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Estimates of Potential Savings By Retiring Two Aircraft Carriers Early

Statement of
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Before The Subcommittee on Projection Forces and Regional Defense
Committee on Armed Services
U.S. Senate

GAO/T-NSIAD-88-16

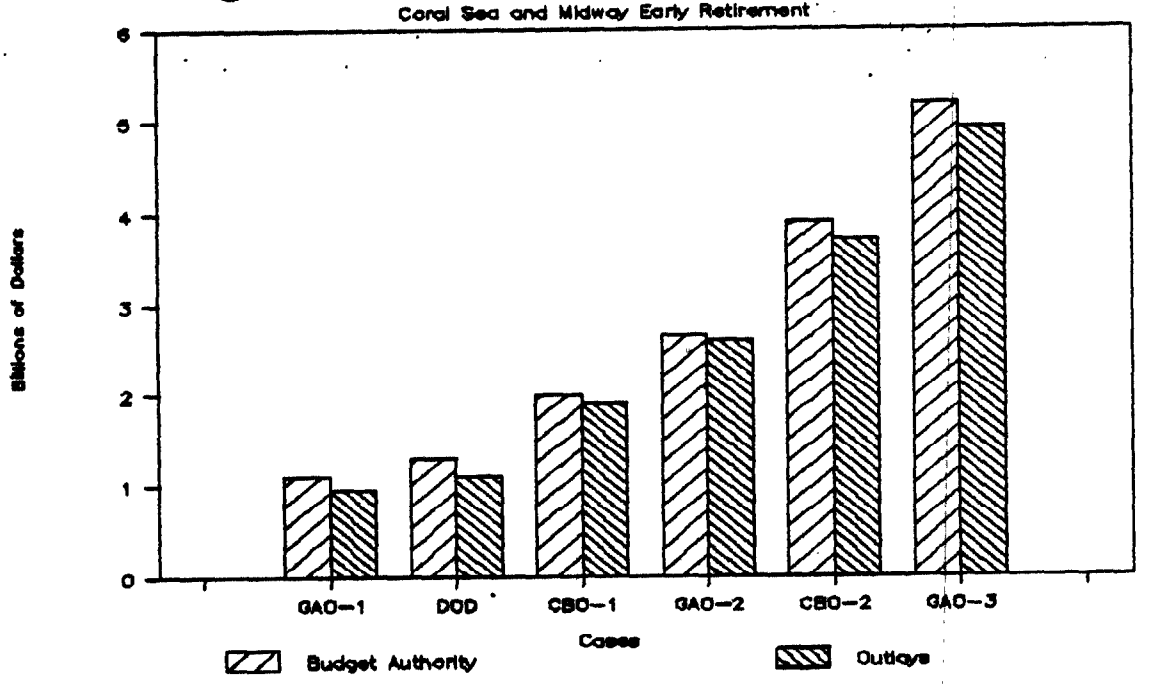
Mr. Chairman and members of the Subcommittee, we welcome the opportunity to be here today.

The National Defense Authorization Act for Fiscal Years 1988 and 1989, directed the Department of Defense to study the direct and indirect cost savings that could be achieved by decommissioning one older aircraft carrier in 1990 when the U.S.S. Abraham Lincoln is brought into the fleet and a second older carrier in 1992 when the U.S.S. George Washington is commissioned, and by deactivating an existing air wing in 1990. The net effect of this proposal, if implemented, would be to delay until 1997 reaching the goal of having 15 deployable aircraft carriers in the fleet.

In addition to the DOD study, you by asked that we and the Congressional Budget Office (CBO) independently develop estimates of direct and indirect cost savings for this proposal--assuming the carriers retired early would be the U.S.S. Coral Sea and U.S.S. Midway. The Committee also asked us to make other assumptions about the rate at which ship construction would continue in an effort to overcome existing ship shortfalls, whether aircraft would be retired or used to offset aircraft shortfalls, and whether indirect operating and support costs would be avoided. Using three different sets of assumptions, we calculated three savings estimates. While these estimates were independently developed, you also asked that we coordinate our efforts with those of CBO and DOD, which we have done.

A wide range of savings estimates can be calculated for the early retirement proposal depending upon the assumptions used. (See figure 1 below, and Appendix I.) For example, estimates differ depending upon the rate at which fleet modernization and expansion would continue, whether aircraft would be retired or used to fill existing shortfalls, and whether indirect--as well as direct--operational and support costs would be avoided. Savings estimates also vary among GAO, CBO, and DOD because different estimating methods and data sources were used. For example, we relied primarily on data from the Navy's Visibility and Management of Operating and Support Cost reports--known as VAMOSC-Air and VAMOSC-

Fig. 1. Potential Savings Estimates



Ships. These reports compile actual expenditures for ships and aircraft. We also used budget and other data in our analysis. We understand that CBO primarily used data from its Defense Resources Model which uses aggregated program elements from the Department of Defense's Five Year Defense Plan (FYDP). Appendix II provides a listing of assumptions we used in calculating our three cases.

SAVINGS ESTIMATES

The potential savings estimates we calculated over the 7-year period, fiscal years 1990 through 1997, range from a low of about $1.1 billion to a high of about $5.1 billion in budget authority. (See Table III.1 in Appendix III) Outlay savings would be slightly less due to the slower spend-out rates for some accounts.

Case I

Our case I generally parallels the DOD savings estimates and its assumptions about fleet shortfalls and modernization requirements--although this in no way implies that DOD endorses the early retirement proposal. This case assumes that there would be no indirect cost savings, such as shore base support and retired pay accrual costs. This assumption was based on the Navy's contention that indirect cost savings, if measurable at all, would be of such short duration as to be negligible. This case also assumes that aircraft from the deactivated wing would be redistributed to meet

the needs in other air wings, and that fleet modernization and expansion efforts would continue with no delays in planned procurement of ships, aircraft, or munitions. Military personnel from the Midway and Coral Sea would be reassigned to fill personnel shortfalls.

These assumptions produce a savings estimate of $1.1 billion in budget authority and $950 million in outlays for fiscal years 1990 through 1997. In this case operating and support outlays would decrease by an average of approximately $136 million per year.

These savings estimates are shown on Table III.2 in Appendix III.

CASE II

The estimated budget authority and outlay savings calculated for case II are shown on Table III.3 in Appendix III. The principal assumptions for this case are that:

-- indirect operating and support costs, such as base support and other overhead costs, would vary in proportion to direct costs,

-- operating and support savings would occur in military personnel accounts,

-- ship procurement plans would be delayed only for those ship-types for which there are no shortfalls expected during the 1990s, and

-- aircraft in the Midway air wing would be reassigned as needed to fill shortfalls, rather than retired earlier than planned.

In this second case, estimated budget authority and outlay savings for fiscal years 1990 through 1997 are about $2.6 billion, more than double the savings in case I. All of the budget authority reductions, and most of the outlay savings, result from reductions in operating and support costs. Because ship construction plans would be delayed for only those ship classes where shortages are not expected, outlay savings for ship construction amount to only about $320 million over the 7-year period. Fiscal year 1989 ship construction budget authority could be reduced by about $1.3 billion, but if the Navy is to achieve its ship construction goals by 1997, these amounts would need to be authorized by fiscal year 1994 resulting in no budget authority savings over the 7-year period.

Because case II took into account aircraft shortages, direct savings for the air wing were about $350 million. No budget authority or outlay savings were calculated for the A-6E Intruders or EA-6B Prowlers because of current shortfalls and there was only a small savings for the F/A-18 Hornets. We assumed the A-6Es and

EA-6Bs from the deactivated wing would be reassigned to offset projected shortfalls of those aircraft in other wings, and that the F/A-18 Hornets would replace older A-7E Corsairs scheduled to be retired in fiscal years 1990 through 1992. Air wing operating and support savings occurred primarily because older SH-3H Sea Kings and E-2C Hawkeyes were assumed to be retired earlier than planned.

CASE III

The principal assumptions we used for case III were that in addition to direct operating and support costs for the Midway, the Coral Sea, and the associated air wing:

-- all aircraft associated with the deactivated wing would be retired or used to replace older aircraft which would be retired rather than used to satisfy shortfalls;

-- the fiscal year 1989 procurement plans for new ships and munitions associated with the 15th carrier battlegroup would be postponed, including ships for which shortfalls are projected, and

-- indirect operating and support costs, such as base support and other overhead costs, would decrease proportionally with direct costs.

Based on these assumptions, we calculated potential budget authority savings of $5.1 billion and outlay savings of about $4.9 billion for the 7-year period. About $2.7 billion, or about 54 percent, of the outlay savings would come from reductions in direct operating and support costs for the two carriers and the air wing. This consists of about $1.6 billion from deactivating the air wing, $320 million from retiring the Coral Sea in mid-1990, and $700 million from retiring the Midway in mid-1992. The remainder of the outlay savings comes from indirect costs ($1.8 billion) and from costs avoided in ship construction and weapons procurement accounts ($470 million). These amounts are shown on Table III.4 of Appendix III under the section labeled "Outlays."

One important assumption for estimating purposes was that decisions would be made with sufficient lead-time to allow the savings to occur. This is particularly important to achieve savings in ship construction and weapons procurement. Assuming that the fiscal year 1989 procurement plans could be postponed, we estimated that about $2 billion could be saved in fiscal year 1989 budget authority. However, as in case II, if the Navy is to achieve its ship construction goals by 1997, these amounts would need to be authorized by 1994. Thus, overall budget authority savings for ship construction and weapon procurement over the 7-year period is zero.

Outlays decrease in ship construction and weapons procurement accounts by about $470 million over the 7-year period, but like budget authority, there are no long term outlay savings as outlays are merely postponed until after 1997. This, of course, assumes that the Navy would have 15 deployable carrier battlegroup after 1997.

Adopting the policy actions required to achieve the case III savings would exacerbate the Navy's projected shortfall of ships and aircraft. This depends on many factors, but as pointed out in the Secretary of Defense's posture statement for fiscal year 1988, even under the existing shipbuilding plan, the Navy will experience a serious shortfall of combatants and support ships the 1990s. Our October 1987 classified report[1] on the status of the Navy's fleet expansion efforts elaborated on this issue. It estimated that even if the Navy were able to fully execute its shipbuilding plan, it would be 52 ships short of its minimum force requirement for carrying out the maritime strategy. Our report concluded that if historical patterns prevailed, the shortfall may be as high as 76 ships.[2] Copies of that report have been provided to the Committee.

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[1]Navy Ships: Status of the Navy's Fleet Expansion Efforts, GAO/C-NSIAD-88-3, October 27, 1987.

[2]We analyzed 21 years of Navy experience in achieving shipbuilding plans. The analysis showed that if the historical pattern of authorization and funding prevails, shortfalls of certain ship types may be greater than the shortfalls for which the Navy is planning.

COST TO OPERATE THE MIDWAY BATTLEGROUP

Mr. Chairman, you also asked us to calculate how much it costs annually to operate and support the Midway carrier battlegroup.

We calculated the annual operating cost in two different ways. We first calculated the estimated cost to operate the Midway carrier battlegroup as it is currently configured. Direct and indirect outlays for this configuration are about $1 billion annually--about $620 million for direct costs and about $400 million for indirect costs. We also calculated the cost to operate and support a Midway carrier battlegroup in the configuration that the Navy would like--what the Navy calls a notional configuration. Outlays for this type of configuration would run about $1.4 billion annually for both direct and indirect costs. Budget authority would be somewhat higher than this due to the lower average spend-out rates for some accounts. These amounts are shown in Table IV.1 in Appendix IV.

SUMMARY

In summary Mr. Chairman, the Navy officials with whom we spoke made it clear that the proposal to retire two aircraft carriers ahead of schedule, and to wait until 1997 to have 15 deployable aircraft carriers in the fleet, has implications for the Navy's ability to meet national security commitments. We have not evaluated the security or maritime strategy ramifications of such a decision.

However, each of our 3 cases would impact in some way the Navy's force structure and the number of ships that will be available to the fleet.

As I mentioned earlier, even with the Navy's current shipbuilding plans, it will not have all the combatants and support ships it needs to satisfy its battleforce requirements into the 1990s and beyond. Continuing with the Navy's current shipbuilding plan--the primary assumption for case I--would have the least negative impact on the Navy's shortfall situation. It would generally not cause the shortfalls to worsen, and indeed the remaining 14 deployable carrier battlegroups may have greater warfighting capability than they otherwise would have as new ships enter the fleet.

Case II would essentially maintain the status quo with regard to the combat capability of the remaining 14 deployable carrier battlegroups, but overall the Navy would have fewer ships in the fleet than currently planned throughout the 1990s. Under case II assumptions, construction would only be delayed for ships not expected to be in a shortfall position. Thus, the Navy would continue to improve its force goals, but at a slower pace than planned.

If the assumptions we used to calculate our case III savings were to be adopted as policy, the Navy may have greater shortfalls of ships than currently projected in the latter part of the 1990's and

into the next century. The extent to which such a policy would affect the shortfalls estimates depends mostly on future policy choices that concern budget plans, but it also depends to some extent on whether the Navy can extend the service life of some ships and whether construction time can be shortened.

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This completes my prepared remarks. We would be pleased to respond to any questions you may have.

A Comparison of DOD, CBO, and GAO Estimates

In addition to GAO, the Congressional Budget Office and the Department of Defense also calculated an estimated savings by retiring the Midway and Coral Sea ahead of schedule, and by deactivating a Midway-type airwing. Figure I.1 shows the range of savings estimates calculated by each agency. This information is shown in summary form in table I.1.

FIG. I.1. POTENTIAL SAVINGS ESTIMATES

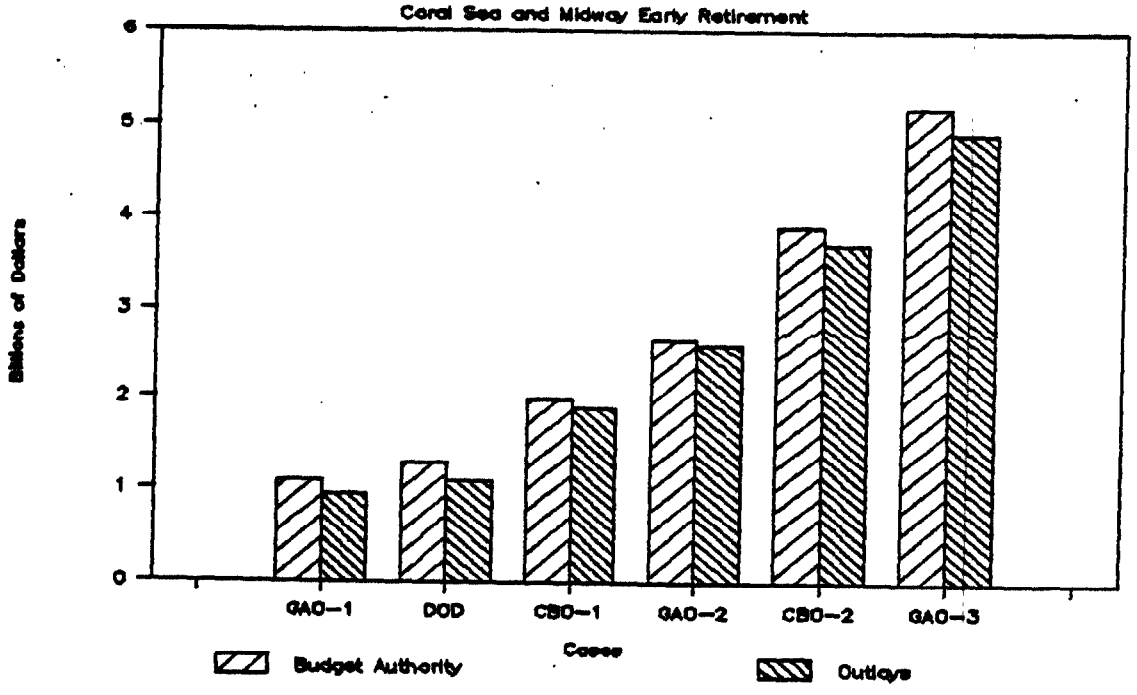

TABLE I.1 COMPARISON OF DOD, CBO, AND GAO POTENTIAL SAVINGS ESTIMATES

Savings Categories	DOD	CBO Cases 1	CBO Cases 2	GAO Cases 1	GAO Cases 2	GAO Cases 3
		(fiscal year 1988 $ in billions)				
BUDGET AUTHORITY						
Direct O&S	$1.300	$1.600	$2.600	$1.104	$1.595	$3.085
Indirect O&S	-	0.400	1.400	-	1.029	2.059
Procurement Cost Avoidance	-	-	-	-	-	-
Total (a)	$1.300	$2.000	$3.900	$1.104	$2.625	$5.144
OUTLAYS						
Direct O&S	$1.100	$1.500	$2.500	$0.930	$1.372	$2.653
Indirect O&S	-	$0.400	1.300	-	0.906	1.804
Procurement Cost Avoidance	-	-	-	-	0.320	0.468
TOTAL (a)	$1.100	$1.900	$3.700	$0.950	$2.598	$4.925

(a) Totals may vary due to rounding.

The different savings estimates for budget authority and outlays are based on a wide range of assumptions for decreasing operations and maintenance, military personnel, and procurement costs between 1989 and 1997. CBO's data can be used to calculate several estimates. For ease of comparison, we categorized these as CBO case I and CBO case II. As with GAO's cases II and III, CBO's case

II assumed that personnel levels would be reduced. CBO's case I assumed that manpower levels would remain constant, as does our first case. In general, CBO and GAO estimates differ because CBO (1) used budget data from its Defense Resources Model and (2) assumed new aircraft to fill shortfalls would be purchased at expected prices for buys planned for 1992. In contrast, GAO used historical VAMOSC-Ships and VAMOSC-Air cost data to determine potential air wing savings and considered aircraft shortfalls only in cases I and II. DOD's estimate and our first case estimates were similar. However, unlike our first case, the DOD estimate assumed that (1) the Midway would be replaced by a Forrestal class carrier in 1992 instead of 1997 and estimated the cost of altering base facilities in Japan to accommodate the larger carrier, and (2) planned manpower would decrease. A summary of the differing assumptions is in table I.2.

TABLE I.2 COMPARISON OF DOD, CBO, AND GAO ASSUMPTIONS

			GAO Case		
Assumption	DOD	CBO	I	II	III
-- Operating and support cost savings for Midway and Coral Sea	Yes	Yes	Yes	Yes	Yes
-- Estimate considers cost of replacing Midway with Forrestal class carrier	Yes	No	No	No	No
-- Operating and support cost savings for air wing	Yes	Yes	Reduced (b)	Reduced (b)	Yes
-- Military personnel cost savings (decreases in planned manpower)	Yes	Yes (a)	No	Yes	Yes
-- Marine Corps personnel savings	No	Yes (a)	No	Yes	Yes
-- Navy Reserve Personnel savings	No	Yes (a)	No	No	No
-- Sea and flight pay savings	Yes	Yes	Yes	Yes	Yes
-- Indirect Cost savings	No	Yes	No	Yes	Yes
-- Retired pay accrual savings	No	Yes (a)	No	Yes	Yes
-- Ship construction cost savings (shipbuilding plans change)	No	No	No	Reduced (c)	Yes
-- Aircraft procurement cost savings	No	No	No	No	No
-- Cost savings for munitions	No	No	No	Reduced (c)	Yes

(a) CBO developed two sets of estimates which could be divided into various subsets. These assumptions applied only to CBO's Case II.

(b) Air wing savings decreased as aircraft are reassigned to fill shortfalls, replace older aircraft, or are retired at ages now planned by the Navy.

(c) Procurement savings decrease because ships and munitions procurement plans are reduced only for those requirements not expected to be in short supply during the 1990s.

ASSUMPTIONS

To assess the range of estimated budgetary savings that would likely be realized from implementing the Committee's proposal, various assumptions were made. The assumptions applicable to each of the three cases are as follows:

Assumption	CASES 1	2	3
The Navy would operate and maintain one less aircraft carrier and one less air wing than planned for the period July 1990 through July 1997.	X	X	X
There would be no real growth in the budget after fiscal year 1988.	X	X	X
Decisions to retire the carriers and decommission the air wing would be made with sufficient lead time to allow savings to accrue.	X	X	X
Retired ships and aircraft would be sold for salvage (not mothballed) and retirement costs would equal the salvage value.	X	X	X
Operating and support savings would occur in Operation and Maintenance, Navy and Marine Corps;	X	X	X

ASSUMPTIONS

	CASES		
	1	2	3
Weapons Procurement, Navy; Aircraft Procurement Navy; and Other Procurement, Navy, accounts.			
Operating and support savings would occur in Military personnel accounts.		X	X
Operating tempos would remain at the current level throughout the 1990s.	X	X	X
If not retired, the proportion of total aircraft carrier funds allocated to the Midway and Coral Sea would remain at the current level throughout the 1990s.	X	X	X
Activation and/or deactivation would occur at mid-year.	X	X	X
The Midway blister problem would not be corrected.	X	X	X
Indirect Operation and Maintenance, Navy, costs would vary in proportion to direct costs.		X	X
Indirect costs would not decrease if Navy operated and maintained one less aircraft carrier and wing.	X		

ASSUMPTIONS

	CASES		
	1	2	3
Planned manpower level would decrease in fiscal years 1990 through 1997.		X	X
Planned manpower level would remain constant in fiscal years 1990 through 1997, and Midway and Coral Sea personnel would be reassigned to fill shortfalls.	X		
The Midway air wing would be decommissioned and aircraft would either be reassigned to replace older aircraft or retired earlier than planned.			X
Midway aircraft would either be reassigned to fill shortfalls, replace older aircraft, or retired at ages now planned by the Navy.	X	X	
Escort and under way replenishment ships would remain in the active force and would be reassigned to fill shortfalls or retired at ages now planned by the Navy.	X	X	X
Procurement of new ships and munitions would be delayed and result in savings in the Shipbuilding and Conversion, Navy, and Weapons Procurement, Navy, accounts.		X	X

APPENDIX II

ASSUMPTIONS

	CASES		
	1	2	3
Costs avoided for new ships would be at anticipated fiscal year 1989 prices.		X	X
Fiscal year 1989 procurement plans for Midway battlegroup and underway replenishment ships would be delayed until 1994 without considering shortfalls.			X
Shipbuilding plans would be delayed for only those ships not expected to be in short supply during the 1990s.		X	
Planned munitions procurement for the 15th carrier battlegroup would be delayed until 1995.			X
Munitions procurement would be fully funded because all items are assumed to be in short supply in the 1990s.	X	X	
Ship procurement plans would be fully funded.	X		

APPENDIX III

TABLE III.1. SUMMARY TABLE: FISCAL YEARS 1990 THROUGH 1997 ESTIMATED SAVINGS

	Budget Authority			Outlays		
		Case			Case	
Savings Category	1	2	3	1	2	3
	(Fiscal Year 1988 Dollars in Millions)					
DIRECT OPERATIONS & SUPPORT						
Military Personnel, Navy (a)	0	$491	$853	0	$422	$734
Material & Other Services	$1,100	1,100	2,228	$946	946	1,916
Blister Problem (b)	4	4	4	4	4	4
Total Direct	$1,104	$1,595	$3,085	$950	$1,372	$2,653
INDIRECT OPERATIONS & SUPPORT						
Operations & Maintenance, Navy (c)	0	$879	$1,821	0	$756	$1,566
Retired Pay Accrual	0	150	238	0	150	238
Total Indirect	0	$1,029	$2,059	0	$906	$1,804
COST AVOIDANCE IN PROCUREMENT ACCOUNTS						
Ship	0	0	0	0	$320	$458
Ammunitions	0	0	0	0	0	10
Total Cost Avoidance	0	0	0	0	$320	$468
TOTAL (d)	$1,104	$2,625	$5,144	$950	$2,598	$4,925

(a) Direct Operations and Support military personnel costs are basic pay and allowances of Navy and Marine Corps officers and enlisted personnel assigned to ships or the air wing. Excluded are pay and allowances of officers and enlisted personnel assigned to shore bases, permanent change of station travel, retired pay accrual and other personnel costs indirectly related to ship and air wing operations and support.

(b) Navy cost estimate for modifying the U.S.S. Midway to help correct roll motions and wetness problems.

(c) Operations and Maintenance, Navy base support costs indirectly related to the operations of ships and aircraft (i.e., base operations and support, real property maintenance, etc.)

(d) Totals may vary due to rounding.

TABLE III.2. CASE 1: ESTIMATED COST SAVINGS
(FISCAL YEAR 1988 DOLLARS IN MILLIONS)

BUDGET AUTHORITY

Fiscal Year	DIRECT O&S (O&MN,WPN,OPN,APN) Coral Sea	Midway	Airwing	Total Direct O&S	Midway Blister Problem	Total Estimated Cost
1990	$67	$0	$35	$102	$4	$106
1991	134	0	70	204	0	204
1992	67	55	49	171	0	171
1993	0	111	28	138	0	138
1994	0	111	28	138	0	138
1995	0	111	28	138	0	138
1996	0	111	28	138	0	138
1997	0	55	14	69	0	69
TOTALS	$268	$553	$279	$1,100	$4	$1,104

OUTLAYS

Fiscal Year	DIRECT O&S (O&MN,WPN,OPN,APN) Coral Sea	Midway	Airwing	Total Direct O&S	Midway Blister Problem	Total Estimated Cost
1990	$58	$0	$30	$88	$4	$92
1991	115	0	60	175	0	175
1992	58	48	42	147	0	147
1993	0	95	24	119	0	119
1994	0	95	24	119	0	119
1995	0	95	24	119	0	119
1996	0	95	24	119	0	119
1997	0	48	12	60	0	60
TOTALS	$231	$476	$240	$946	$4	$950

(FISCAL YEAR 1988 DOLLARS IN MILLIONS)

BUDGET AUTHORITY

Fiscal Year	DIRECT O&S (O&MN,MPN,WPN,OPN,APN) Coral Sea	Midway	Airwing	Total Direct O&S	Indirect O&M,N	Indirect MPN (Retired Pay Accrual)	Midway Blister Problem	Total O&S	PROCUREMENT COST AVOIDANCE SCN	WPN	Total Estimated Cost
1989									$1,278	$0	$1,278
1990	$93	$0	$49	$142	$87	$12	$4	$245		0	245
1991	187	0	98	285	174	24	0	483		0	483
1992	93	81	70	245	140	22	0	407		0	407
1993	0	162	42	204	106	20	0	331		0	331
1994	0	162	42	204	106	20	0	331	(1,278)	0	-947
1995	0	162	42	204	106	20	0	331		0	331
1996	0	162	42	204	106	20	0	331		0	331
1997	0	81	21	102	53	10	0	166		0	166
TOTALS	$373	$809	$408	$1,591	$879	$150	$4	$2,625	0	0	$2,625

OUTLAYS

Fiscal Year	DIRECT O&S (O&MN,MPN,WPN,OPN,APN) Coral Sea	Midway	Airwing	Total Direct O&S	Indirect O&M,N	Indirect MPN (Retired Pay Accrual)	Midway Blister Problem	Total O&S	PROCUREMENT COST AVOIDANCE SCN	WPN	Total Estimated Cost
1989										$0	$77
1990	$80	$0	$42	$123	$75	$12	$4	$213	$217	0	431
1991	161	0	85	245	150	24	0	419	256	0	674
1992	80	70	60	210	121	22	0	353	268	0	621
1993	0	139	36	176	91	20	0	288	192	0	479
1994	0	139	36	176	91	20	0	288	51	0	339
1995	0	139	36	176	91	20	0	288	(217)	0	70
1996	0	139	36	176	91	20	0	288	(256)	0	32
1997	0	70	18	88	46	10	0	144	(268)	0	(125)
TOTALS	$321	$696	$351	$1,368	$756	$150	$4	$2,279	$320	0	$2,598

APPENDIX III

TABLE III.4. CASE 3: ESTIMATED COST SAVINGS
(FISCAL YEAR 1988 DOLLARS IN MILLIONS)

BUDGET AUTHORITY

Fiscal Year	DIRECT O&S (O&MN,MPN,WPN,OPN,APN)			Total Direct O&S	Indirect O&M,N	Indirect MPN (Retired Pay Accrual)	Midway Blister Problem	Total O&S	PROCUREMENT COST AVOIDANCE		Total Estimated Cost
	Coral Sea	Midway	Airwing						SCN	WPN	
1989									$1,832	$245	$2,077
1990	$93	0	$136	$229	$141	$17	$4	$391			391
1991	187	0	271	458	282	34	0	774			774
1992	93	$81	271	445	267	34	0	746			746
1993	0	162	271	433	251	34	0	718			718
1994	0	162	271	433	251	34	0	718	(1,832)	(245)	(1,359)
1995	0	162	271	433	251	34	0	718			718
1996	0	162	271	433	251	34	0	718			718
1997	0	81	136	216	126	17	0	359			359
TOTALS	$373	$809	$1,898	$3,081	$1,821	$238	$4	$5,144	0	0	$5,144

OUTLAYS

Fiscal Year	DIRECT O&S (O&MN,MPN,WPN,OPN,APN)			Total Direct O&S	Indirect O&M,N	Indirect MPN (Retired Pay Accrual)	Midway Blister Problem	Total O&S	PROCUREMENT COST AVOIDANCE		Total Estimated Cost
	Coral Sea	Midway	Airwing						SCN	WPN	
1989									$110	$16	$126
1990	$80	0	$117	$197	$121	$17	$4	$339	311	79	729
1991	161	0	233	394	243	34	0	670	366	95	1,131
1992	80	$70	233	383	229	34	0	646	385	30	1,061
1993	0	139	233	372	216	34	0	622	275	10	907
1994	0	139	233	372	216	34	0	622	73	(16)	680
1995	0	139	233	372	216	34	0	622	(311)	(79)	232
1996	0	139	233	372	216	34	0	622	(366)	(95)	162
1997	0	70	117	186	108	17	0	311	(385)	(130)	(103)
TOTALS	$321	$696	$1,632	$2,649	$1,566	$238	$4	$4,458	$458	$10	$4,925

APPENDIX III

COST TO OPERATE THE MIDWAY BATTLEGROUP

In addition to estimating the potential savings available by retiring the Midway and Coral Sea aircraft carriers early, we were asked to calculate how much it costs annually to operate and support the Midway carrier battlegroup.

The Navy has classified SECRET the exact make-up of both the current and notional Midway carrier battlegroup. This data has been provided separately to the Committee. In general, however, in addition to the aircraft carrier, the current battlegroup is composed of surface combatants, attack submarines, support ships, a helicopter squadron, and an air wing composed primarily of A-6E and F/A-18 aircraft. The Midway-type notional battlegroup is composed of more capable surface combatants, submarines, a larger fleet of underway replenishment ships--along with helicopters--a larger helicopter squadron, and the same air wing as in the current configuration.

We calculated the annual operating cost in two different ways. We first calculated the estimated cost to operate the Midway carrier battlegroup as it is currently configured. This configuration costs about $1 billion annually to operate and support. We also calculated the cost to operate and support a notional Midway

carrier battlegroup configuration. Outlays for this type of configuration would be about $1.4 billion annually for both direct and indirect costs. Funding requirements for the notional battlegroup are higher because this configuration incorporates the newer, larger, and more sophisticated escorts and helicopters found in Navy's fleet modernization plan. The total funding requirements also include the additional escorts and supply ships necessary to meet the notional requirements for the underway replenishment group that accompanies the Midway. Budget authority would be somewhat higher than this due to the lower average spend-out rates for some accounts. These amounts are shown in table IV.1, below.

TABLE IV.1: SUMMARY OF ANNUAL COST TO OPERATE AND SUPPORT A MIDWAY BATTLEGROUP

Cost Category	Budget Authority		Outlays	
	Current	Notional	Current	Notional
	(Fiscal Year 1988 Dollars in Millions)			
DIRECT OPERATIONS & SUPPORT				
Military Personnel	$200	$280	$172	$241
Material & Other Services	524	747	451	642
Total Direct	$724	$1,027	$623	$883
INDIRECT OPERATIONS & SUPPORT				
Operations & Maintenance, Navy	$413	$567	$355	$488
Retired Pay Accrual	57	77	57	77
Total Indirect	$470	$644	$412	$565
TOTAL (a)	$1,194	$1,671	$1,034	$1,448

(a) Totals may vary due to rounding.

OBJECTIVES, SCOPE AND METHODOLOGY

Our objective was to determine the potential direct and indirect budgetary savings for fiscal years 1990 through 1997 that may result from accelerating the retirement of the Coral Sea and the Midway, and decommissioning a Midway-type air wing. This analysis included determining potential ship construction and other procurement savings available by delaying fiscal year 1989 plans by 5 years. In estimating procurement cost avoidances, we considered Navy acquisition plans, projected shortfalls of ships, aircraft, and weapons, and substitution between new and older class ships. We also estimated the total annual operating and support costs for both a notional and currently configured aircraft carrier battlegroup, separately identifying expenditures for the carrier, escorts and underway replenishment ships and aircraft. Our Midway-type battlegroup estimates included direct and indirect operating and support costs in military personnel, operations and maintenance, and procurement accounts.

Data sources used to calculate direct and indirect costs, and procurement cost avoidances were:

-- Navy's Visibility and Management of Operating and Support Costs Total Support System reports for ships and aircraft (VAMOSC-Ships and VAMOSC-Air),
-- DOD budget justification documents,
-- Navy cost analysis documents,
-- Navy's program plan and extended planning annex,
-- Navy's March 1985 and October 1987 Surface Ship Combat Systems Master Plans, and
-- GAO report, Navy Ships: Status of the Navy's Fleet Expansion Efforts, GAO/C-NSIAD-88-3, October 27, 1987.

All cost data is shown in 1988 constant dollars using May 1987 inflation data from the "National Defense Budget Estimates for Fiscal Year 1988/1989" issued by the Office of the Assistant Secretary of Defense (Comptroller). Composite outlay rates were calculated using DOD data, taking into account expenditures that would occur from current year funding authority as well as funds authorized in previous years.

VAMOSC reports provide a comprehensive and readily available single source of actual operating and support expenditures for active ships and aircraft. VAMOSC data elements, collected from various budget and accounting reporting systems, parallel the operating and

support costs elements and guidelines of the Office of the Secretary of Defense (OSD) Cost Analysis Improvement Group.

VAMOSC-Ships is an on line data base containing ten years of historical data. It contains direct operating and support expenditures for 21 ship types by class and hull number with data broken down into 121 data elements. The Navy tests VAMOSC reports yearly when new data sources and/or formulas are introduced into the system. Our evaluation indicates that data elements are relatively accurate and historically consistent.

VAMOSC-Air data are collected and prepared annually as hard copy reports. These reports contain direct operating and support expenditures for every aircraft type, model, and series in the Navy inventory. Although the VAMOSC-Air reports are available from fiscal year 1975, the format and data elements are not historically consistent and only the data for fiscal years 1985 and 1986 meet Navy verification standards.

In estimating direct operating and support costs, we examined historical VAMOSC-Ships data for trends by taking 3, 4, and 5 year moving cost averages for both the Coral Sea and the Midway. The 5 year averages best smoothed out annual cost variances and were used

for estimating direct operating and support costs and potential budgetary savings for all ship types and classes.

We identified annual operating and support cost data for all ships and aircraft in the Navy's current and notional Midway battlegroup configuration. At our request, the Navy's VAMOSC-Ships staff prepared a special report entitled "Total Support System Report" which presented fiscal years 1982 through 1986 operating and support expenditures, averaged by selected ship types and classes in our model. We aggregated cost data elements into three groups to show operation and maintenance, military personnel, and procurement expenditures.

All aircraft in the notional Midway air wing and on the carrier battlegroup escort and underway replenishment ships are represented in our model. Because historically consistent data were not available for aircraft operating and support costs, direct aircraft operating and support costs were estimated using average fiscal year 1985 and 1986 VAMOSC-Air reports. Since the Midway battlegroup is home-ported in Japan, we used the Pacific Fleet cost data and weighted the variable costs by flying hours to calculate the 2 year average. Notional aircraft figures were multiplied by 1.5 to factor in additional operation and maintenance and procurement costs associated with fleet readiness squadrons, the

maintenance pipeline, and attrition. A factor of 1.25 was used for additional military personnel costs.

Estimates of indirect operating and maintenance costs were developed from both VAMOSC and Navy budget data. Although VAMOSC reports accounted for almost all direct operating and support expenditures, VAMOSC captured only those costs that could be easily allocated to specific ships and aircraft.

We reviewed the Operations and Maintenance, Navy (O&M,N) budget justification data to determine whether direct and indirect costs were identified separately. Certain budget activities such as base operating support and real property maintenance were clearly distinguishable as indirect costs. Other budget categories, such as field operations and procurement support, contained a mixture of direct and indirect costs.

We compared data elements in the VAMOSC reports and the budget documents and found that the O&M,N budget line items do not correspond to the data elements in VAMOSC reports. However, after a detailed review of data elements, we could not identify any direct O&M,N expenditures that may have been omitted from VAMOSC reports.

Based on this analysis, and discussions with Navy and other financial managers, we concluded that it was reasonable to assume VAMOSC reports contained all direct operation and maintenance expenditures. Thus, we calculated total indirect O&M,N costs as the difference between total O&M,N budget outlays and VAMOSC operation and maintenance expenditures (for both ships and aircraft). The ratio between the total indirect O&M,N and the total VAMOSC operating and support outlays for fiscal years 1985 and 1986 was then applied to individual ships and aircraft in our cost model.

To estimate indirect military personnel costs we used military personnel line items in budget documents and VAMOSC data elements. We found that VAMOSC reported only 36 percent of fiscal year 1986 Military Personnel, Navy (MPN) expenditures. MPN line items indirectly associated with the operation and support of ships and aircraft omitted from VAMOSC reports included retired pay accrual as well as basic and special pay categories for those military personnel assigned to shore bases.

We calculated average retired pay accrual for officers and enlisted personnel assigned to the individual ships and associated aircraft. These calculations are based on fiscal year 1988 and 1989 budget justification documents which show that retired pay accrual equals

about 50 percent of basic pay for all military personnel. Using actual fiscal year 1986 expenditures (inflated to fiscal year 1988 constant dollars) this indirect cost was allocated proportionally to individual ships and aircraft in our cost model.

Our estimates include payments from MPN to the military retirement fund, but exclude the retired pay accrual for military personnel assigned to shore bases that support the battlegroups. Because data does not distinguish between personnel directly supporting battlegroup operations and those that support other Navy functions (e.g., research and development or procurement of new ships, etc.), our cost estimates also do not include the basic pay and special pays for military personnel assigned to shore bases. This resulted in a conservative estimate of potential savings for indirect MPN expenditures.

Several options existed for calculating the estimated reductions in the Navy's shipbuilding and munitions budgets. For example, for case II we calculated procurement savings taking into account shortages of both ships and munitions and substitution criteria. We estimated shortages by comparing current force levels with force requirements listed in the Navy's October 1987 Surface Ships Combat Systems Master Plan. Savings decreased when we considered shortfalls, but were unaffected when we considered substituting

older ships for new ships. There were no munitions savings when we considered shortfalls.

In case III, we analyzed the potential budgetary savings in the Shipbuilding and Conversion, Navy (SCN) and Weapons Procurement, Navy (WPN) accounts assuming that (1) escorts and underway replenishment ships serving the Midway would be reassigned, and (2) fiscal year 1989 planned procurement of ships and munitions needed for the 15th battlegroup would be postponed until 1994. This savings option would produce outlay savings between 1989 and 1994, and also provide 4 years to meet the 1997 ship requirements. Outlay savings decrease sharply in fiscal year 1994 when ship expansion plans would resume. Procurement cost avoidance estimates consider offsetting expenditures in later years, but do not consider advance procurement funds appropriated in years prior to fiscal year 1989.

This analysis identified ships the Navy could avoid purchasing in fiscal year 1989 that are part of the notional battlegroup (as defined in the October 1987 Surface Ships Combat Systems Master Plan) without considering whether any of these ships are in short supply. We also calculated the savings associated with postponing the procurement of ship munitions. These savings represent the value of threat munitions, self defense weapons and resupply on

APPENDIX V

ships that, under this scenario, could be deleted from the fiscal year 1989 WPN budget plan.