreed that it could improve the availability of Sparrow, Sidewinder, and Phoenix missiles. According to the Navy:

- The Naval Air and Naval Sea Systems Commands are coordinating the development of standard coding criteria.
- The weapons stations will receive presentencing data.
- The weapons stations have been directed to coordinate their missile processing with work done by presentencing teams.
- Navy funding documents will contain separate authorizations for missile sentencing inspections.

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GAO did not verify the extent to which the Navy had implemented these recent changes or the effect of these changes on the availability of Navy missiles.

The Navy agreed in principle that separate missile inspection facilities should be provided at each weapons station, but it stated that previous GAO audits criticized the Navy for excess missile maintenance capacity and cautioned against new facilities. GAO's recommendation does not call for new facilities. Accordingly, the Navy, in addressing the specific recommendation previously stated, should evaluate the availability of all existing structures before considering new construction proposals.

The Navy also agreed in principle that naval weapons stations should inspect, code, and segregate all air-to-air missiles upon receipt. However, the Navy said there was no need to perform these tasks on missiles already determined to be issuable to a carrier. GAO agreed, and the specific recommendation previously stated considers the Navy's comment.

The Navy agreed in principle that policies and procedures should be established which ensure prompt return to weapons stations of critically short air-launched missiles for rework and reissue. However, it disagreed that data on the time intervals required to return missiles from carriers to weapons stations should be routinely provided to the Secretary of the Navy. The Navy believed sufficient data is now being made available to management levels. GAO accepted the Navy's comments and modified the recommendation.

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ABBREVIATIONS

GAO	General Accounting Office
MMMU-1	Mobile Missile Maintenance Unit-One
NAVAIR	Naval Air Systems Command
NAVSEA	Naval Sea Systems Command

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