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

Subject: Update of the Issues Concerning the Proposed  
Reactivation of the Iowa Class Battleships  
and the Aircraft Carrier Oriskany (PLRD-81-21)

Dear Mr. Chairman:

Your March 19, 1981, letter requested us to update the House Committee on Appropriations' Surveys and Investigative Staff's July 1980 study. You specifically requested that we review and update information in the study concerning the Navy's proposal to reactivate four Iowa class battleships and the aircraft carrier Oriskany. Updated information concerning the Navy's proposal and most of the issues addressed in the Surveys and Investigative Staff study are provided in enclosure I.

On the basis of our preliminary analysis, it appears that the concerns raised in the Surveys and Investigative Staff study remain valid. These concerns include:

- Capability of Navy shipyards to overhaul the New Jersey and Oriskany.
- Capability to complete overhauls on schedule.
- Reasonableness of cost estimates and time to complete overhauls.


Because of the limited time available to update the many issues discussed in the Surveys and Investigative Staff study, we were unable to verify or corroborate statements made by Navy officials. In addition, much of the information provided by the Navy was in the formulative stage and could not be validated. However, the information we obtained pertinent to the issues in the Surveys and Investigative Staff study clearly showed that the Navy needs to refine and provide additional information for the Committee's consideration.

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As requested, we did not obtain official comments on this report from the Navy. As arranged with your office, we are sending copies of this report to the Chairmen, House and Senate Committees on Appropriations and on Armed Services. Copies are also being sent to the Secretaries of Defense and the Navy and to the Director of the Office of Management and Budget.

Sincerely yours,

A handwritten signature in cursive script that reads "Donald J. Horan".

Donald J. Horan  
Director

Enclosures - 3

UPDATE OF THE ISSUES CONCERNING  
THE PROPOSED REACTIVATION OF THE IOWA  
CLASS BATTLESHIPS AND THE AIRCRAFT CARRIER ORISKANY

The Navy has requested funding for the reactivation of the battleships New Jersey and Iowa and the aircraft carrier Oriskany in both the fiscal year 1981 supplemental budget and the fiscal year 1982 budget request. In view of the Navy's request, the Subcommittee on Defense, House Committee on Appropriations, asked us to update the issues surrounding the proposed reactivations discussed in the Surveys and Investigative Staff July 1980 study.

NEED FOR BATTLESHIPS  
AND THE ORISKANY

According to the Navy, the reactivation of the battleships and the Oriskany would fill a near-term requirement to meet sustained global requirements and relieve the strain on fleet material and personnel resulting from increased U.S. commitments in the Indian Ocean and the Caribbean. The Navy envisions using the battleships for power projection and for augmenting carrier battle groups or task forces to provide additional surface attack capabilities. The reactivation of the Oriskany would provide the Navy an additional aircraft carrier to respond to increased tensions requiring naval commitments.

Operational concept for the battleships

The battleships, when modernized, will have cruise and anti-ship missiles, close-in weapon systems, and 16-inch guns. According to the Navy, these ships could make a substantial contribution to our ability to control crises or to wage war. The battleships' contributions would rest on their ability to conduct gunfire support for amphibious forces with their 16-inch guns or to use their surface-to-surface missiles in strikes against targets afloat or ashore.

In operations independent of carriers, the battleships would provide a major surface warfare capability in areas of reduced air and submarine threat. The battleships, however, would be dependent on their escorting ships for antisubmarine

and anti-air protection. In a high threat environment, the battleships could operate as part of a carrier battle group.

#### Operational concept for the Oriskany

The Oriskany, with its air wing composed of A-4M attack aircraft, would have day-only attack capabilities. The A-4M is not considered an all-weather aircraft and requires visual sighting before attacking a target. Also, the Oriskany would have virtually no air defense capability with an air wing composed of only attack aircraft.

The Oriskany would require in medium and high threat areas a large deck carrier, including its complement of support ships, for anti-aircraft and antisubmarine warfare protection. In low threat areas, Navy officials say the Oriskany would be capable of operating without another carrier.

In discussions with Navy officials, we were told that the Navy currently plans to operate the Oriskany in conjunction with a Marine amphibious unit and to support the Rapid Deployment Force. It is envisioned that the Oriskany would provide air support for Marine amphibious operations and would be limited to operations in the Pacific. We were told that mission statements for the Oriskany were still conceptual and thus, we were not able to verify the above information.

#### PROPOSED CONFIGURATION FOR BATTLESHIPS AND ORISKANY

The Navy has developed tentative configuration packages for the reactivation of the battleships and Oriskany. These packages include repairs and modernization necessary for the safe operation of the ships and to upgrade their combat capability. Navy officials believe the current configuration packages are realistic and will probably represent the Navy's final proposal. However, the final decision on the configuration for these ships will be made by the Chief of Naval Operations.

Proposed battleship configuration

Since the issuance of the Surveys and Investigative Staff study, the Navy has made some significant changes to the proposed configuration of the battleships. The NATO Sea Sparrow Air Defense System was deleted from the initial configuration because preliminary analysis indicated the system could not withstand the shock blast produced from the firing of the ships' 16-inch guns. In addition, the Navy proposes to activate only six of the battleships ten 5-inch gun mounts. The other gun mounts will be removed to make room for the TOMAHAWK cruise missile armored box launchers.

Navy officials told us that all proposed weapon systems except the 16 TOMAHAWK launchers will be operational upon completion of the overhaul period. It was explained that the armored box launchers needed for the TOMAHAWK will not be available until 1983. (See encl. III for detailed information on weapon systems availability.) However, Navy officials indicated that ship modifications needed to accommodate the TOMAHAWK would be incorporated during the overhaul period to speed up system installation when the armored box launchers become available.

The Navy has also recently decided to remove the aft 16-inch gun mount on the battleship New Jersey. Navy officials explained that several options to use the space generated by removing the turret are under consideration. One is to install a vertical missile launcher in place of the turret, giving the battleship an additional 48 TOMAHAWK/HARPOON launchers. Other options involve various configurations for employing aircraft (rotary wing and/or vertical/short takeoff and landing (V/STOL)).

If the Navy chooses the TOMAHAWK/HARPOON option, the system would not be available until the 1985-87 time frame. Navy officials told us there are no plans to remove the aft gun mount on the three remaining battleships.

The current cost of \$247 million for the reactivation of the New Jersey does not include the cost to remove the aft gun mount and the installation of additional TOMAHAWK launchers. The Navy has yet to quantify the cost of this decision or its impact on the planned overhaul schedule.

Proposed configuration  
for the Oriskany

The proposed configuration for the Oriskany has not changed significantly since the issuance of the Surveys and Investigative Staff study. The only major change to the configuration has been the decision not to install the close-in weapon system. The decision appears to be based on the system's long leadtime and not wanting to divert the system from ships scheduled for its installation.

PROPOSED AIR WING  
FOR THE ORISKANY

The Navy has recently decided to operate the A-4M attack aircraft from the Oriskany. The aircraft would be made available from the 2d Marine Air Wing located at Cherry Point, North Carolina, and the 3d Marine Air Wing located at El Toro, California. Two squadrons of 24 A-4M aircraft each would be deployed aboard the Oriskany. In addition, 4 SH-3 helicopters are scheduled to provide search and rescue for the Oriskany. Also under consideration is the deployment of AV-8 vertical lift-off aircraft aboard the Oriskany.

A-4M aircraft require modification  
for carrier operations

Navy officials told us the landing gear on the A-4M aircraft must be modified to allow maximum gross weight carrier landings to be fully carrier capable. This modification consists of structural changes to the aircraft and installing heavy duty main and nose landing struts. Currently, only 25 A-4M aircraft have been modified. To modify an A-4M aircraft would cost approximately \$1.048 million--\$1 million for the modification kit and \$48,000 for installation. Thus, to modify the remaining 23 aircraft would cost approximately \$24.1 million. We were told that these funds are included in the fiscal year 82 budget amendment for Aircraft and Procurement, Navy. Approximately \$69 million is included as a budget line item for the Oriskany's air wing.

INDUSTRIAL IMPLICATIONS  
OF REACTIVATION OF  
BATTLESHIPS AND ORISKANY

The Surveys and Investigative Staff study expressed considerable concern regarding the capability of Navy shipyards to overhaul the battleships and the Oriskany and the potential impact on fleet overhaul schedules. In addition, the study questions the capabilities of proposed yards to reactivate the ships within the proposed time frame and the adequacy of industrial equipment and facilities needed to accomplish the reactivations. We discussed each of these issues with Navy officials to determine how they propose to overcome these problems.

Selection of shipyards  
for reactivation

The Navy has examined the options of performing the overhauls and modernization of the battleships and the Oriskany in both Navy and private yards. Navy officials told us that because of the urgency to complete these overhauls in the shortest possible time, they would prefer to reactivate the Oriskany at the Puget Sound Naval Shipyard and the New Jersey at the Long Beach Naval Shipyard. They explained that it takes considerably longer to overhaul a ship in a private shipyard because of the time required to assemble needed documentation, solicit bids, and prepare the work packages.

Impact on overhaul schedules  
by the New Jersey and the Oriskany

The overhauls of the New Jersey and the Oriskany will impact on the overhauls of other Navy ships. Navy officials told us the scheduled overhauls of several ships in Long Beach would be contracted to the private sector to accommodate the New Jersey's overhaul. In addition, a submarine scheduled for overhaul at Puget Sound would be transferred to the Mare Island Navy Shipyard to accommodate the Oriskany. (See encl. II for detailed information on ships affected.)

One Navy official noted that it would be necessary to reassign some ship overhauls from the Navy yards to private yards with leadtimes less than the minimum required for competitive procurement. This official also noted that award of these contracts late in the pre-overhaul/pre-activation planning period dictates use of extraordinary procedures for placing this work in yards having a planning capability and proven repair expertise with complex ships. Other Navy officials stated that the anticipated impact resulting from the transfer of ships to private yards would be acceptable because of the high priority given to the reactivation of the battleships and the Oriskany.

Workforce availability in the  
Navy and private shipyards

If the Oriskany is reactivated at Puget Sound, it would overlap with the overhaul of the carrier Kitty Hawk, which is scheduled to begin in January 1982. Navy officials acknowledge that it would be difficult to recruit and assemble in a short period of time the necessary skills and work force to overhaul two carriers in the same yard. However, they do not see this as an insurmountable problem and said it could be overcome with an aggressive recruiting program.

Although the Navy plans to transfer several ship overhauls to the private sector to reduce the workload, the work force at the Long Beach shipyard will also need to be increased to accommodate the overhaul of the New Jersey. Navy officials said the reason for this is the amount of work planned for the New Jersey is being compressed within a short time frame and an increase in the work force is needed to accomplish it. Navy officials recognize that the Long Beach area has a tight labor market but believe that a sufficient labor force could be recruited.

Navy officials told us that the private sector would encounter even more serious personnel problems than the Navy if it were to perform the overhauls. Navy officials claim the work forces in private yards are much smaller than at Navy yards. Thus, private yards would need to hire more workers. On the other hand, the Navy said that an increase in the work



force at Long Beach and Puget Sound would be much smaller in terms of the percentage of the total work force. Navy officials believe that since the percentage increase in the public yard work force would be small compared to the private sector, there is less inherent risk with performing the overhauls in Navy yards.

Increase in personnel ceilings  
at Navy yards would be needed

If the New Jersey and Oriskany are overhauled in Navy shipyards the personnel ceilings placed on the shipyards by the Congress will need to be increased to accommodate the increase in the workload. The Navy has requested a ceiling increase of 4045 personnel in the fiscal year 1982 budget to accommodate the overhauls of the Oriskany and the New Jersey. In addition, the Navy has estimated that reactivation related personnel ceiling increases required for Naval shipyards in fiscal years 1983 and 1984 will range from 2,000 to 4,000 above current program requirements. Navy officials said that an increase in the personnel ceilings by the Congress is a determining factor if the ships are to be overhauled in Navy shipyards.

Because of the uncertainty surrounding a decision to increase personnel ceilings, the Navy has taken preliminary steps to determine if the private sector would be interested in overhauling the Oriskany. The Navy has recently solicited through the Commerce Business Daily responses from private shipyards on the west coast to determine if they would be interested in forming a consortium to overhaul the Oriskany. Navy officials told us that no single shipyard on the west coast has the available workforce or resources to overhaul the Oriskany. These officials said that to overhaul the Oriskany, private shipyards would need to form a consortium and pool their workforces and resources. If a consortium is formed, a single company would be selected as the prime contractor and would be responsible for the performance of other members of the consortium.

Navy officials acknowledge that this method of contracting carries some very high risks. It would require strong and innovative management by the prime contractor and close supervision by the Navy. Even with the best of management Navy officials believe it would probably take longer and cost more to overhaul the Oriskany in a private yard. The Navy has made no plans to overhaul the New Jersey in the private sector.

Facilities and equipment  
at Navy yards

Navy officials told us that the Navy shipyard physical facilities are sufficient to accommodate the Oriskany and the New Jersey overhauls. We were advised that with the transfer of overhauls to private yards or other Navy yards, sufficient amounts of all related shipyard equipment, such as power sources, metal cutting and working equipment, and cranes would be available. We did not determine the amount or kinds of equipment needed to perform the overhauls or if it was available at the shipyards.

COST TO REACTIVATE THE  
BATTLESHIPS AND ORISKANY

Reactivation of the battleships and the Oriskany would be funded under the Ship Construction, Navy appropriation for which the Navy has developed initial cost estimates. However, these are only "ball park" or "class F" estimates. Navy officials said to improve the quality of these estimates would require sufficient funding to conduct detailed ship checks to determine the exact condition of the ships. To date this funding has not been available.

Cost estimate for  
battleship reactivations

The Navy's cost estimate as presented in the fiscal year 1981 supplemental and fiscal year 1982 budgets for reactivation of the New Jersey is \$247 million. <sup>1/</sup> The previous estimate, \$255 million, is broken down as follows:

Activation and repair	\$ 90 million
New equipment	125 million
Equipment installation	40 million

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<sup>1/</sup>As of April 2, 1981, we received the Navy's most recent estimate of \$326 million to reactivate the New Jersey. This is a substantial increase from the \$247 million estimate provided GAO in previous conversations and documents by Navy officials. This demonstrates the uncertainty that surrounds cost estimates to reactivate the New Jersey.

The \$247 million estimate was developed by applying a revised inflation index to the \$255 million estimate. Outfitting and post delivery costs will require an additional \$16 million.

The Navy currently estimates it will cost \$384 million to reactivate the battleship Iowa. 1/ An additional \$16 million will be required for outfitting and post delivery costs. The Navy has requested \$91 million in the fiscal year 1982 budget for planning and long leadtime items for the Iowa. Cost estimates for the reactivation of the battleships Missouri and Wisconsin have not been developed.

Cost estimate for  
reactivating the Oriskany

The Navy's current budget estimate, as presented in the fiscal year 1981 supplemental and fiscal year 1982 budget requests, for reactivation of the aircraft carrier Oriskany is \$503 million. 2/ This is an increase of \$213 million from the Navy's fiscal year 1980 budget estimate of \$290 million. Navy officials explained that initial budget estimates were based on performing the minimum amount of work needed to reactivate the Oriskany in the shortest time possible. This type of overhaul would have only extended the life of the Oriskany approximately 5 years.

Navy officials told us that to recover the cost of reactivating the Oriskany, the ship's life should be extended 10-15 years. To increase the life of the ship, more extensive repair and modification is required. A breakdown of the cost escalation from \$290 million to \$503 million follows.

--The estimate increased by \$15 million from \$290 to \$305 million when escalated from fiscal year 1980 to fiscal year 1981 dollars.

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1/As of April 2, 1981, we received the Navy's most recent estimate of \$392 million to reactivate the Iowa.

2/As of April 2, 1981, we received the Navy's most recent estimate of \$518 million to reactivate the Oriskany.

- A crew will not be put aboard while the ship is in the yard. Therefore, it costs an additional \$80 million for the shipyard personnel to do that work which is normally part of the crew work package.
- An additional \$10 million will be required for installation of the steel flight deck.
- An additional \$73 million will be required for new equipment such as a new O2N2 generating plant, new evaporators, electrical capacity, inertial navigation, and chilled water equipment.
- An additional \$35 million will be required as a Project Manager's Escalation Reserve.

#### Variation in battleship cost estimates

As with the Oriskany, there has been considerable variations in cost estimates to reactivate the New Jersey. While reluctant to discuss the precise derivation of these estimates, Navy officials provided the following information.

The costs have varied primarily due to changes in ship configuration, start of the industrial period, and application of various inflation indices. Last year's cost estimate was based on the New Jersey being equipped with the NATO Sea Sparrow Missile System, an industrial period starting in the summer of 1980, and higher inflation indices. The current \$247 million estimate is based upon a January 1982 industrial start, no NATO Sea Sparrow, and substantially lower inflation indices. 1/

Several Navy officials doubted the validity of the \$247 million estimate, however, they would not elaborate since they did not participate in the development of the figure. Other Navy officials we talked with thought \$305 million would be a more realistic estimate.

#### OVERHAUL SCHEDULES FOR REACTIVATION OF BATTLESHIPS AND ORISKANY

The Surveys and Investigative Staff study expressed considerable concern that the proposed reactivation schedules for the New Jersey and the Oriskany are not achievable. The study

1/ As of April 2, 1981, we received the Navy's most recent estimate of \$326 million to reactivate the New Jersey.

questions the Navy's ability to plan and schedule these overhauls before the ships' exact configuration has been determined or the ships inspected to determine the amount of repairs needing to be accomplished. We discussed these and related issues with Navy officials responsible for the planning and scheduling of overhauls for the New Jersey and the Oriskany.

Current overhaul schedules  
for battleships and the Oriskany

Navy officials provided planning and overhaul estimates for the battleships and the Oriskany. These estimates are shown below.

Planning and overhaul estimates

<u>Ship</u>	<u>Planning Months</u>	<u>Overhaul Months</u>	<u>Total Months</u>
Oriskany	12	24	36
New Jersey	6	15	21
Missouri	8	23	31
Wisconsin	8	23	31
Iowa	8	23	31

Navy officials stressed that these are best case estimates and that more definitive estimates can be prepared once the ships are inspected. In addition, the planning and overhaul cycles have been significantly compressed to accommodate the need that these ships be reactivated in the shortest time possible, thus increasing the risk that slippage may occur.

Navy officials stated that normal time required to plan an overhaul for a ship the size of the Oriskany is 24 months. However, the planning cycle for the Oriskany has been com-

pressed to 12 months. According to a Navy document:

"\* \* \* the time allowed for planning the Oriskany's reactivation, and the magnitude of the effort will require planning techniques totally unique for this project. By-passing normal planning functions and retaining only the most critical events will make the Oriskany's reactivation a high risk endeavor. A total team effort will be required by the Navy Department to meet the extremely compressed schedule."

The planning time for the New Jersey has been similarly compressed from 9 to 6 months.

Impact of configuration  
on overhaul scheduling

Navy officials told us the proposed configurations for the New Jersey and the Oriskany are sufficiently defined to permit the development of tentative overhaul schedules. We were told the Navy has experience in each of the systems being installed on the ships, thus the Navy can determine based on past experiences, how long it will take to install the proposed systems. In addition, changes to the configuration can normally be accommodated with increases in the shipyard work force.

Impact of ship inspections  
on overhaul scheduling

Navy officials explained that once funding is made available, the ships will be inspected to refine estimates on the amount of repairs needed. This information can then be incorporated into estimates of how long it will take to overhaul the ships. Navy officials believe that sufficient information currently exists concerning the material condition of the New Jersey to reasonably estimate the time it will take to overhaul the ship.

Navy officials told us the New Jersey is considered to be in excellent material condition and was a factor considered in developing overhaul scheduling estimates. Equipment on the ship is thought to be well preserved, although some items may

need replacement because of obsolescence. In addition, information provided by the Navy indicated that only eight items have been cannibalized since the New Jersey was decommissioned in 1969. Based on the above reasons, Navy officials believe that the overhaul estimates for the New Jersey are reasonable.

Navy officials explained the other three battleships will require longer overhauls. When the New Jersey was reactivated in 1968, much equipment was replaced and upgraded. However, the battleships Missouri, Wisconsin, and Iowa have been inactive since the 1950s and thus require a greater amount of modernization and equipment replacement than the New Jersey. In addition, the amount of equipment cannibalized off these three ships is not known. Navy officials stated that ship inspections are needed to better define the overhaul time for these ships.

The Navy has performed a preliminary inspection of the Oriskany to identify equipment and systems needing repair or replacement. As a result, major equipment and systems needing repair or replacement were identified and incorporated into cost and overhaul estimates. However, more detailed inspections are required to further definitize the time it would take to overhaul the Oriskany.

The material condition of the Oriskany is a matter of concern regarding the time it will take to be overhauled. The Navy's last inspection of the Oriskany found the ship to be unfit for further service. However, Navy officials claim that this does not mean the ship is unrepairable but only that it requires a greater amount of repairs.

One indication as to the material condition of the Oriskany may be the amount of repair required to reactivate the ship. Approximately 1.1 million labor-hours and \$503 million will be expended to overhaul and modernize the 42,000-ton Oriskany. On the other hand, the aircraft carrier Saratoga was recently inducted into the Navy's Service Life Extension Program. Approximately 1.2 million labor-hours and \$500 million will be expended to extend the operational life of the 80,000-ton Saratoga. Thus, approximately twice as much money

and labor-hours per ton will be expended to overhaul and modernize the Oriskany than the Saratoga. It is estimated that the life of both ships will be extended approximately 15 years.



WORKLOAD ADJUSTMENTS REQUIRED  
TO ACCOMMODATE THE REACTIVATIONS OF  
THE ORISKANY AND NEW JERSEY

The following workload adjustments will be required to accommodate the reactivations of the Oriskany at the Puget Sound Navy Shipyard and the New Jersey at the Long Beach Navy Shipyard.

Puget Sound: Add CV 34 (ORISKANY), fiscal year 82

Delete SSN 610, fiscal year 83, Shift to Mare Island Navy Shipyard

Delete CG 32, fiscal year 82, Shift to Long Beach Navy Shipyard

Delete DDG 14, fiscal year 84, Shift to Long Beach Navy Shipyard

Long Beach : Add BB 62 (NEW JERSEY), fiscal year 82

Add CG 32, fiscal year 82, from Puget Sound Navy Shipyard

Add DDG 14, fiscal year 84, from Puget Sound Navy Shipyard

Delete DD 972, fiscal year 82, Shift to Private Sector

Delete DD 976, fiscal 82, Shift to Private Sector

Delete FFG 2, fiscal year 82, Shift to Private Sector

Delete FF 1070, fiscal year 82, Shift to Private Sector

AVAILABILITY OF WEAPONS SYSTEMS AND LONG-LEAD  
COMPONENTS AND IMPACT ON OVERHAULS

Navy officials provided the following information about the availability of weapon systems for reactivating the New Jersey, the impact of diverting those systems from previously planned programs, and the availability of long-lead components for the Oriskany.

WEAPON SYSTEMS FOR THE  
NEW JERSEY

The New Jersey, when modernized, will have TOMAHAWK cruise missiles, HARPOON, and close-in weapon systems. TOMAHAWK hardware will not be available until March 1983 and will then be obtained by diverting assets from the regular overhaul of two DD-963 class ships. The impact of the diversion will be a delay of one overhaul cycle in installing TOMAHAWK on the two DD-963 ships.

Cannister-type HARPOON assets will be available in October/November 1981 by diversion from two DDG-37 class ships. Those ships will not receive HARPOON until armored box launchers become available to replace cannisters.

The close-in weapon system is currently produced at a 3 unit-per-month rate with an increase to 7 units-per-month expected. The impact on pipeline assets of installing four units on each of the battleships would be minimal.

FLIGHT DECK FOR THE ORISKANY

Some Navy officials feel that one of the most critical elements in meeting the Oriskany's reactivation schedule is the availability of the special steel plates and shapes required to replace the flight deck. Estimated leadtime for obtaining the steel is 12-14 months. This could be a significant problem with respect to fund availability versus reactivation completion.