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United States General Accounting Office
Washington, DC 20548

February 26, 2001

The Honorable Pete V. Domenici
Chairman
Committee on the Budget
United States Senate

Subject: Budget Issues: Incremental Funding of Capital Asset Acquisitions

Dear Mr. Chairman:

In your August 23, 2000, letter you asked us to (1) identify the extent to which capital projects are funded incrementally; (2) illustrate the effects of incremental funding by assessing the implications for future DOD budgets if the Navy's shipbuilding and conversion account were to change from full to incremental funding; (3) examine the consequences of the past use of incremental funding, including lease-purchases, at civilian agencies and the Department of Defense (DOD); and (4) provide ideas that might be helpful to the Congress in promoting more-effective budgeting for capital asset acquisitions.

On December 21, 2000, we briefed the Committee staff on the results of our work. As agreed with your office, we later briefed the staffs of the Senate Committee on Armed Services, Senate Committee on Appropriations, and the House Committee on Appropriations. This letter summarizes our work and transmits briefing slides.

To identify incrementally funded projects, we reviewed fiscal year 2001 Budget Justifications and agency documentation for 18 agencies involving approximately 700 individual projects. We identified projects that have received funding through fiscal year 2000 and are still in progress. To illustrate the effects of incremental funding on the Navy's shipbuilding and conversion account, we used the Navy's fiscal year 2002 Program Objective Memorandum to determine the full-funding baseline and developed four notional incremental funding scenarios. To examine the consequences of past incremental funding, we researched prior GAO work in this area. We conducted our review between August and December 2000 in accordance with generally accepted government auditing standards. We obtained comments from DOD, Army Corps of Engineers, NASA, Federal Bureau of Prisons, and the U.S. Coast Guard on the slides relevant to each. The agency officials concurred with the accuracy of the information contained in the slides. The Office of Management and Budget (OMB) reviewed the entire briefing and concurred with our position on full funding.

Background

Capital projects can be grouped into three funding categories: full funding, incremental funding, and high technology. Fully funded capital projects are those for which budget authority is or appears to be provided for the full estimated cost of a capital project or a stand-alone stage if the project is divisible into stages. Fully funded projects also include the survey and design of a capital project and a major upgrade or renovation that results in a usable asset. Incrementally funded capital projects are projects for which budget authority is or appears to be provided for only part of the estimated cost of a capital acquisition or part of a usable asset. High technology capital projects are incrementally funded projects for which budget authority is or appears to be provided for only part of the estimated cost of information technology acquisitions or projects that are highly dependent on research and development and highly uncertain in outcome. Space exploration equipment would be an example of such a project. Incremental funding can be justified for high technology capital projects because such projects are often closer in nature to research and development and funding provided on an incremental basis can provide useful knowledge even if no additional funding is provided. GAO has advocated full funding for capital asset acquisitions as a way to increase recognition of implied commitments embodied in budgetary decisions as compared to the incremental funding approach. OMB and others in the budget community have supported and endorsed this concept. The Navy and DOD also are proponents of the full-funding approach.

Results in Brief

We identified civilian nondefense agency capital projects with total estimated costs of $175.6 billion, based on agency Budget Justifications and other agency data. Costs for incrementally funded and high technology civilian projects are estimated to total $154.7 billion. Of this amount, $78.5 billion in budget authority has been provided through fiscal year 2000, leaving $76.2 billion of budget authority still required after fiscal year 2000 to complete these projects, a requirement that constitutes a claim on discretionary spending in future years. About half of the $154.7 billion total is for high technology projects. Because some capital projects have unknown or "yet to be determined" funding requirements beyond the fiscal year 2001 request, the remaining budget authority needed to complete all projects is actually greater than the $76.2 billion identified and assumes no further cost growth. This budget authority relates only to civilian projects. DOD spending for capital acquisitions is generally fully funded; its fiscal year 1999 capital spending totaled almost $53 billion. (See slides 12 and 13.)

If the Navy shipbuilding and conversion account were to be moved from full to incremental funding for a given period of time, this would not allow the Navy to procure more ships for a given amount of funding. Additional ships would require additional funding. After the initial year, incremental funding reduces the amount of budget authority available to fund new ships in any given fiscal year because a portion of the funding must be devoted to completing ships partially funded in prior years. In addition, there is a risk of cost growth associated with all capital projects—cost growth has occurred with fully funded projects as well as incrementally funded projects. Any cost growth on ships partially funded in prior years would further reduce the funding available

for new ships. In addition, costs and commitments continue beyond the years depicted in the briefing slides in all scenarios. (See slides 20 to 29.)

There are several other budgetary implications as well as acquisition management issues related to incremental funding for the Navy and for agencies in general. In general, full funding ensures that the full estimated costs of decisions are recognized at the time that the commitment is made. Incremental funding erodes future fiscal flexibility for programs such as shipbuilding because funding is dedicated to completing procurements begun in previous years. According to DOD and OMB officials, incremental funding also limits cost visibility and accountability. These officials believe that acquisition estimates are likely to increase because there would be an incentive to "low ball" the estimate at the beginning. Additionally, contractors may hedge their bets on pricing because they may not be able to take advantage of economies of scale that can come with longer-term and more certain commitments. (See slides 30 and 31.)

The use of incremental funding and lease-purchase arrangements in the past has had some negative consequences. For example, a 1996 GAO report[1] cited incremental funding as a key factor underlying Department of Energy project cost overruns and schedule delays. Another GAO report[2] found that the use of long-term leases for auxiliary ships in the 1970s and 1980s resulted in higher costs per ship. (See slides 33 and 34.)

Promoting effective management of capital asset acquisitions is important. We recognize that some incremental funding for high technology acquisitions is justified because, while such projects are intended to result in a usable asset, they are closer in nature to research and development activities. However, for other capital projects, as we have previously reported,[3] full funding is an important tool for maintaining governmentwide fiscal control. Failure to recognize the full costs of proposed commitments when budget decisions are made could lead to distortions in the allocation of resources.

During the course of our review, we also found that the data supporting agency capital project requests are often incomplete and/or not clear. For example, some project requests did not include the total estimated project costs. For other requests, the project descriptions were vague, making it difficult to determine future costs or whether funding provided would produce a usable asset. Since there is value in providing executive and legislative decision-makers the best possible information, we plan to discuss with OMB some options for improved reporting.

We will send copies of this letter to Senator Kent Conrad, Senator Ted Stevens, Senator Robert C. Byrd, Senator John Warner, Senator Carl Levin, Representative Jim Nussle,

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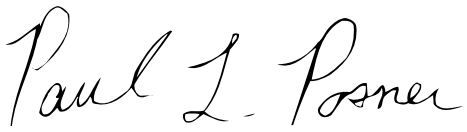
[1] *Department of Energy: Opportunity to Improve Management of Major System Acquisitions* (GAO/RCED-97-17, Nov. 26, 1996).
[2] *Defense Acquisitions: Historical Analyses of Navy Ship Leases* (GAO/NSIAD-99-125, June 25, 1999).
[3] *Accrual Budgeting: Experiences of Other Nations and Implications for the United States* (GAO/AIMD-00-57, Feb. 18, 2000) and *Budget Issues: Budgeting for Federal Capital* (GAO/AIMD-97-5, Nov. 12, 1996).

Representative John M. Spratt, Jr., Representative C.W. Bill Young, Representative David Obey, Representative Bob Stump, and Representative Ike Skelton in their capacities as Chair or Ranking Member or Ranking Minority Member of Senate or House Committees. We also will send a copy to the Honorable Mitchell E. Daniels, Jr., Director, Office of Management and Budget. Copies will be made available to others on request.

We appreciate the opportunity to be of assistance. If you or your staff have any questions regarding the briefing or this letter, please contact me at (202) 512-9573 or Christine Bonham, Assistant Director, at (202) 512-9576. Key contributors to this review were Trina Lewis, Jennifer Eichberger, and David Best.

Sincerely yours,



Paul L. Posner
Managing Director, Federal Budget
Strategic Issues

Enclosure

Briefing for the Senate Budget Committee on

Incremental Funding of Capital Asset Acquisitions

December 21, 2000

Agenda

- Background
- Objectives, scope, methodology, and data limitations
- Civilian capital projects funded through fiscal year 2000 and future resources required
- Department of Defense capital spending
- Agency capital project examples
- Navy Shipbuilding—incremental funding scenarios
- Budgetary and other acquisition management issues related to incremental funding
- Consequences of past incremental funding (including lease-purchases)
- More effective budgeting for capital asset acquisitions
- Related GAO products

Background

- **Full Funding**
  - GAO has advocated full funding for capital projects as a way to increase recognition of implied commitments embodied in budgetary decisions. OMB's capital programming guidance has endorsed this concept, and it was supported by the President's Commission to Study Capital Budgeting.
  - Full funding is defined as the practice of providing budget authority for the full costs of a capital acquisition or project at the time decisions are made to provide financial resources.
  - Full funding need not mean the entire project if the project is divisible into stand-alone stages. For such a project full funding is providing budget authority sufficient to complete a stand-alone stage. A stand-alone stage is a component of a project that either (1) provides information that allows for the planning, design, and assessment of costs, benefits, and risks of a potential acquisition or (2) results in a usable asset for which the benefits exceed the costs even if no further funding is provided.
  - OMB considers the use of a combination of regular and advance appropriations as satisfying the full-funding concept.
  - Navy and DOD are proponents of full funding.

Background

- **Incremental Funding**
  - Incremental funding is the practice of providing budget authority for only a portion of a capital acquisition or project—a portion that would not be usable if no further funding were provided. Incremental funding is usually funding sufficient to cover obligations estimated to be incurred in one fiscal year. Funding to continue the project would need to be requested from the Congress each year unless advance appropriations were provided.
  - Although OMB considers advance appropriations as consistent with full funding, the practice could be viewed as a form of incremental funding.
- **Capital Investment Defined**
  - Capital asset spending within the scope of this study is defined as spending for defense weapons systems; other procurement, buildings, natural resource projects; and a wide variety of other construction and equipment owned by the federal government and used to deliver federal services. It includes not only the assets as initially acquired, but also major improvements, renovations, and repairs.
  - Capital asset spending also includes spending for information technology and research and development activities directly intended to result in a usable capital asset.

Background

- **Perspective on Magnitude of Current Capital Investment**
  - $74.7 billion outlays in fiscal year 1999 on direct major physical capital; represents 4.4 percent of fiscal year 1999 total direct federal outlays.
    - $53.9 billion outlays on defense-related capital assets.
    - $20.8 billion outlays on nondefense capital assets.
  - President's fiscal year 2001 budget estimated $75.7 billion outlays in fiscal year 2000 and $78.5 billion outlays in fiscal year 2001 on direct major physical capital.

Objectives

- Senate Budget Committee requested that GAO:
  - Identify incrementally funded capital projects at major capital-owning agencies.
  - Assess the implications for the Navy's shipbuilding and conversion account if its funding were changed from full to incremental and illustrate this with scenarios.
  - Examine the consequences of the past use of incremental funding, including lease-purchase arrangements, at civilian agencies and DOD.
  - Provide ideas that might assist the Congress in promoting more effective budgeting for capital assets.

Scope and Methodology

- Using GAO's Budget Database, identified agencies with capital outlays in fiscal year 2000. This database contains data taken from OMB's MAX system—the computerized system used to collect and process information needed to prepare the President's Budget.

- Identified 25 entities whose capital spending covers over 80 percent of fiscal year 2000 capital spending (excluding military procurement which was separately addressed). Reviewed data for approximately 700 individual projects.

- Data sources: fiscal year 2001 Budget Justifications, agency capital plans, other agency documents, and OMB, CBO, and GAO staff.

- Identified agency capital projects that have received funding through fiscal year 2000 and are still in progress (on-going). Did not identify fiscal year 2001 appropriated amounts.

- Included data such as estimated total project cost, funding provided through fiscal year 2000, advance appropriations requested (if any), and computed estimated costs to complete project.

Scope and Methodology

- Grouped capital projects into three categories of funding:
  - Full funding: budget authority is or appears to be provided for the full estimated cost of a capital project or stand-alone stage, including the survey and design phase of a project and major upgrade or renovation resulting in a usable asset.
  - Incremental funding: budget authority is or appears to be provided for only part of a capital project or part of a usable asset; requires additional funding to complete acquisition.
  - High technology: incremental budget authority is or appears to be provided for information technology projects and capital projects that are highly dependent on research and development and highly uncertain in outcome, such as space exploration equipment.

Scope and Methodology

- For Shipbuilding and Conversion account, used Navy's fiscal year 2002 Program Objective Memorandum to determine baseline. Then developed 4 scenarios: (1) baseline funded incrementally over 3 years; (2) additional ships added to baseline and funded incrementally over 3 years; (3) additional ships added to baseline and funded incrementally over 5 years; and (4) selected ship classes (Carriers and Amphibious ships) incrementally funded over 3 years.

- The DOD, Army Corps of Engineers, NASA, Federal Bureau of Prisons, and Coast Guard have each reviewed the relevant slides. The Office of Management and Budget has reviewed the entire briefing.

Data Limitations and Required Judgments

- Accuracy of Budget Justification and other agency data not verified.
- Level of detail needed to completely judge whether funding was for a stand-alone stage was not always provided in the data source we used; classifying spending required significant use of team judgment based on available data and time constraints. Agencies may be able to provide additional clarifying data if questioned in detail on each project.
- Most agencies have not reviewed and agreed with judgments made.
- No assurance that all of capital projects were identified in all agencies.
- Data for the Environmental Protection Agency and the Department of Veterans Affairs were not received in time to review and analyze.
- In seeking to identify consequences of past use of incremental funding we may not have identified all past uses.

List of Agencies/Bureaus

Army Corps of Engineers

Bureau of Prisons

Bureau of Reclamation

Centers for Disease Control & Prevention

Coast Guard

Department of Defense

Department of Energy

Department of Housing & Urban Development

Department of Veterans Affairs

Environmental Protection Agency

Federal Aviation Administration

Food & Drug Administration

Federal Railroad Administration

General Services Administration

Indian Health Services

Internal Revenue Service

NASA

National Institutes of Health

National Oceanic & Atmospheric Administration

National Park Service

National Science Foundation

Smithsonian Institution

Department of State

Tennessee Valley Authority

U.S. Postal Service

Summary Tables

Civilian Capital Projects Funded Through Fiscal Year 2000 and Future Resources Required

Type of Funding (Dollars in Thousands)	Total Budget Authority to Date and Identified Future Requirements	Total Budget Authority Provided Through Fiscal Year 2000	Remaining Budget Authority Required After Fiscal Year 2000*	Future Requirements Requested as Advance Appropriations[a]
Incrementally Funded- Civilian	**$76,751,876**	**$31,421,676**	**$45,330,200**	**$1,621,379**
High Technology- Civilian	**77,930,848**	**47,018,861**	**30,911,987**	**14,179,954**
Fully Funded- Civilian	**20,915,871**	**13,200,243**	**7,715,628[b]**	**1,437,075**
Total- All Projects	**$175,598,595**	**$91,640,780**	**$83,957,815**	**$17,238,408[c]**

*Some projects included have funding requirements beyond the FY 2001 request that are unknown or yet to be determined, therefore the remaining budget authority that will be required after FY 2000 is certainly greater than the numbers presented here.

[a] Advance appropriations amounts represent amounts agencies requested in the FY 2001 budget request. These advance appropriations ranged from FY 2002 through 2008. Advance appropriation totals are included in the "Remaining Budget Authority Required After Fiscal Year 2000" totals as well.

[b] This amount was identified by agencies as their planned future requests related to fully funded projects.

[c] Approximately $4.8 billion in advance appropriations are not included in this total because they were requested for projects starting in FY 2001 or later and therefore are not in the scope of this tabulation.

Department of Defense Capital Spending (Fully Funded) [a]

Account (Dollars in Thousands)	Capital Outlays			Advance Appropriation Request[b]
	FY 1999	FY 2000 (estimate)	FY 2001 (estimate)	
Armed Forces Retirement Home (Civilian)				$6,000
Family Housing	$731,000	$898,000	$801,000	
Military Construction	$3,333,000	$3,248,000	$3,640,000	$821,000[c]
Operation and Maintenance	$426,000	$480,000	$333,000	
Procurement	$48,288,000	$47,356,000	$50,215,000	
Total	$52,778,000	$51,982,000	$54,989,000	$827,000

Source: GAO Budget Database, Capital Expenditures by Character Class; President's Budget, Fiscal Year 2001, Analytical Perspectives.

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[a] Two procurement projects were determined to be exceptions to the full funding concept:

At a unit cost of $1,922.8 million, the last of eight LHD-1 amphibious assault ships is being incrementally funded. The LHD-8 received $44.2 million in budget authority in FY1999, $356.2 million in FY2000, and $460 million in FY2001, leaving a balance of $1,062.4 million.

The LPD-17 amphibious ships have been fully funded through FY2000, but in FY2001 received $560.7 million to fund 2 ships with a unit cost of $744.6 million each.

[b] Advance appropriations amounts represent amounts DOD plans to request as advance appropriations in FY 2002 through 2005.

[c] These advance appropriations are to fully fund selected military construction and family housing projects in the DOD.

Some Specific Examples

Army Corps of Engineers
Incrementally Funded Project

Project Name: Atlantic Intracoastal Waterway Bridge at Great Bridge, VA

Brief Description: Replacement of the existing federal bridge. New bridge provides 5 lanes, 2 shoulders, and pedestrian walkways.

Funding Stream (Budget Authority in Thousands of Dollars):

Estimated Federal Cost	Provided Through FY 1999	Provided in FY 2000	Requested in FY 2001	Required After FY2001 to Complete Project
$24,054	5,066	2,573	8,492	7,923

Key Phrases (terms & phrases used to determine funding category):

- Funds to initiate preconstruction engineering and design were appropriated in FY1995. Funds to initiate construction were appropriated in FY1998.
- Status as of Jan 1, 2000- 10% complete
- Physical Completion Schedule- September 2002
- The requested amount in Fiscal Year 2001 will be applied as follows:

Continue construction	$7,592,000
Construction management	$ 900,000
Total	$8,492,000

U.S. Coast Guard
Incrementally Funded Project

Project Name: Alex Haley Conversion Project- Phase II

Brief Description: CGC Alex Haley was recently converted to operate in the harsh Alaska/Bering Sea. Improvements to crew habitability, operation capability, and machinery and personal safety are still required. Plans include the installation of a helicopter hangar to allow deployment of HH-65 helicopter; installation of a machinery space fixed fire suppression system; and installation of an onboard trash incinerator.

Funding Stream (Budget Authority in Thousands of Dollars):

Estimated Federal Cost	Provided Through FY 1999	Provided in FY 2000	Requested in FY 2001	Required After FY2001 to Complete Project
TBD	$20,000	0	3,200	TBD

Funding Descriptions:

FY1998	Project Start-up
FY1999	Completion of Phase I Vessel Conversion
FY2001	Engineering, Design & Long Lead Time Material procurement
FY2002 – FY2004	Phase II Production
FY2005	Project Completion

National Aeronautics and Space Administration Incrementally Funded Project—High Technology

Relativity Mission/ Gravity Probe- B

The development of the Relativity mission began in 1993, after many years of studying mission design alternatives and developing the advanced technologies required for this mission to verify Einstein's theory of general relativity. The award of the spacecraft development contract was made in 1994. The scheduled launch date is September 2001, using a Delta II launch vehicle.

(Budget Authority in Thousands of Dollars)

Activity	Prior to FY1999	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	TOTAL
Development	$388,200	$46,500	$37,700	$13,800			$486,200
Mission Operations*				1,000	1,000	1,000	3,000
Data Analysis*				8,000	5,200	3,100	16,300
Launch Support	24,100	14,800	12,200				51,100
Tracking & Data Support*							TBD
Total (Excluding Civil Service Costs)	**$412,300**	**$61,300**	**$49,900**	**$22,800**	**$6,200**	**$4,100**	**$556,600**

*These line items are not included in the capital spending totals found on page 17 because they fund operation activities.

Federal Bureau of Prisons
Use of Advance Appropriations

The prisons listed below are being fully funded in stand-alone stages by the Bureau of Prisons. The first-year appropriations will fund the site planning/preparation phase of the prison. The funds in year two will provide for a design/build contract.

(Budget Authority in Thousands of Dollars)

Planned Future Prisons:	FY 2001 Request	Advance Appropriation Request	
		FY 2002	FY 2003
Funding Starting in 2001			
USP Western	$11,930	$147,000	
USP Southeast	11,931	133,000	
FCI Southeast	5,430	106,000	
FCI Mid-Atlantic 1	5,430	121,000	
FCI Midwestern	5,431	131,000	
SubTotals	$40,152	$638,000	
Funding Starting after 2001			
FCI Western		$6,000	$131,000
FCI South Central		5,000	115,000
FCI Northeast		5,000	133,000
FCI Mid-Atlantic 2		5,000	133,000
Mid-Atlantic Secure Female		2,000	23,000
SubTotals		$23,000	$535,000
TOTAL	**$40,152**	**$661,000**	**$535,000**

Navy Shipbuilding

Navy Shipbuilding
Incremental Funding Scenario Observations

- For a given period of time, incremental funding does not procure more ships for a given amount of funding. More ships will require more funding.

- Incremental funding creates funding commitments in later years in order to complete ships partially funded in prior years that at some point require either increased total funding or reduced funding for new ships.

- Cost growth on incrementally funded ships would further increase the total funding requirements in the following years and/or further reduce funding for new ships. Cost growth currently happens under the full-funding approach. Cost growth was not factored into the model that follows.

- Costs and commitments continue beyond the years depicted in all scenarios. While more ships are initiated in some scenarios, approval of the total budget authority to finish those ships is completed over a longer time frame.

Navy Shipbuilding
Incremental Funding Scenarios

- First—present a scenario run against the shipbuilding account covering FY 2001 to 2006 in which procurements are incrementally funded over rolling 3-year periods.
  - Assumptions Scenario 1 (baseline) is essentially the Navy's 2002 Program Objective Memorandum; advanced procurements are only considered for the aircraft carrier and the DD-21; incremental funding is evenly divided; quantity procured is unchanged; no cost growth is included (although cost growth regularly occurs for fully funded programs).
- Second—present two scenarios in which funding initially freed up is used for additional ship construction and examine the budgetary effect. Incrementally fund all previously planned procurements plus additional ships:
  1. Scenario 2: Rolling 3-year period and
  2. Scenario 3: Rolling 5-year period
- Third—present a fourth scenario in which incremental funding is applied to only selected ship classes (Carriers and Amphibious ships) on a rolling 3 year period, with no additional ship purchases.

Navy Shipbuilding
Baseline Ship Profile

- Created a baseline from the Navy's 2002 Program Objective Memorandum.

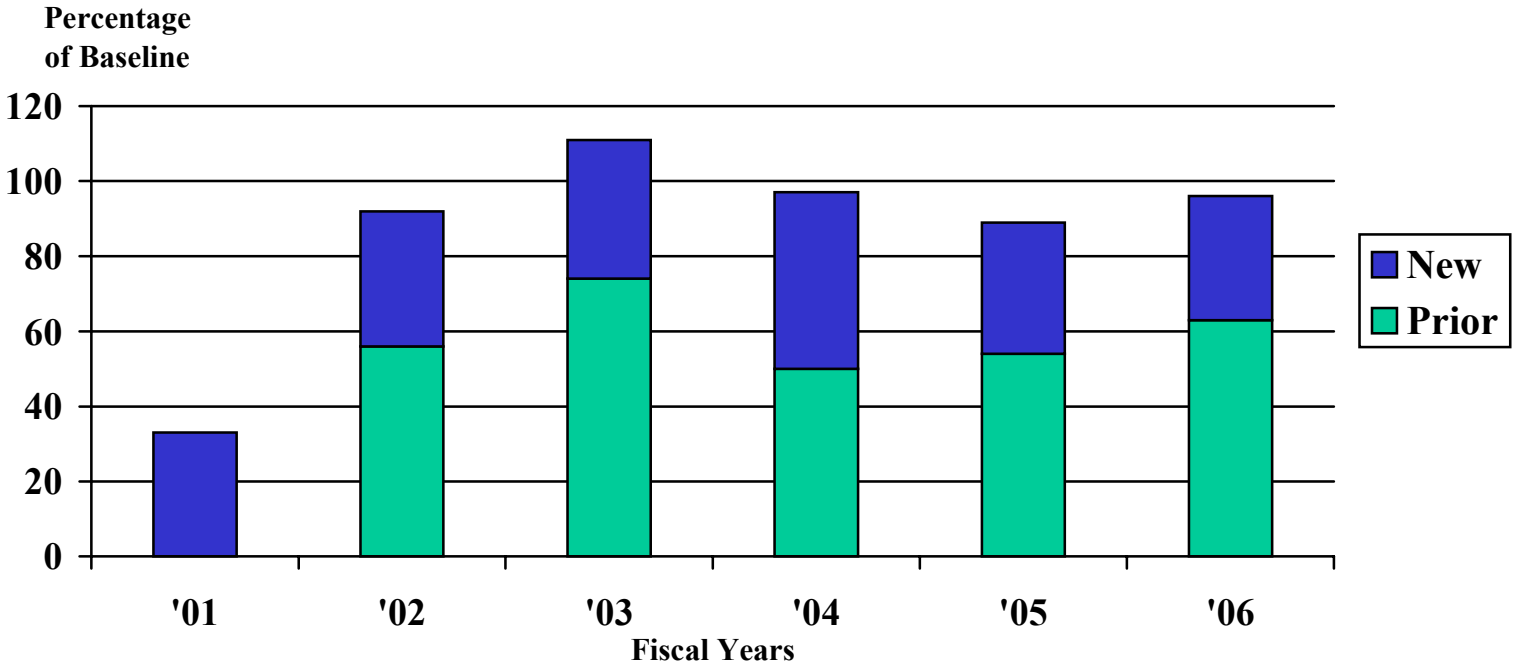
Baseline

Fiscal Year	2001	2002	2003	2004	2005	2006	Total
CVN 77	1						**1**
CVN (X)	AP	AP	AP	AP	AP	1	**1**
NSSN	1	1	1	1	1	1	**6**
DDG-51	3	2	2	2	1		**10**
DD-21				AP	1		**1**
LHD					1		**1**
LPD-17	0	1	2	2	1		**6**
TADC(X)	1	2	2	2	1	2	**10**
JCC(X)					0	1	**1**
Quantity	**6**	**6**	**7**	**7**	**6**	**5**	**37**
Funding (billions)	**$9.41**	**$5.58**	**$6.64**	**$7.82**	**$7.63**	**7.30**	**$44.38**

Notes: (1) AP is advance procurement and only included for the carrier and the DD-21. (2) No LPD-17s are procured in fiscal year 2001, based on congressional action. (3) LHD-8 is treated as fully funded in fiscal year 2005. (4) Ship designations: CVNs are aircraft carriers, NSSNs are submarines, DDGs and DDs are destroyers, LHD and LPDs are amphibious ships, TADCs are auxiliary vessels, and the JCC is a command ship.

Navy Shipbuilding
Incremental Funding Scenario 1

- Scenario 1: The baseline incrementally funded on rolling 3-year periods, broken into prior-year commitments and new procurement. Expressed as a percentage relative to the baseline for each fiscal year (see p. 27).



Observations: (1) Commitments of about $7.3 billion made in fiscal years 2005 and 2006 would carry over into 2007 and 2008 in order to complete ships funded in 2005 and 2006. (2) While significantly less budget authority is needed in year 2001, this benefit declines or disappears in future years. (3) Available discretionary funding is reduced by between 50% and 74% in fiscal years 2002 through 2006 in order to fund the completion of ships partially appropriated in prior years. (4) Cost growth could significantly reduce or eliminate any "freed-up" budget authority. For example, in fiscal year 2002 there is about $500 million in freed-up budget authority, however, recent press accounts indicate that the LPD ship class has had a $200 million cost growth. If that cost growth were absorbed in fiscal year 2002, it would reduce the freed-up budget authority by 40%.

Navy Shipbuilding
Incremental Funding Scenarios 2 and 3

- Incremental funding might initially free up budget authority for other uses such as other Navy programs, other military service programs, or civilian programs. However, a more likely use might be to fund additional shipbuilding programs or to cover the cost growth of existing ship programs. Cost growth is not modeled in this briefing.
- Therefore, additional ships are added in the sequence listed below.

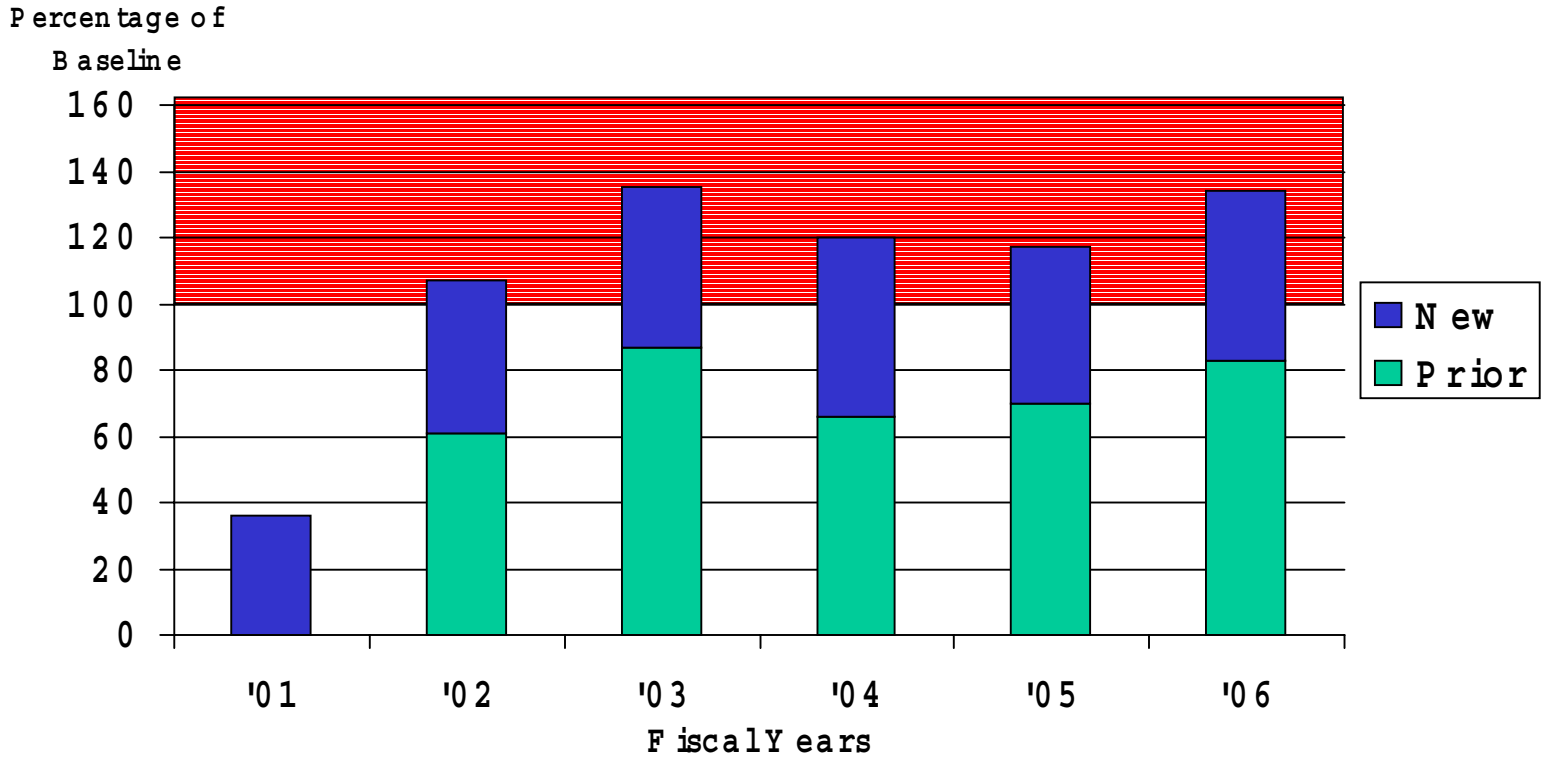
Additional Ships

Fiscal Year	2001	2002	2003	2004	2005	2006	Total
CVN 77							
CVN (X)							
NSSN							
DDG-51		1	2	1	2		**6**
DD-21						2	**2**
LHD							
LPD-17	1	1					**2**
TADC(X)					1		**1**
JCC(X)				1	1		**2**
Quantity	**1**	**2**	**2**	**2**	**4**	**2**	**13**

Notes: (1) One of the two LPD-17s removed in 2001 is added back in 2001 (the other was placed by the Navy in 2005 in the baseline). (2) Four ships (one LPD-17, one TADC(X) and two JCC(X)) removed by the Navy in the 2002 Program Objective Memorandum are added back in. (3) Six DDG-51s identified by the Navy's November 2000 update to the 1993 Arleigh Burke DDG-51 Class Industrial Base Study are included. (4) Two DD-21s are added in fiscal year 2006 to more closely duplicate earlier plans that projected continuous production.

Navy Shipbuilding
Incremental Funding Scenario 2

- Scenario 2: 3-year rolling funding with additional ship purchases.
- Funding as a percentage of each year's original full funding (see the baseline on p. 27).

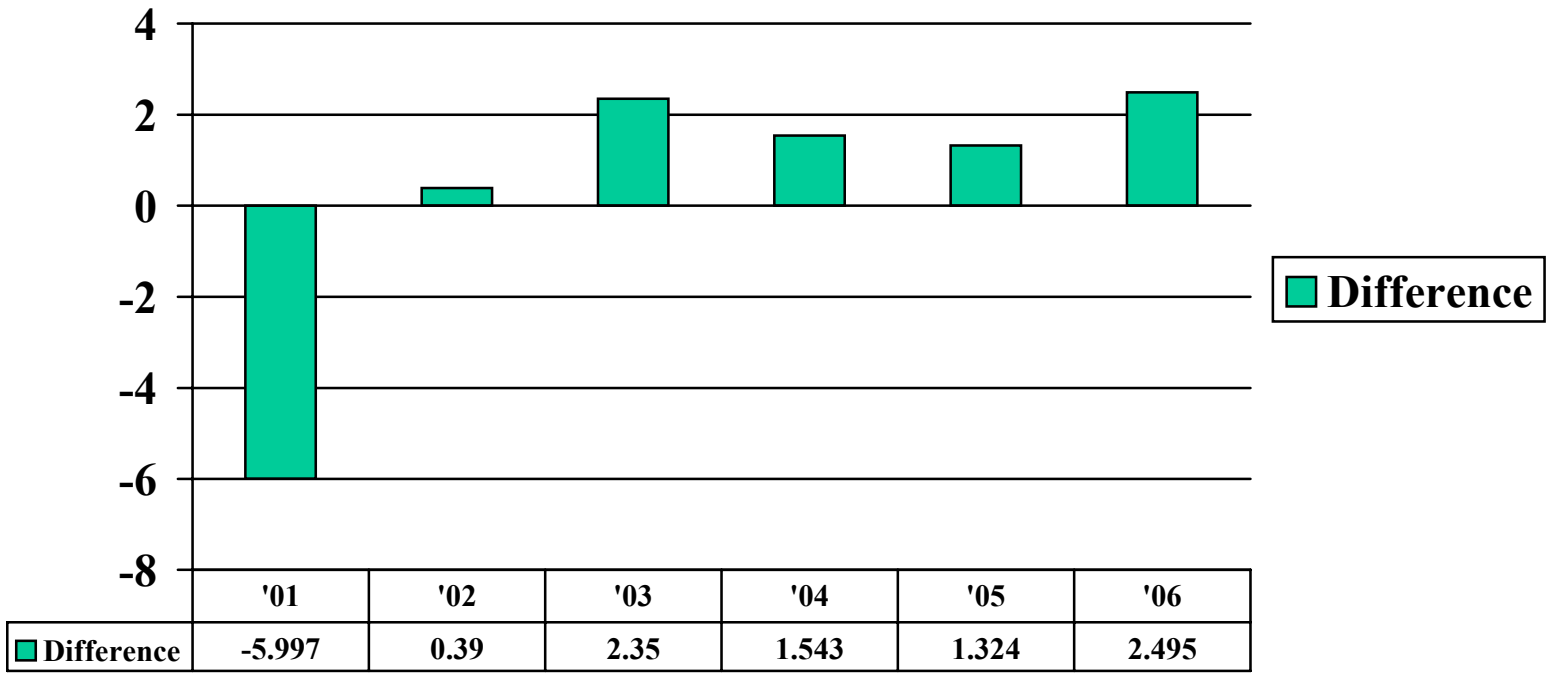


Observations: (1) Commitments of about $10.8 billion made in 2005 and 2006 carry over into 2007 and 2008 before total costs of the 2001 through 2006 profile are complete. (2) More funding will be needed starting in the second year than under the baseline case. (3) Available discretionary funding is reduced by between 61% and 87% in fiscal years 2002 through 2006 in order to fund the completion of ships partially appropriated in prior years. (4) Both of these last two effects would likely be compounded if cost growth occurs.

Navy Shipbuilding
Incremental Funding Scenario 2

- Scenario 2: 3-year rolling funding with additional ship purchases.
- Total cost (then-year) difference between full funding and 3-year incremental funding with additional ship procurement.

$ billions



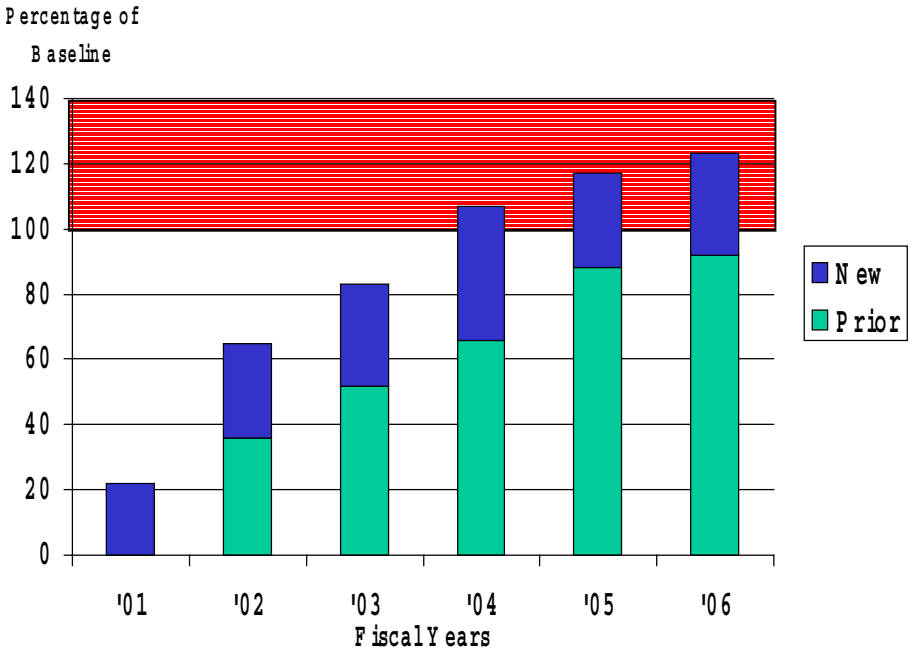
	'01	'02	'03	'04	'05	'06
Difference	-5.997	0.39	2.35	1.543	1.324	2.495

Observations: (1) Commitments of about $10.8 billion made in 2005 and 2006 carry over into 2007 and 2008 before total costs of the 2001 through 2006 profile are complete. (2) Lower initial budget authority of about $6 billion is more than offset by an additional $8 billion in budget authority to complete incrementally funded ships.

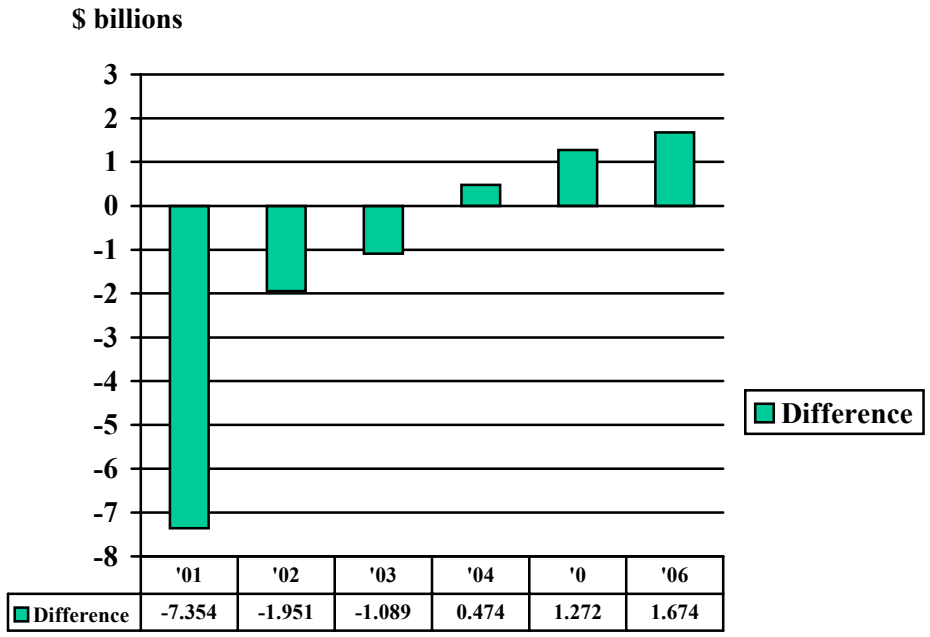
Navy Shipbuilding
Incremental Funding Scenario 3

- Scenario 3: 5-year rolling funding with additional ship purchases.

5-Year funding as a % of original full funding



Total cost (then-year) difference between full and 5-year incremental funding

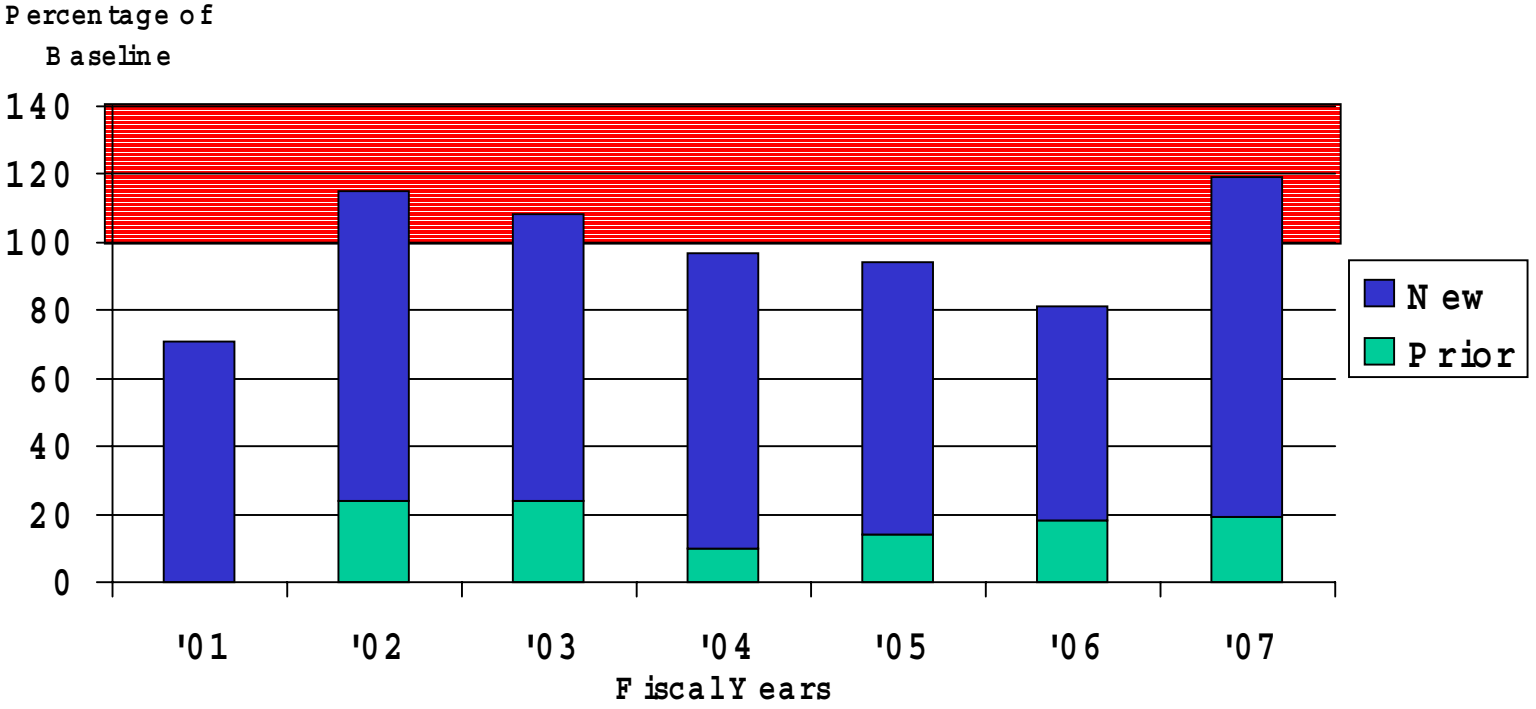


	'01	'02	'03	'04	'0	'06
Difference	-7.354	-1.951	-1.089	0.474	1.272	1.674

Observations: (1) The effects identified for the 3-year incremental funding scenario are delayed. For example, more funding is needed than originally planned starting in fiscal year 2004 instead of 2002. (2) Commitments of $19.9 billion continue through fiscal year 2010. Only commitments made in fiscal years 2001 and 2002 are complete by 2006. (3) Available discretionary funding is increasingly reduced, with reductions reaching 92% in fiscal year 2006, in order to fund the completion of ships partially appropriated in prior years. (4) Any cost growth would reduce or eliminate freed-up budget authority.

Navy Shipbuilding
Incremental Funding Scenario 4

- Scenario 4: Baseline is fully funded except for Aircraft Carriers and Amphibious ships which are incrementally funded over rolling 3-year periods, with no additional ship purchases.



Observations: (1) Commitments of $3.5 billion made in 2006 carry on into 2008 (there is no new incremental funding in 2007). (2) Under this approach funding is needed above that planned in the baseline in 2002, 2003, and 2007. (3) Cost growth would exacerbate the need for additional funding.

DOD/OMB: Budgetary Concerns With Incremental Funding for the Navy

- Reduces the ability to make changes in the shipbuilding program because a large percentage of funding is dedicated to completing ships begun in previous years.

- Creates commitments in following fiscal years and limits flexibility to make rational planning decisions. While incremental funding allows more programs to be bought in a given year, it is a one-time benefit. From then on, current-year funding will pay for prior-year programs. This funding bow wave makes it more difficult to initiate new programs or adjust for unforeseen cost growth.

- Limits cost visibility and accountability. Estimates may be more likely to have cost growth since the incentive is to "low ball" the estimate at the beginning.

- Execution problems are created. Incrementally funded programs are more often subjected to across-the-board reductions and "get by with less funding this year" type of reductions.

DOD/OMB: Acquisition Management Concerns Related to Incremental Funding

- Increased Cost*
  - Inhibits contractor ability to right-size its workforce and use economies of scale due to uncertainty in funding. Potential personnel disruption (layoffs and rehiring) cause higher acquisition costs or a need for greater amounts of government funding to maintain critical skills during program stretchouts.
  - Reduces cost consciousness because increases in cost can simply be added to subsequent increments for the same ships, but in future budgets.
  - Increases financial risk to the contractors and/or increases cost risk to the government for cancellation costs.
- Contracting Difficulties*
  - More difficult to specify a discreet package of work.
  - Hampers the opportunity to use performance-based fixed-price contracts.
  - Any disruption/reduction in the planned funding stream would likely result in shipbuilder claims and a ripple effect on follow-on options.

* Congress provided authority to enter into a contract for the LHD-8 amphibious ship in the fiscal year 2001 defense authorization act. According to one congressional staff member, the provision of contract authority could have some effect on the concerns expressed above by indicating a strong congressional commitment to the ship.

Consequences of Past Incremental Funding

Consequences of Past Incremental Funding

- **Cost increases and project schedule delays for Energy projects.** A GAO report cited incremental funding as one of the key factors underlying DOE project cost overruns and schedule delays. For many projects, particularly in the first years of development and construction, funding received was well below requested amounts. This caused project schedules to slip and costs to rise, because certain contractor expenses and administrative costs continued to accrue each month (e.g., utilities and security costs) regardless of the progress. For example, one project received only about 60% of the $155 million expected during the first 3 years of a 5-year construction cycle. Agency officials cited the funding delay as the reason the construction schedule was extended 3 years and the total construction costs rose from $236 to $313 million, an increase of $77 million. Similarly, another project received only 40% of its first 3 years planned funding and another was funded at only 43%. Both of these projects went over original cost estimates and were years behind schedule.

- **Higher ship costs may have resulted from long-term leases.** The use of long-term leases for auxiliary ships in the early 1970s and 1980s resulted in higher costs per ship. For these acquisitions, the Navy used long-term leases primarily to avoid a large up-front obligation of procurement funds. By leasing the vessels, the Navy believed it could spread payments over the length of the leases and use its annual Operation and Maintenance appropriations to fund them without incurring an up-front obligation of the total lease amount. While the Navy conducted the required lease versus purchase cost analyses, guidelines for such analyses at that time were neither detailed nor specific. Although the methodologies and assumptions used by the Navy showed leasing to be cheaper, a GAO review and a Joint Committee on Taxation (JCT) study used different methodologies and assumptions and found purchasing to be the cheaper alternative. For example, the Navy's cost comparison for one type of vessel concluded the government would save $29.3 million per ship by leasing. However, the JCT study concluded that

outright purchase would be cheaper by $20.8 million per ship. The GAO study concluded that it would cost between $11.9 million and $38 million more per ship to lease the vessels.

- **Lease-purchase arrangement to construct Reagan Building proved more costly than direct financing from the Federal Financing Bank.** Congress authorized the Pennsylvania Avenue Development Corporation to enter into a development agreement with a private company to construct the Reagan Building. At the time, it was intended that the building would be a public/private partnership and used for both federal office space and commercial activities. It was envisioned that the project would be privately financed so that construction costs would not be recorded in the budget. GSA was authorized to lease the building from the development company for a period not to exceed 35 years at a rate that would cover the full development cost and, at the end of the lease, the building would be government owned. Later, it became clear that the building was, for all practical purposes, a government project, and most plans for nonfederal uses were scrapped. At that point, it was realized that private borrowing to finance the project would be more costly than if the government financed the borrowing itself. Direct borrowing from the Federal Financing Bank saved millions in financing costs, including transactional fees and expenses associated with private financing, such as underwriters' fees.

More Effective Budgeting for Capital Acquisitions

More Effective Budgeting for Capital Acquisitions

- As we have previously reported,[1] full funding for stand-alone stages is an important tool for maintaining governmentwide fiscal control. It helps to ensure that Congress considers the full costs of all proposed commitments and makes trade-offs based on the full costs.

- Failure to recognize full cost when budget decisions are being made could lead to distortions in the allocation of resources. It can also force future Congresses and administrations to choose between having an unusable asset and continuing project funding for years, even after priorities may have changed.

- Some instances of incremental funding are justified for high technology capital projects. Such projects, while technically capital projects because they are intended to result in tangible assets, are often closer in nature to R&D. Their costs are highly uncertain, and funds already invested are not necessarily wasted if no additional funding is provided because knowledge is likely to have been gained.

[1] Budget Issues: Budgeting for Federal Capital (GAO/AIMD-97-5, November 12, 1996).

More Effective Budgeting for Capital Acquisitions

- Complete, comprehensive and clear information needs to be provided to the Congress to make informed capital decisions. Budget Justifications data would be improved if for each project they contained: total cost estimates, details of all prior spending, and a description of the purpose of spending for each fiscal year. This would assist in determining whether a project is fully funded or requires additional funds in the future. Capital asset plans (required by OMB for major acquisitions) and long-term agency capital plans (encouraged by OMB) could be useful in reviewing capital requests but are not routinely provided to the Congress.

- Innovative funding mechanisms could be used to ease "spiking" issues that might lead to attempts for incremental funding. For example, one approach that could be considered is a capital acquisition fund (CAF). A department-level CAF would borrow from the Treasury, as provided in appropriation acts, to purchase an asset needed by a department subcomponent. The subcomponent would "rent" the asset, paying sufficient rent so the CAF can repay loan principal and interest to the Treasury. Full funding is preserved and "spiking" at the sub-component level is eased. Discretionary caps could be adjusted to reflect a concept change for appropriating interest.

Related GAO Products

Defense Acquisitions: Historical Analyses of Navy Ship Leases (GAO/NSIAD-99-125, June 25, 1999).

Defense Acquisition: Historical Insights Into Navy Ship Leasing (GAO/T-NSIAD-99-141, April 21, 1999).

Executive Guide: Leading Practices in Capital Decision-Making (GAO/AIMD-99-32, December 1998).

Budget Issues: Budgeting for Capital (GAO/T-AIMD-98-99, March 6, 1998).

Department of Energy: Improving Management of Major System Acquisitions (GAO/T-RCED-97-92, March 6, 1997).

Department of Energy: Opportunity to Improve Management of Major System Acquisitions (GAO/RCED-97-17, November 26, 1996).

Budget Issues: Budgeting for Federal Capital (GAO/AIMD-97-5, November 12, 1996).