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REPORT TO THE  
COMMITTEE ON ARMED SERVICES  
UNITED STATES SENATE



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Incremental Programming:  
A Further Look D-167014

Department of Defense

BY THE COMPTROLLER GENERAL  
OF THE UNITED STATES

APRIL 16, 1973

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COMPTROLLER GENERAL OF THE UNITED STATES  
WASHINGTON, D.C. 20548

B-167034

The Honorable John C. Stennis, Chairman  
Committee on Armed Services  
United States Senate

Dear Mr. Chairman:

This is our followup report on the Department of Defense's (DOD's) application of the Committee's incremental programing guidance, requested by you on June 5, 1972.

This report covers execution of fiscal year 1973 research, development, test, and evaluation programs. We have not yet received complete information from DOD on its budget requests for 1974 programs, but we hope to be able to report to you within a few weeks.

As agreed to by your office, we are sending copies to the Chairmen of the House and Senate Committees on Appropriations, the Chairman of the House Committee on Armed Services, and the Secretary of Defense.

Sincerely yours,

Comptroller General  
of the United States

C o n t e n t s

	<u>Page</u>
DIGEST	1
CHAPTER	
1 INTRODUCTION	5
Scope of review	6
2 INCREMENTAL PROGRAMMING OF MAJOR WEAPON SYSTEMS	8
More contractors' periods of performance coincident with the fiscal year	8
In-house work generally programmed by fiscal year	10
Work programmed in 12-month increments	10
DOD's interpretation of Committee guidance	12
Subcontracts and leadtime orders	13
Termination liabilities	14
Matters for consideration by the Committee	16
3 INCREMENTAL PROGRAMMING OF FEDERAL CONTRACT RESEARCH CENTERS	19
FCRCs under congressional ceiling	19
Lincoln Laboratory	20
Applied Physics Laboratory	21
Matter for consideration by the Committee	23
APPENDIX	
I Letter from the Chairman, Senate Committee on Armed Services, to the Comptroller General, dated June 5, 1972	25
II Weapon system programs reviewed for incremental programming	27

## ABBREVIATIONS

ASPR      Armed Services Procurement Regulation  
DOD      Department of Defense  
FCRC      Federal Contract Research Center  
GAO      General Accounting Office  
RDT&E    research, development, test, and evaluation

D I G E S T

WHY THE REVIEW WAS MADE

The Senate Committee on Armed Services directed the Department of Defense (DOD) to apply, beginning with fiscal year 1973, the Committee's incremental programming principles in budgeting for and executing its research, development, test, and evaluation (RDT&E) programs. Incremental programming sets forth the period, generally 12 months, during which work supported by an annual RDT&E appropriation can be performed.

GAO was requested to review DOD's execution of the fiscal year 1973 RDT&E program for compliance with incremental programming principles. GAO looked at work performance and funding plans for 10 major weapon systems and two Federal Contract Research Centers.

Background

The length of time that performance under incremental programming can extend beyond the end of the fiscal year is specifically limited. For major weapon systems and in-house operations, the Committee's objective is for the period to coincide with the fiscal year.

At the Committee's request GAO made a limited review of DOD's 1973 RDT&E budget submission and made a preliminary report to the Committee Chairman in April 1972. The Committee subsequently reported that DOD

had made only modest progress in implementing incremental programming.

FINDINGS AND CONCLUSIONS

Major weapon systems

DOD has made progress in implementing the Committee's principles in awarding contracts and issuing work orders to further the 10 major weapon systems GAO reviewed. Work is generally programmed to be performed in 12-month increments. (See p. 10.) Program managers have taken steps to make periods of contractors' performance coincide with the fiscal year for which funds were requested. (See p. 8.)

GAO found in its prior examination that 1 or 2 months' overlap was provided for when project or work orders were issued for in-house work on major weapon systems. Program managers generally now require work to be performed in the fiscal year for which funds were approved. (See p. 10.)

DOD advised the Committee in November 1971 that it would direct the services that budget year estimates were to include all necessary project costs expected to be incurred during a 12-month period. DOD defined "costs" as not only estimates of costs for salaries, wages, and materials consumed but also all other liabilities to be created during the period. These would

include subcontracts awarded and leadtime orders placed for project-related material and equipment.

The Committee informed DOD that its interpretation generally was acceptable but cautioned DOD concerning the allowances for work to overlap into the succeeding fiscal year. Subsequent reductions made by the Committee showed it intended that program increments for major weapon systems should coincide with the fiscal year and fund work to be performed within that fiscal year. (See p. 12.)

Several program managers told GAO that it is feasible to comply with incremental programming principles provided that work performance does not have to coincide strictly with the fiscal year. They feel exceptions are necessary in certain situations involving subcontracts and the procurement of long-leadtime items and believe DOD's guidance permits, and the Committee accepted, these infrequent deviations. (See p. 13.)

Officials of two Army programs advised GAO that strict adherence is somewhat infeasible due to the liability clause required in almost all contracts funded with RDT&E appropriations.

Army incremental requests are planned on a work-performed or cost-incurred basis. The cost-incurred basis includes obligations of the contractor for fixed-price subcontracts and purchase orders. Such orders, if undelivered at the end of the fiscal year, represent a potential termination liability. (See p. 14.)

Officials of Air Force programs also saw no problem requiring work

to coincide with the fiscal year for which it is funded, provided they can obligate a portion of the funds to cover expenses for which the Government is liable in the event the contract is terminated.

They said that, if the contract is not terminated, the funds are used to cover a short period of the next year's billings, since funds obligated against a contract are expended on a first-in, first-out basis. (See p. 16.)

Because program officials have considered funding of subcontracts by the prime contractor in increments of more than 12 months to be acceptable under incremental programming principles, they have not, in most cases determined whether subcontractors would accept contracts on an incrementally funded basis.

Program managers believe it would not be practical to require funding of firm-fixed-price subcontracts for long-leadtime items in increments of 12 months or less. A contractor told GAO that smaller subcontractors often refuse to accept these provisions. (See p. 13.)

#### Federal Contract Research Centers

GAO's review of the performance and funding plans of two Federal Contract Research Centers (FCRCs) showed that they were complying with the principles of incremental programming. (See p. 19.)

Officials of an Air Force-sponsored FCRC believe that having its program year coincide with the Government's fiscal year imposes no problems. This is true as long as new funds are available on or near July 1 and its university-operator retains the substantial advance of

funds it has as working capital for DOD activities. (See p. 20.)

Officials of a Navy-sponsored FCRC, however, foresee problems with the fiscal year 1974 budgeting and funding process and thereafter because of the unavailability of carryover funds. They believe the potential inability of the FCRC to undertake new, urgent tasks could conceivably create difficulties. (See p. 21.)

MATTERS FOR CONSIDERATION  
BY THE COMMITTEE

DOD's procurement regulations limit the Government's liability in the case of termination to the amount of funds obligated to the contract. The regulations require that these funds be sufficient to cover not only the contractor's work performed but also its liabilities upon termination, including subcontracts and leadtime orders.

DOD has interpreted the incremental programming guidance as permitting these funds to be included in the budget request for the fiscal year in which potential termination liabilities are incurred. The Committee may wish to clarify its guidance to DOD on its interpretation of work performed and cost incurred. (See p. 16.)

Since terminations occur rarely and amounts unexpended are carried over to the succeeding fiscal year, GAO considered whether such amounts could be minimized within current constraints.

Several of the suggestions for further consideration which follow are presented without endorsement by GAO because, due to time limitations, any benefits that might

accrue have not been weighed against the additional effort and expense that might be entailed.

The Committee may wish to consider:

1. Not eliminating funds which represent potential termination liabilities from budget requests unless alternate methods of providing such funds are available. Changes in procurement regulations would be necessary to legally insure that liabilities incurred on behalf of the Government would be reimbursed even though funds were not authorized at the time they were incurred.
2. Urging DOD to stress ascertaining the reasonableness of contractors' incurred costs--termination liabilities--at the end of the fiscal year. Although its test was extremely limited, GAO believes program managers may not be aware of the nature of contractors' commitments not subject to cancellation.
3. Encouraging DOD to urge contractors to increase the volume of subcontracting on an incrementally funded basis. Prime contractors can attempt to limit liabilities to subcontractors as the Government limits its liabilities to prime contractors. GAO recognizes that some subcontractors have refused to accept incremental funding, but some have not yet been asked.

However, GAO believes that a level and dollar amount of subcontracts will have to be established beyond which it would not be practical to apply incremental programming because of the related administrative costs.

4. Having DOD explore alternate contracting approaches to minimize rejections of incremental funding for long-leadtime items. (See pp. 17 and 18.)

The Committee may also want to question FCRC officials about the effect of incremental programming on the operations of FCRCs after sufficient time has elapsed to make the full impact known. (See p. 23.)



CHAPTER 1

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INTRODUCTION

The Senate Committee on Armed Services, in its report to the Senate on the bill authorizing appropriations for the Department of Defense (DOD) for fiscal year 1972, directed DOD to apply, beginning with fiscal year 1973, incremental programming principles in preparing its research, development, test, and evaluation (RDT&E) budget authorization requests and in executing its RDT&E programs.

Under the principles set forth by the Committee, tasks to be performed in-house or under contract generally are to be programmed in increments designed to be accomplished within a 12-month period. For multiyear contracts, the initial increment is to be programmed for performance during the first 12-month period for which funds are available. For programs involving major weapon systems, the Committee's objective is that this period be coincident with the fiscal year. Second and succeeding increments of contracts for other than major weapon systems may be programmed in periods up to 12 months but should not overlap more than 6 months into the succeeding fiscal year. Day-to-day operations of in-house activities are to be provided for coincident with the fiscal year.

The House Committee on Appropriations reported that it was in complete accord with the principle of incremental funding for RDT&E programs and with efforts to see that only those funds required for work in a given fiscal year are included in the budget for that fiscal year.

The House Committee on Appropriations noted that the incremental funding procedure is proper for RDT&E work since, during the life cycle of RDT&E programs, each succeeding phase depends on the progress made in the preceding phases. It is not possible to predict in advance the exact course of a development program over a long period.

At the request of the Senate Committee on Armed Services, GAO made a limited examination of DOD's fiscal year 1973 budget requests for 10 major weapon systems and reported the

results to the Chairman on April 26, 1972.<sup>1</sup> The Committee subsequently acknowledged that the report was preliminary because of the short time available both for our review and for DOD to apply the incremental programming policy.

During its review of the fiscal year 1973 budget, the Committee found that DOD had made only modest progress and urged DOD to make greater efforts in implementing a uniform policy. The Committee expressed the objective of a common understanding with DOD. The Committee recommended specific reductions in programs for which funds were requested in excess of those required under the incremental programming principles. The House Committee on Appropriations similarly recommended reductions.

On June 5, 1972, the Chairman of the Senate Committee on Armed Services requested GAO to review (1) the manner in which the fiscal year 1973 program was executed, as measured against the incremental programming principles, and (2) the fiscal year 1974 budget request after it is submitted to the Congress. This report covers our review of the 1973 program. The Chairman's letter is included as appendix I.

#### SCOPE OF REVIEW

At program managers' offices during October and November 1972, we reviewed the status of funding of fiscal year 1973 RDT&E programs for 10 weapon systems. Because the second quarter of the fiscal year was in progress, our findings are based on plans rather than completed actions.

We analyzed those records which showed the planned periods of performance of contractors, major subcontractors, and supporting in-house organizations performing work funded with 1973 funds. We looked at some contractors' payment vouchers to identify the beginning dates of work.

We obtained the views of program managers on the feasibility and effects of incrementally programming and

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<sup>1</sup>"Implementation of Incremental Programming, A Budgeting Technique" (B-167034).

funding weapon systems coincident with the fiscal year. We discussed the effects of incremental programming with a contractor involved in two of the systems.

The weapon system programs covered in our review are listed in appendix II. At the suggestion of the Committee staff, we have also included details on the fiscal year 1973 funding for each program.

We also looked at the work performance and funding plans of two of the Federal Contract Research Centers (FCRCs) which had their 1973 funds reduced because of incremental programming. The funding plans of these FCRCs are discussed in chapter 3.

We did not obtain formal comments on this report. The draft was reviewed informally by a DOD official, and his comments were considered in preparing this report.

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## CHAPTER 2

### INCREMENTAL PROGRAMMING OF MAJOR WEAPON SYSTEMS

#### MORE CONTRACTORS' PERIODS OF PERFORMANCE COINCIDENT WITH THE FISCAL YEAR

The Committee directed that, when a major weapon system program requires performance under a multiyear contract, the initial increment should be programmed for accomplishment during a 12-month period which coincides with the fiscal year. According to the Committee, if the initial increment is so programmed, second and succeeding increments will not carry beyond the end of the fiscal year for which funds are being requested.

In April 1972 we reported that the established program years for most ongoing major weapon system programs were not coincident with the fiscal year.

We found in our followup review that DOD had tried to bring contractors' periods in line with the fiscal year. Program managers of 5 of the 10 major systems we examined had made or were planning changes in contract increments or funding allocations so work with fiscal year 1973 funds would not extend beyond June 30, 1973. Contract increments of two other programs were changed to provide periods of performance extending into the first half of July. For another system, 1973 increments of contracts for prototype development were planned to end with the fiscal year. Plans for the other two programs were not firm, but 1973 funds were not planned for use beyond June 30, 1973.

Information on the eight systems with firm plans is summarized below.

1. The advance technology components contract for the Heavy Lift Helicopter originally had a performance period for 1973 funds of December 16, 1972, through December 15, 1973. A contract modification was planned to provide a performance period ending June 30, 1973. Approval was requested for reprogramming the funds to be made available by the change.

2. Site Defense Project officials responded to Army direction by making the planned periods of performance for the fiscal year 1973 increments of the program's two prime contracts extend from January 1 to June 30, 1973. A support contract is to run from October 2, 1972, to June 30, 1973.
3. The initial fiscal year 1973 requirement for the Airborne Warning and Control System was based on the contract year ending July 31, 1973. The Air Force is amending the contract to have its program year coincide with the Government fiscal year. The revised performance period is August 1, 1972, through June 30, 1973. However, because of slippage in initiating the use of 1973 funds, we estimate that these funds may cover work through about mid-September 1973.
4. The Air Force has negotiated a change in the limit of the Government obligation clause of the B-1 aircraft contract to an amount reflecting program commitment through June 30 instead of July 31, 1973.
5. Four of the five contracts for the missile component of the TRIDENT system provided for periods of performance ending on or before June 30, 1973. The fifth contract had a period of performance from October 1, 1972, through September 30, 1973. We were told that fiscal year 1973 funds would be used only to pay for work performed in fiscal year 1973.
6. Two contracts for prototype development of the Utility Tactical Transport Aircraft System were awarded during fiscal year 1973. The 1973 increments funded performance for periods of 6 and 7 months, respectively, to stay within the fiscal year. The engine development contract was modified to change the ending date to June 30, 1973.
7. The prime contract for the AEGIS system was modified to establish July 5 as the annual date for allocating funds to the contract.
8. The prime contract for the SAM-D system has a revised period of performance from August 16, 1972, to July 14, 1973.

IN-HOUSE WORK GENERALLY  
PROGRAMMED BY FISCAL YEAR

The Committee's guidance provided that, in general, in-house RDT&E activities be provided for coincident with the fiscal year.

The DOD budget manual allows in-house RDT&E work funded by project order to overlap up to 3 months of the succeeding fiscal year. In our previous report we noted that, when work was to be funded at industrially funded Army or Navy in-house activities by a project order or other Government work order, major weapon program managers often planned for an overlap of 1 or 2 months to provide continuity of effort.

We found in our current review that program managers, to comply with incremental programming, were issuing project orders funded with fiscal year 1973 appropriations for work to be performed only in fiscal year 1973.

For example, we examined project orders amounting to more than \$16 million issued to three Navy in-house activities for work related to the AEGIS system. Each order specified that work be completed by June 30, 1973. In-house project orders issued for the submarine component of the TRIDENT system planned for work to be accomplished by June 30, although fund availability extends until July 31. A Navy representative said the July 31 expiration date would permit minor residual balances to be used; however, the in-house activities were advised that funds would be provided to finance costs only through June 30.

Army officials responsible for the four programs reviewed planned for fiscal year 1973 in-house work to comply with the principles of incremental programming.

Before incremental programming the Air Force was able to plan in-house work coincidental with the fiscal year because its performing activities are funded on a fiscal year basis.

WORK PROGRAMMED IN  
12-MONTH INCREMENTS

The Committee's guidance stated that tasks to be performed in-house or under contract generally should be

programmed in increments designed to be accomplished within a 12-month period. Again we found that the plans for major systems in nearly all instances complied. The few exceptions involved the use of fiscal year 1973 funds for the full cost of subcontracts or project orders which would not be completed within a 12-month period. Usually, in these cases, long-leadtime items were being procured.

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## DOD's INTERPRETATION OF COMMITTEE GUIDANCE

In November 1971 the DOD Comptroller advised the Senate Committee on Armed Services of its intention to issue the following guidance.

"Generally, the budget year estimates of the financing needed (amounts to be programmed) for individual R&D projects to be performed either by agencies of the government or by contract will be formulated to cover all costs expected to be incurred during a 12 month period, including, however, only those costs which are necessary to further the project towards its objective during that increment of the total project schedule. The term 'costs' includes not only the estimate of actual costs to be incurred during the described incremental time period, such as salaries and wages paid and material consumed; 'costs' also includes all other liabilities which have to be created during the time period to further the project, such as subcontracts awarded and lead-time orders placed for project related material and equipments."

The Chairman was requested to confirm that the interpretation expressed in the guidance met the intent of the Committee. The Chairman informed DOD that its interpretation generally met the intent but that it should be clarified. The Chairman pointed out that DOD's language had not limited the period for which work to be performed could be programmed during a budget year. The Committee believed its guidance was liberal in allowing for overlap of work into the succeeding fiscal year.

The Chairman further advised DOD that, for multiyear contracts, its request to be allowed to program on a 12-month basis for initiation or renewal throughout the fiscal year was too broad. To comply with the Committee's guidance, it was not necessary for the initial increment to be a full 12 months. The Chairman reminded DOD that, in adjusting contract increments, the basic policy prohibited any periods from extending beyond 6 months into the succeeding fiscal year.

The Committee's subsequent actions showed that it preferred that program increments for major systems coincide



with the fiscal year. Reductions were made in fiscal year 1973 requests which had not been programmed on that basis. The Congress upheld most of these reductions, indicating its intent that funds authorized and appropriated for a particular fiscal year should be used only for work to be performed in that fiscal year.

#### Subcontracts and leadtime orders

Officials of some programs told us that it is feasible for their programs to comply with incremental programming principles, provided strict adherence to having work performed coincident with the fiscal year is not required. They felt that exceptions are necessary in certain situations involving subcontracts and the procurement of long-leadtime items. Program managers believe that the Committee accepted DOD's interpretation that costs of the incremental period include obligations incurred for items which will not be delivered within the fiscal year.

For example, execution of the SAM-D program during fiscal year 1973 was planned to comply with incremental programming principles. However, 5 major subcontracts were planned for periods of performance ranging from 22 to 24 months and 10 project orders covered periods which extended into succeeding fiscal years by 2 to 18 months. Project officials said that the principles did not preclude committing 1 year's funds for subcontracts or long-leadtime items with long periods of performance. It was their opinion that DOD and the Committee agreed that these costs are incurred at the time funds are obligated rather than incrementally during the period when work is performed.

The SAM-D project manager said that it would not be practical in the engineering development phase to fund firm-fixed-price subcontracts in increments; the vast majority of SAM-D subcontracts are firm-fixed-price, require heavy initial startup costs, involve long-leadtime procurements, and have relatively few delivered units. The project manager told us that, if funding of this type of subcontract was restricted to a single fiscal year, schedule slippages and increased costs could be anticipated.

However, because SAM-D officials did not consider it necessary to incrementally fund subcontracts, they had not determined whether the subcontractors would accept contracts on that basis.

SAM-D officials also believe that it is impractical to incrementally fund project orders for long-leadtime items, which are normally bought through firm-fixed-price contracts by Army inventory control points. These orders require administrative leadtime, and officials believe that they must be funded when they are issued.

The Director of the Site Defense Project said that he believed that long-leadtime hardware procurements should be excluded from incremental funding requirements because increased costs would probably result. He felt that contractors would raise prices to protect themselves in the uncertain environment of incremental funding and that schedule slippages would result. However, Site Defense Project officials had not tried to incrementally fund any long-leadtime items and had not made any studies to see whether such funding practices would be practical.

An official of the B-1 System Program Office stated that strict application of coincidence with the fiscal year is impractical. Because contractors make commitments for goods and services in advance and receive them at later dates, they do not want to make commitments unless they know the program office has funds to cover them. The official said that, if strict application of coincidence with the fiscal year was enforced, the services would not be able to contract with industry.

An official in the TRIDENT project manager's office said that our April 1972 report accurately showed the current situation with respect to subcontracts and long-leadtime items. We reported then that the Navy planned in fiscal year 1973 to fund the full costs of certain subcontracts and long-leadtime items, including full funding of the design and fabrication of hardware components associated with developing the nuclear reactor, even though the work will extend into several succeeding fiscal years. According to a Navy official, it would not be practical to administer several hundred subcontracts involved in a large program, such as the TRIDENT, if they were all incrementally funded.

#### Termination liabilities

An official of the Heavy Lift Helicopter program stated that the basic concepts of incremental programming were good

1017

but that strict adherence is somewhat infeasible due to the liability clause in contracts. The Armed Services Procurement Regulation (ASPR) requires that funds allotted (obligated) to a contract must be sufficient to cover costs incurred during the contract and possible termination costs. Under the "limitation of funds" clause (ASPR 7-402.2(c)), the Government's liability is limited in the case of termination to the amount of funds allotted to the contract.

According to Heavy Lift Helicopter officials, fixed-price orders placed by the contractor but not delivered at the end of a funding period--the potential termination liability amount--are considered as costs incurred for incremental funding purposes. The contracting officer for this program and for the Utility Tactical Transport Aircraft System told us that all the contracts for the two programs include the ASPR clause on the limitation of funds, as do almost all RDT&E contracts. Funds allotted to these contracts include estimated amounts to pay for undelivered orders in case the contract is terminated.

Officials of the Army programs we examined informed us that program requests are planned on a work-performed or cost-incurred basis.

For example, personnel of the Utility Tactical Transport Aircraft System said that the entire program for 1973 was planned on a cost-incurred or work-performed basis, which includes a termination liability amount. The contracting officer for two Army programs explained that this amount is based on the contractor's estimate of how it plans to proceed with the contract, usually a percentage above the projections for work performed. Program managers monitor three amounts, or curves, during the year.

--Work performed, or billings.

--The Government's liability, or the amount the contractor has out on undelivered, fixed-price purchase orders.

--Commitments, or the amount the contractor may or may not be able to cancel.

According to the contracting officer, the contractor watches the Government's liability to make sure that it is not exceeded to any great extent; the Army considers the difference between work performed and the limit of the Government's liability as cost incurred. The contracting officer added that, until ASPR is changed, he is required to include the limitation clause in these types of contracts.

Officials of the Subsonic Cruise Armed Decoy program also saw no problem requiring work performance to coincide with the fiscal year for which it is funded, provided a minimal period of overlap into the following fiscal year for funding termination liability is possible. The program manager stated that the portion of the fiscal year 1975 funds which is to cover the expenses for which the Government is liable in the event of termination will fund a short period of the next year's work if the contract is not terminated.

Airborne Warning and Control System program officials stated that the Air Force must have on contract at all times sufficient funds to cover termination. These funds are used to cover the contractor's noncancellable commitments but are not put on the contract specifically to cover potential termination liability. They said that the funds are actually used for future contract work, since funds obligated against a contract are expended on a first-in, first-out basis.

Matters for consideration by the Committee

Under ASPR, contracting officers can commit the Government only to the extent that funds have been authorized. Further, these funds must be sufficient to cover not only the contractor's work performed but also its termination liabilities, including subcontracts and leadtime orders. DOD has interpreted the incremental programming guidance as permitting these funds to be included in the budget request for the fiscal year in which the potential termination liabilities are incurred.

The Committee may wish to consider clarifying its guidance to DOD on whether DOD's practice of requiring amounts to be allotted to contracts for subcontracts and leadtime orders on a cost-incurred basis meets with the Committee's approval.

We considered whether these funds could be minimized within the current legal constraints. Since terminations rarely occur, it may not be necessary to request program funds to cover contractors' carryover liabilities in the year that they are incurred. Deferring the obligation of these funds until actually needed for expenditure would permit a temporary saving.

We are making several suggestions for the Committee's consideration, without endorsing them, since, due to time limitations, we did not have an opportunity to weigh the potential benefits against the additional effort and expense that might be entailed.

We suggest that the Committee not eliminate funds from budget requests which represent potential termination liabilities unless alternate methods of providing such funds are available. DOD would need authority to empower its contractors to incur costs in excess of the amount approved for the contract. Contractors would need legal assurance that the Government will accept liability for costs incurred by them on the Government's behalf. Subcontractors would need to know that such assurance is available to contractors.

In our opinion, a change in ASPR or some form of authorization by the Congress would be necessary to provide this assurance if the current contracting requirements are deviated from.

We suggest that the Committee urge DOD to emphasize to program managers the importance of ascertaining the reasonableness of contractors' incurred costs--termination liabilities--at the end of the fiscal year. Such amounts are sometimes included in contractors' status reports submitted to the services. Program managers informed us that they monitor contractors' records to insure that the amounts are reasonable. On the basis of an extremely limited test, we believe that managers may not be aware of the nature of contractors' commitments not considered to be subject to cancellation.

Prime contractors can attempt to limit termination liabilities to subcontractors in the same manner the Government limits its liabilities to prime contractors. An official of a contractor involved in several Army programs told us that a contractor can try to avoid added risk by

incorporating incremental funding provisions in larger subcontracts but that smaller subcontractors often refuse to accept these provisions.

We suggest that the Committee encourage DOD to urge its contractors to increase the volume of incrementally funded subcontracting. We recognize that some subcontractors have refused to accept incremental funding, but some have not yet been asked. However, we believe that a level of subcontracting and a dollar value for each subcontract will have to be established beyond which it would not be practical to apply incremental programming because of the related administrative costs.

We also suggest that the Committee explore with DOD alternate subcontracting approaches which would minimize rejections by subcontractors and vendors of incrementally funding orders for long-leadtime items.

## CHAPTER 3

### INCREMENTAL PROGRAMMING OF

### FEDERAL CONTRACT RESEARCH CENTERS

Officials of the two FCRCs we reviewed have made the necessary adjustments to bring plans for programs and funding in compliance with the Committee's incremental programming guidance.

At Lincoln Laboratory, Massachusetts Institute of Technology, officials believe that having the program year coincide with the Government's fiscal year imposes no problems as long as new funds are available on or near July 1 and the university-operator retains the present amount of funds advanced for a working capital pool to finance all DOD activities at the institution.

Officials believe that flexibility in operating the Applied Physics Laboratory, Johns Hopkins University, has been limited because of the unavailability of carryover funds under circumstances permitted by incremental principles for other contractors. They foresee problems with the transition from one fiscal year to the next and believe that operating under continuing resolution funding will not be satisfactory for proper planning.<sup>1</sup>

#### FCRCs UNDER CONGRESSIONAL CEILING

The Congress has imposed various limitations on the amount of FCRC work which DOD could contract. For example, in fiscal year 1972 the Congress established an overall ceiling of \$242,729,000.

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<sup>1</sup>The conference report on the DOD appropriation bill for fiscal year 1973 stated agreement to the reduction in the ceiling for FCRCs. The report stated that, if final action on the fiscal year 1974 appropriation is not accomplished by July 1, 1973, and DOD must operate under the authority of a continuing resolution, DOD may authorize FCRCs to continue to operate during fiscal year 1974 at the lower of the monthly rate of operation in 1973 or at one-twelfth of the program proposed for 1974, pending final approval.

For fiscal year 1973 DOD submitted a budget request totaling \$254,865,000 for the 12 FCRCs. The Senate Committee on Armed Services recommended a ceiling of \$231,665,000 as the amount which may be paid from all DOD appropriations enacted for fiscal year 1973. Although the guidance did not state explicitly how FCRCs were to be treated, the reduction of \$23,200,000 represented the amount of funds determined to be in excess of requirements solely because of noncompliance with the Committee's incremental programming policy.

The Committee noted that the ceiling of \$231,665,000 provided the Secretary of Defense with complete flexibility to adjust among the FCRCs, subject to normal reprogramming procedures but not otherwise subject to prior congressional approval.

#### LINCOLN LABORATORY

The Lincoln Laboratory is operated under contract with the Air Force. Funds are requested by and appropriated for the various programs for which Lincoln performs research as a supporting activity. Under the contract awarded July 1, 1972, the planned periods of performance for the Air Force and Navy programs were for 12 months ending June 30, 1973, and for the Army and Advanced Research Projects Agency programs, 12 months ending September 30, 1973. However, because of the reduction in fiscal year 1973 funds, the Army and Advanced Research Projects Agency programs will be funded only through June 30, 1973.

Lincoln's share of the congressionally approved ceiling was \$40.558 million for in-house operating expense. At the time of our review, the Army and Air Force had not yet funded Lincoln up to their ceilings by \$2.747 million. The Advanced Research Projects Agency had exercised reprogramming authority to fund Lincoln an additional \$345,000 from another FCRC's approved ceiling. Therefore, Lincoln's in-house operating expense ceiling is \$40.903 million (\$40.558 million plus \$345,000).

In addition to funding the operating expense within the ceiling, DOD agencies also fund outside procurements-- subcontract services, equipment, etc.--from funds of the various programs which Lincoln supports with research. Due to differences in handling outside procurements, the Air



Force includes most subcontracts and vendor procurements in its request for in-house operating expense funds, while the Army, Navy and Advanced Research Projects Agency include these in their requests for outside procurement funds. Lincoln's funding plans included \$18.614 million for outside procurements.

At the time of our review, Lincoln's budget projected excess fiscal year 1973 funds at June 30, 1973, of \$599,000. Officials said any excess funds would be withdrawn from the contract unless forward financing is authorized, because Lincoln's planned periods of performance with 1973 funds end June 30, 1973.

At the end of fiscal year 1972, some commitments initiated and funded with 1972 funds for subcontracts covered a period of performance extending as much as 1 year beyond the date of award. The Air Force contracts with Lincoln recognize that subcontract commitments will extend beyond the term of the contract to fulfill urgent Government requirements and that such obligations are considered in allocating funds to the contract.

Some commitments for subcontracts initiated and funded with fiscal year 1973 funds will cover periods of performance which extend as much as 6 months beyond June 30, but Air Force and Lincoln officials have agreed that no commitments will be funded beyond 6 months after the close of the fiscal year.

Air Force and Lincoln officials believe that having Lincoln's fiscal year coincide with the Government's fiscal year imposes no problem as long as new funds are applied on July 1 or shortly thereafter and as long as the amount of funds advanced to the Massachusetts Institute of Technology remains constant. Funds amounting to \$17.5 million have been advanced to the institute to provide a working capital pool to fund all DOD activities at the institute.

#### APPLIED PHYSICS LABORATORY

The Applied Physics Laboratory, Johns Hopkins University, has a single operating contract with the Navy under which it performs all DOD-sponsored work. The present contract was awarded on October 1, 1971, and runs through September 30, 1976. The congressionally approved ceiling on FCRCs for fiscal year 1973 was based on \$25.410 million for the laboratory.

The laboratory's research and development work generally has been funded in 12-month increments. Program plans for subtasks or work projects to be accomplished in 1973 specified a period of performance not to exceed 1 year. Generally the period was from October 1, 1972, to September 30, 1973, coincident with the laboratory's fiscal year.

After the Congress reduced its appropriation, the Laboratory revised its plans so that tasks would be funded with fiscal year 1973 funds only through June 30, 1973. We were told that, starting with fiscal year 1974, program plans and cost estimates will provide for a period of performance coincident with the Government's fiscal year.

Until 1959 the laboratory operated on a fiscal year which coincided with the Government's fiscal year. Laboratory representatives stated that their experience made it clear that the Government could not fund the contract by July 1 or within months thereafter, so the fiscal year was moved to start on October 1. They have found that even this date has been hard to meet.

According to Navy and laboratory officials, the July 1 requirement will confront the Navy with a major problem with regard to quick-reaction-capability tasks. These tasks may arise at any time in the fleet, in combat, or in response to enemy technical capabilities.

In the past, urgent tasks which did not exceed 12 months were funded totally with funds of 1 fiscal year. Officials feel now that the laboratory, unlike other contractors, has not been given the flexibility to fund work up to 6 months into the next fiscal year.<sup>1</sup> They told us that requests for funds for such tasks started toward the end of the fiscal year and completed in the next will have to be considered twice. Extensive planning, reviewing, and analyzing will be duplicated.

A Navy representative stated that at July 1 sponsors will be unsure of the availability of funds and there will be great pressure on the contracting officer since work cannot proceed unless a contract modification is approved and signed as of that date.

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<sup>1</sup>Lincoln Laboratory awarded subcontracts which extended up to 6 months into the next fiscal year.

Laboratory and Navy representatives foresee the following problems occurring in the transition period from fiscal year 1973 to fiscal year 1974.

1. It will be difficult for the laboratory's many sponsors to commit themselves to precise levels of funding without definitive knowledge of congressional intent, especially when "new starts" are required.

2. The laboratory is funded incrementally throughout the year from 45 to 50 different program elements involving about 100 subtasks or projects, unlike some FCRCs which are funded as single line items or which receive their funding from only one or two program elements.

3. Tasks funded under a continuing resolution will have to be renegotiated on the basis of approved funding.

Finally, laboratory and Navy officials can see no savings from the change in the laboratory's fiscal year.

MATTER FOR CONSIDERATION  
BY THE COMMITTEE

The Committee may want to question FCRC officials about the effect of incremental programming on the operations of FCRCs after sufficient time has elapsed to make the full impact known.

JOHN C. STENNIS, MISS., CHAIRMAN  
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## United States Senate

COMMITTEE ON ARMED SERVICES  
 WASHINGTON, D.C. 20510

June 5, 1972

Honorable Elmer B. Staats  
 Comptroller General of the  
 United States  
 General Accounting Office  
 Washington, DC 20548

BEST DOCUMENT AVAILABLE

Dear Mr. Staats:

On September 16, 1971, the Committee requested that your office conduct an examination of the details of the Fiscal Year 1973 budget request for the Department of Defense Research, Development, Test and Evaluation Program to determine compliance with the incremental programming policy prescribed in Report No. 92-359 which accompanied the Fiscal Year 1972 Military Procurement Authorization Bill. The results of your examination were provided to the Committee on April 26, 1972, Report No. B-167034, Implementation of Incremental Programming, A Budgeting Technique.

This report was preliminary because of the short period of time available for the review and for the Department of Defense to reflect the incremental programming policy in submission of the Fiscal Year 1973 request. This was further complicated because of difficulties encountered in establishing a common understanding between the Department of Defense and the Committee of the specific details involved in the interpretation of this policy.

The Committee found, during its review of the Fiscal Year 1973 budget, that only modest progress had been made, and that a substantial number of the programs examined were inconsistent with the incremental programming ground rules. There also was a marked variation among the various Department of Defense agencies in the effectiveness and degree of their implementing actions.

Your office is requested to review the manner in which the Fiscal Year 1973 RDT&E program is executed as measured against the incremental programming principles, after the authorizations and appropriations are enacted. This review should include an examination of those specific programs which are identified in the committee report on the Fiscal Year 1973 bill, as having been reduced because of non-compliance with the policy.

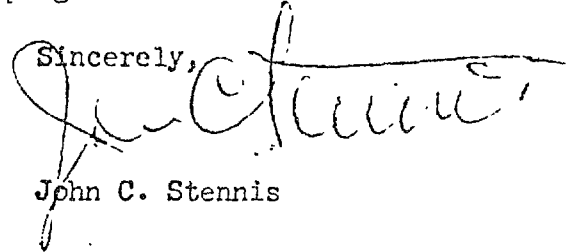
The review also should include an examination of the details of the Fiscal Year 1974 budget request for RDT&E following submission to the Congress. This review may employ the same sampling approach that was used in examining the Fiscal Year 1973 budget, but it should be broadened to include additional weapon systems for which major amounts are requested.

Honorable Elmer B. Staats  
June 5, 1972

Page Two

Your findings and recommendations should be submitted by March 15, 1973, so that they will be available to the Committee during consideration of the Fiscal Year 1974 program.

Sincerely,

A handwritten signature in cursive script, appearing to read "John C. Stennis". The signature is written in dark ink and is positioned above the printed name.

John C. Stennis

WEAPON SYSTEM PROGRAMS REVIEWED  
 FOR INCREMENTAL PROGRAMMING  
 FISCAL YEAR 1973

<u>Weapon system</u>	<u>Programmed amount</u> (millions)
Army:	
Heavy Lift Helicopter	\$ 38.0
SAM-D missile	171.1
Site Defense Project	80.1
Utility Tactical Transport Aircraft System	50.4
Navy:	
AEGIS missile	78.5
TRIDENT system	470.4
Vertical/Short Takeoff and Landing Aircraft	16.0
Air Force:	
Airborne Warning and Control System	<sup>a</sup> 233.0
B-1 aircraft	444.5
Subsonic Cruise Armed Decoy	48.6

<sup>a</sup>See page 34 for later information.

APPENDIX II

Heavy Lift Helicopter

Fiscal year 1973 RDT&E program--\$38 million

	<u>Amount</u>	<u>Planned period of performance</u>
	(millions)	
Contracts:		
Advance technology components-- Boeing-Vertol	\$30.8	Initially planned for December 16, 1972, to December 15, 1973. Con- tract to be modified to period through June 30, 1973. Reprogramming re- quested for funds made available.
Prototype engine	4.2	Award date (estimated December 1972) through June 30, 1973.
In-house:		
Project manager	1.8	All in-house work planned for performance or cost incurred from July 1, 1972, through June 30, 1973.
AVSCOM	.2	
AMRDL	1.0	

SAM-D Missile

Fiscal year 1973 RDT&amp;E program--\$171.1 million

	<u>Amount</u> (millions)	<u>Planned period of performance</u>
<b>Contracts:</b>		
Prime--Raytheon	\$138.00	Contract modified to period from August 16, 1972, to July 14, 1973.
Radar studies--SRI	.10	April 15, 1973, to April 14, 1974.
Radar subsystem analysis-- Technical Services Corporation	.10	March 23, 1973, to March 22, 1974.
Simulation--Analytic Sciences	.15	May 10, 1973, to May 9, 1974.
Radio frequency simulation-- Boeing	1.58	January 1, 1973, to December 31, 1973.
Cost reduction assistance--IBM	1.20	May 31, 1973, to December 31, 1973 (19-month contract; second increment from January 1, 1974, to December 31, 1974).
Additional equipment and missiles--Raytheon	8.60	To be awarded. Planned to conform to incremental funding guidelines.
Others	.90	
<b>Selected major subcontractors (note a):</b>		
Martin-Marietta	( 32.8)	November 1972 to August 1973.
Amphenal Sams	( 2.0)	July 1, 1972, to June 30, 1973.
Motorola Semi-Conductors Trio Laboratories (power supplies)	( 2.5)	December 15, 1972, to October 30, 1973.
	( 3.3)	September 19, 1972, to July 31, 1974.
Anderson Laboratories (delay lines)	( 1.1)	September 19, 1972, to September 30, 1974.
Unselected (drum)	( 3.2)	December 15, 1972, to October 30, 1974 (performance scheduled by fiscal year; fully funded for 22 months).
<b>In-house:</b>		
Project office	3.2	Performance coincided with fiscal year except for 10 project orders valued at \$365,000 for long-leadtime items estimated to overlap succeeding fiscal years by 2 to 18 months.
Army Missile Command	2.4	
Other Army	13.5	
Other Government	1.4	

<sup>a</sup>In all, five major firm-fixed-price subcontracts (valued at \$10 million) were for long-leadtime items with performance periods of 22 to 24 months.



Site Defense Project

Fiscal year 1973 RDT&amp;E program--\$80.1 million

	<u>Amount</u>	<u>Planned period</u> <u>of performance</u>
	(millions)	
Contracts:		
System prime--		
McDonnell Douglas	\$41.2	January 1, 1973, to June 30, 1973.
Sprint prime--		
Martin-Marietta	11.5	January 1, 1973, to June 30, 1973.
System support	7.3	October 2, 1972, to June 30, 1973.
engineering/technical		All other support contracts end
assistance--		June 30, 1973, except two small
Teledyne Brown		study contracts which are for
		12 months' effort from August 1972
		to August 1973.
Major subcontracts:		
System prime		January 1 to June 30, 1973.
Sprint prime		None.
In-house:		
Project office	3.0	
Other Army	8.6	All work to be performed
Air Force	8.2	July 1, 1972, to June 30, 1973.
Other Government	.3	

Utility Tactical Transport Aircraft System

Fiscal year 1973 RDT&amp;E program--\$50.4 million

	<u>Amount</u>	<u>Planned period</u> <u>of performance</u>
	(millions)	
<b>Contracts:</b>		
GE:		
Engine development	\$ 8.2	December 1, 1972, through June 30, 1973.
Air vehicle support	7.2	March 1, 1973, through June 30, 1973, (contract awarded March 6, 1972; modified to plan 1973 performance to end June 30 on work-performed or cost-incurred basis).
Prototype--Sikorsky	12.8	Fiscal year 1972 funds: September 1, 1972, through December 31, 1972.  Fiscal year 1973 funds: January 1, 1973, through June 30, 1973.
Prototype--Boeing-Vertol	19.7	Fiscal year 1972 funds: September 1, 1972, through November 30, 1972.  Fiscal year 1973 funds: December 1, 1972, through June 30, 1973.
<b>In-house:</b>		
Project manager	1.4	July 1, 1972, through June 30, 1973, on a work-performed or cost-incurred basis.
Other	1.1	

## APPENDIX II

AVAILABLE

AEGIS Missile

Fiscal year 1973 RDT&amp;E program--\$78.5 million

	<u>Amount</u> (millions)	<u>Planned period of performance</u>
<b>Contracts:</b>		
Prime--RCA	\$50.6	August 5, 1972, to July 5, 1973 (contract modification established July 5 as annual date for allocation of funds).
Technical assistance-- Applied Physics Laboratory	4.0	July 1, 1972, through June 30, 1973.
Technical support-- Vitro Laboratories	1.0	September 1, 1972, through June 30, 1973.
<b>Major subcontractors:</b>		
Raytheon	( 7.6)	Through December 31, 1972.
Computer Sciences	( 2.4)	Through June 30, 1973.
<b>In-house:</b>		
Long Beach Naval Shipyard	6.6	Project orders specify that all work is to be completed no later than June 30, 1973, in compliance with the intent of the Congress.
Naval Ship Weapon Systems Engineering Station	8.3	
Naval Ship Engineering Center	1.2	

As of November 1, 1972, the Navy had not revised the AEGIS funding plan, dated October 2, 1972, to reflect the program reduction from \$82.3 million to \$78.5 million. Reductions had not been allocated to individual contractors and in-house activities. We looked at the planned performance periods for work to be funded by the \$71.7 million shown above.

TRIDENT System

Fiscal year 1973 RDT&amp;E program--\$470.4 million

	<u>Amount</u>	<u>Planned period of performance</u>
	(millions)	
Submarine design/propulsion system:		
Contracts:		
Electric Boat	\$ 24.3	Work with fiscal year 1973 funds on contracts to be completed by June 30, 1973.
GE Knolls Atomic Power Laboratory	53.2	
In-house	13.7	
Total	\$ <u>91.2</u>	Funds available to July 31, 1973; work is to be accomplished by June 30, 1973.
Missile:		
Contracts:		
Lockheed	\$233.0	Performance with fiscal year 1973 funds on five contracts to end on or before June 30, 1973, even on contract for the period October 1, 1972, through September 30, 1973.
MIT	18.2	
GE Ordnance System	17.9	
Vitro	6.7	
Westinghouse	6.7	
In-house:		
Navy	3.1	All work by Government agencies with fiscal year 1973 funds to be performed in fiscal year.
Air Force	10.0	
Atomic Energy Commission	8.5	
Total	\$ <u>304.1</u>	

We did not look at the performance plans for contracts and project orders for the submarine and missile programs under \$2 million or for those for the TRIDENT support facility.

As we reported last April, the Navy plans to fully fund the design and fabrication of hardware components associated with the development of the nuclear reactor for the TRIDENT system, even though the work will extend into several succeeding fiscal years.

APPENDIX II

Vertical/Short Takeoff and Landing Aircraft

Fiscal year 1973 RDT&E program--\$16 million

The only contract awarded through November 1972 was a letter contract dated October 13, 1972, under which the Government's total liability is \$2.9 million. The next program review was scheduled for January 1973. If the contract is continued, fiscal year 1972 reprogrammed funds (\$8 million) and 1973 funds will be used through June 30, 1973.

An engine subcontract had not been awarded at November 1972.

A second major contract was being negotiated which would require \$6 million to \$8 million of 1972 and 1973 funds through June 30, 1973, for Government equipment to be furnished to the contractor.

Airborne Warning and Control System

Fiscal year 1973 RDT&E program--\$233 million (includes \$15 million of funds withdrawn from the program by the Air Force)

	<u>Amount</u> (millions)	<u>Planned period of performance</u>
<b>Contracts:</b>		
Prime--Boeing	\$202.6	Planned: August 1, 1972, to June 30, 1973 (contract amended to have program year coincide with fiscal year).  Actual: Due to slippage, fiscal year 1973 estimated to fund work from early November 1972 through mid-September 1973.
Technical support--MITRE	3.0	July 1, 1972, through June 30, 1973.
Other program support	4.0	
Government risk and engineering change orders	8.4	

Subsequent information furnished by the Air Force shows the following:

Fiscal year 1973 RDT&E program--\$194.2 million

	<u>Amount</u> (millions)	<u>Planned period of performance</u>
<b>Contracts:</b>		
Prime--Boeing	184.8	Dec. 1972 to Oct. 1973
<b>Subcontracts:</b>		
Westinghouse	(30.2)	Jan. to Oct. 1973
IBM	(31.1)	Aug. 1972 to Sept. 1973
Hazeltine	(10.6)	Oct. 1972 to Sept. 1973
Other	(19.5)	Nov. 1972 to Sept. 1973
Other	9.4	July 1972 to June 1973

Subsonic Cruise Armed Decoy

Fiscal year 1973 RDT&E program--\$48.6 million

Contracts:

Fiscal year 1972 funds carried the airframe, navigation-guidance, decoy, carrier equipment, and two engine contractors into October 1972. 1972 funds were obligated for study contracts and other support.

The program office had been authorized \$30 million through December 31, 1972. Authority had been granted to fund the two engine contractors through the demonstration phase, ending in February or March 1973. Due to rescheduling of the DSARC review, authority to fund the program beyond December 31, 1972, is being granted on a month-to-month basis.

The projected period of performance for fiscal year 1973 funds ends June 30, 1973. Work probably will be carried a week or two into fiscal year 1974 by the amount of 1973 funds on the contract at June 30 to cover contractors' expenses for which the Government is liable if the contract is terminated.

In-house work is being performed coincident with the fiscal year for which it is funded.

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B-1 Aircraft

Fiscal year 1973 RDT&E program--\$444.5 million

	<u>Amount</u> (millions)	<u>Planned period</u> <u>of performance</u>
<b>Contracts:</b>		
Airframe--North American	\$301.5	Planned for 12 months from August 1; changes in LOGO clauses to July 1 have been negotiated. Officials expect all funds to be expended by July 31, 1973. Expenditure usually follows performance by 30 to 40 days.
Engine--GE	95.5	
Avionics--Boeing	30.6	Awarded April 1972; fiscal year 1973 to fund July 1, 1972, to June 30, 1973.
Systems engineering and technical assistance--Calspan	5.0	Awarded May 1, 1972; fiscal year 1973 to fund July 1, 1972, to June 30, 1973.
Other Government costs	11.9	Bulk of in-house work performed coincident with the fiscal year.

Subsequent information furnished by the Air Force shows the following:

	<u>Amount</u>	<u>Planned period</u> <u>of performance</u>
North American	<sup>a</sup> \$299.4	Aug. 1, 1972, to June 30, 1973
GE	<sup>a</sup> 83.2	do.
Boeing	<sup>a</sup> 35.1	do.
Other	26.8	do.

<sup>a</sup>Includes subcontractor incremental programing based on subcontractor funding plans.