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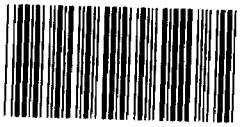
UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

PROCUREMENT, LOGISTICS,
AND READINESS DIVISION

B-210901

MARCH 17, 1983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The Honorable Joseph P. Addabbo
Chairman, Subcommittee on Defense
Committee on Appropriations
House of Representatives

Dear Mr. Chairman:

Subject: Alternatives Available To Fulfill the Navy's Training Carrier Needs (GAO/PLRD-83-56)

Your letter of February 9, 1982, requested that we review the Navy's requirement and justification for reactivating an Essex class aircraft carrier for use as a deployable carrier. After the Navy decided against doing this, your Office asked us to determine the feasibility of the Navy reactivating an Essex class carrier to replace the U.S.S. Lexington as its dedicated carrier for training student pilots.

Accordingly, we reviewed the feasibility of the Navy replacing the Lexington with another Essex class carrier. We also evaluated other alternatives for replacing the Lexington, such as replacing it with one of the Midway class deployable carriers as these are retired or using other deployable carriers to train student pilots.

Our analysis showed that replacing the Lexington with another Essex class carrier was not a viable alternative, because the Essex class carriers that could be reactivated

--would not provide any added training capability,

--are in worse material condition than the Lexington,

--are used as sources for spare and replacement parts to support the two Midway class carriers, and

--have limited capability to handle the Navy's present and future fleet aircraft.

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The Navy also believes that it is not practical to replace the Lexington with another Essex class carrier. Thus, the Navy now plans to retain the Lexington through 1989 and possibly on into the 1990s as its dedicated training carrier. The Navy has scheduled the Lexington for five maintenance actions from 1983 through 1989, including one overhaul. At any of these points in time, the Navy will have the opportunity to decide whether it is more effective and economical to continue to use the Lexington or to select an alternative, such as

--replacing it with one of the two currently deployed Midway class carriers which the Navy plans to retire when new carriers come on line or

--rotating deployable carriers to fill the training role.

During this review, we interviewed Navy officials involved in the planning and programing for carrier requirements, ship engineers and maintenance officials responsible for operating and maintaining deployable carriers and the Lexington, and Navy student-pilot-training officials. We also interviewed officials from the J. J. Henry Company concerning their efforts in the Navy's survey of its inactive Essex class aircraft carriers. 1/

We analyzed reports, documents, and studies on previous Navy attempts to reactivate an Essex class aircraft carrier; improvements that would be needed at the Naval Air Station, Pensacola, Florida, to accommodate a training carrier other than the Lexington; and the capabilities needed by a carrier to train new pilots.

We conducted our review at Navy Headquarters, Washington, D.C.; the Naval Air Forces Atlantic Fleet, Norfolk, Virginia; and the Naval Air Station, Pensacola.

Our work was conducted in accordance with generally accepted government audit standards.

BACKGROUND

The Lexington has been the Navy's dedicated training carrier since 1962. It is used to train student pilots in carrier flight operations and, to a lesser degree, to maintain Navy fleet and

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1/The survey report (Oct. 26, 1981) addressed five inactive Essex class aircraft carriers. In July 1982, the U.S.S. Shangri-La was deleted from the Naval Vessel Register, leaving four carriers in the inactive fleet.

reserve pilot currency and proficiency requirements. About 80 percent of the Lexington's operating time is used to train student pilots, and the remaining 20 percent is used for fleet and reserve pilot qualification training.

The Lexington is homeported at Pensacola and performs its training mission in the Gulf of Mexico within 70 to 100 miles of the shore-based airfields. Thus, student pilots fly out to the carrier from the shore-based facility, perform the requisite number of takeoffs and landings, and then return to base. The Lexington can currently accommodate all the Navy's training aircraft and A-6 and A-7 combat aircraft (for fleet pilot training) but cannot accommodate other types of combat aircraft, such as the F-4, F-14, or F/A-18.

The Navy plans to retain the Lexington as its dedicated training carrier at least through 1989. In the interim, the Navy will spend about $128.3 million for three maintenance actions --selected restricted availabilities in fiscal years 1983 and 1984 and an overhaul in fiscal year 1985. (See enc. I for a description of these actions.) During the fiscal year 1985 overhaul, the Navy will assess the material condition of the ship and determine whether to extend its operational life into the mid-1990s. Two additional selected restricted availabilities will be required in fiscal years 1987 and 1988. The Navy has not determined the costs of these maintenance actions.

REPLACING THE LEXINGTON WITH A MIDWAY CLASS CARRIER

Although the two Midway class carriers--the U.S.S. Midway and the U.S.S. Coral Sea--are 37 years and 35 years old, respectively, Navy officials state that both ships are in good material condition.

At one time, the Navy considered replacing the Lexington with one of its Midway class carriers. However, the Navy now plans to keep both the Midway and Coral Sea as deployable carriers until new replacement carriers come on line in order to facilitate meeting its 15-carrier goal.

Either Midway class carrier would give the Navy increased aviation training capabilities if selected to replace the Lexington. Both can operate and support A-6, A-7, and F-4 fleet aircraft. As part of overhauls scheduled in 1984 and 1986, the Navy plans to make the Coral Sea and the Midway capable of handling the F/A-18 fighter aircraft.

Though a Midway class carrier would provide added training capability, there are costs associated with these added capabilities.

First, the Midway class carriers are much larger than the Essex class ships and require larger crews. One Navy official estimated that a Midway class carrier would require a crew of about 1,900 to operate as a training carrier as compared to 1,400 for the Lexington.

Secondly, the Lexington's home port cannot accommodate a Midway class carrier or any aircraft carrier currently in the active fleet other than the Lexington. Homeporting a Midway class carrier at Pensacola would require extensive dredging of the channel and turning basin and increasing the pier utilities support. A fiscal year 1980 Navy study estimated that dredging the channel to the required depth would cost about $15 million. Also, the electrical facilities at Pensacola would have to be upgraded. A Midway class carrier requires about twice the electrical power now being generated by existing pier utilities. In fiscal year 1980, the Navy estimated that upgrading these facilities would cost about $600,000.

On the other hand, a Midway class carrier could be homeported at Mayport, Florida--about 350 miles from Pensacola--without any major facilities improvements. When the Navy was initially considering using a Midway class carrier for its training carrier, it planned to homeport it at Mayport. According to Navy officials, the disadvantages of homeporting a training carrier in Mayport are that it would not be as close to the Navy's training command airfields, which are located in the gulf area, and the airspace in the Mayport area is more congested than that in the Pensacola area.

USING DEPLOYABLE CARRIERS

When the Lexington is out of service for maintenance, selected restricted availability, or overhaul, the Navy uses Atlantic and Pacific fleet carriers for student and fleet carrier pilot qualification training. The Navy prefers to use Atlantic fleet carriers in this role because of the proximity to the training command operating areas in the Gulf of Mexico. Training qualifications performed by Pacific fleet ships require that Corpus Christi, Texas, and Pensacola training squadrons fly to the west coast.

When deployable carriers are used for student pilot training, the Navy's qualification training schedule is dictated by which fleet has carriers available to perform this task. To illustrate, during the Lexington's fiscal year 1983 selected restricted availability, the Pacific fleet carrier, the U.S.S. Constellation, was used for student pilot training while the Atlantic fleet carriers--the U.S.S. America and the U.S.S. Vinson--were used for fleet qualification training.

The Navy would prefer not to use deployable carriers to train student pilots on a continuous basis because it believes this practice could adversely affect fleet operations, crew training, and crew morale. Navy officials said that using a deployable carrier for training student pilots would extend its at-sea time an average of 3 weeks a year and, in turn, could adversely affect crew morale and decrease the time available for ship maintenance. Another Navy concern is that the student-pilot-training load would be borne by only a few carriers because of

--carrier nonavailability due to maintenance or a prolonged crisis and

--the desire to use Atlantic fleet carriers due to their proximity to land-based training facilities.

Effect on training costs by using deployable carriers

In fiscal year 1982, the operating costs for the Lexington were about $23.5 million, not including scheduled and unscheduled maintenance costs. The cost savings by retiring the Lexington would be reduced, to some extent, by using deployable carriers for training. Navy officials could not provide information showing what the cost differential might be. However, extending the carriers' time at sea would increase fuel and other consumable and supply costs. The amount of these costs would depend on several factors, such as

--individual carrier fuel consumption rates,

--distances to training operating areas,

--duration of training operations, and

--size of carrier crew.

According to Navy officials, no special equipment would have to be purchased and only two or three additional training personnel would be added to the deployable carriers when they are used for training student pilots. Navy officials also stated that any added safety hazards resulting from using deployable carriers for training are not a major concern since these carriers are already used in this role when the Lexington is not available.

CONCLUSIONS

Retention of the Lexington provides the Navy with a dedicated training carrier capable of training student pilots in carrier flight operations. However, if the Navy needs a training carrier with combat capability, as well as a capability to handle

current and future Navy aircraft, then retaining the Lexington is not the answer. If the Navy decides that a dedicated training carrier other than the Lexington is required, then the Midway class carriers appear to be good candidates because of the enhanced training capability they offer. Additionally, they have combat capability. However, to avoid the added cost of homeporting a Midway class carrier in Pensacola, the Navy would also have to consider homeporting alternatives, where major modifications would not be required.

On the other hand, if the Navy decides that deployable carriers should be used for training student pilots, then the Navy needs to resolve the potential problem associated with limited carrier availability in a prolonged crisis which could create a backlog of student pilots needing carrier training.

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As requested, we did not obtain formal agency coments on this report. We did, however, discuss it with Navy officials and incorporated their comments where appropriate. We are sending copies to the Secretaries of Defense and the Navy. If we can be of further assistance, please let me know.

Sincerely yours,

Donald J. Horan

Donald J. Horan
Director

Enclosure

ENCLOSURE I

RECENTLY COMPLETED AND SCHEDULED IMPROVEMENTS

FOR THE U.S.S. LEXINGTON

Fiscal year	Type of maintenance and location	Time frames	Major repairs and modifications	Estimated costs (millions)
1983	Selected restricted availability at Jacksonville, Florida	10/82 - 12/82	Install Mk-19 gyrocompass; make sanitary improvements in crew living areas and fire-fighting improvements; repair pumps, valves, and steam drain systems	$10.4
1984	Selected restricted availability at Mobile, Alabama	10/83 - 12/83	Make repairs and fire-fighting improvements, install lifeboats, replace main feed booster pump, install boiler water level indicators	11.5

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Fiscal year	Type of maintenance and location	Time frames	Major repairs and modifications	Estimated costs (millions)
1985	Regular overhaul at Philadelphia Naval Shipyard	10/84 - 9/85	Replace part of flight deck, make fire-fighting improvements, install AN/SPS-40 air search radar communications	$106.4
1987	Selected restricted availability (note a)	(a)	Make repairs and perform alterations on habitability, environmental projection, and communication systems	(b)
1988	Selected restricted availability (note a)	(a)	Perform routine maintenance	(b)

a/The specific time frame and location have not been established by the Navy.

b/Cost estimates have not been developed for these maintenance actions.

ENCLOSURE I