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*REPORT TO THE COMMITTEE  
ON APPROPRIATIONS  
HOUSE OF REPRESENTATIVES*

90-0520

**Selected Significant  
Audit Findings In  
The Department Of Defense**

B-106190

**BY THE COMPTROLLER GENERAL  
OF THE UNITED STATES**

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JAN. 28. 1972



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

B-106190

Dear Mr. Chairman:

We are pleased to submit our annual report of selected significant audit findings relating to activities of the Department of Defense. A similar report relating to the civil departments and agencies of the Government was submitted separately.

In this report we have included items which we believe should be of interest and use to the Committee during the appropriations hearings for fiscal year 1973. These findings and recommendations have previously been brought to the attention of responsible departmental officials by means of audit reports. Some matters commented on in this report are those on which the Department has indicated that corrective action either has been or will be taken. The items have been included, however, in view of their significance and of the fact that we have not had an opportunity to evaluate the adequacy of corrective actions taken.

We shall be pleased to furnish any additional information that you may desire.

We are sending copies of this report to the Department of Defense and to the military departments so that they may be in a position to answer any inquiries that may be made during the appropriations hearings with respect to these findings and recommendations.

Sincerely yours,

A handwritten signature in black ink, appearing to read "James B. Stotts".

Comptroller General  
of the United States

The Honorable George H. Mahon  
Chairman, Committee on Appropriations  
House of Representatives

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PROCUREMENT PRACTICES AND CONTRACT ADMINISTRATION

CONTINUING PROBLEMS IN IMPLEMENTATION OF  
THE TRUTH-IN-NEGOTIATIONS ACT

Department of Defense

Under the Truth-in-Negotiations Act of 1962, contractors are required to submit cost or pricing data in support of their price proposals and to certify the correctness of these data. Cost or pricing data are required, generally, on negotiated contracts not based on adequate price competition, when prices exceed \$100,000. The act, together with the regulations implementing its provisions, has been criticized by industry spokesmen as being inequitable and unduly burdensome on contractors. GAO reviewed the reasonableness of prices negotiated under the act and the problems experienced by contractors and agency officials in applying the act and the implementing regulations. The review included 35 contracts, valued at \$135 million, awarded to 21 contractors.

For 18 contracts, valued at \$47 million, negotiated prices were \$1.5 million higher than warranted by the cost data available to contractors at the time of negotiation. The overpricing stemmed basically from the same circumstances which the Truth-in-Negotiations Act was designed to remedy-- contractors' submissions of incomplete, inaccurate, and noncurrent data. Little or no overpricing was found in the other 17 contracts valued at \$88 million. GAO brought the findings of overpricing to the attention of agency officials and they took action to obtain price adjustments where appropriate.

GAO found no serious problems experienced by contractors and agency officials in applying the act and the implementing regulations. There were two areas, however, which warranted the attention of the Secretary of Defense. They involved (1) differences among Government and contractor officials in their understanding of the extent of cost data to be submitted and (2) the reluctance of some subcontractors to furnish cost data to prime contractors with whom they may be in competition. (B-39995, Dec. 29, 1970.)

A later report, issued to the Congress in October 1971, summarized 23 reports that GAO had issued to agency officials and to contractors during fiscal year 1971 on the pricing of selected noncompetitive contracts. The 23 reports were based on GAO's review of selected cost elements included in the prices of 33 contracts, totaling \$217 million, negotiated with 19 contractors by 13 procurement activities of the Department of Defense (DOD). The selection of contracts for review was based on indications that some pricing or contracting deficiencies were present. Therefore GAO's findings were not to be construed as applying to all non-competitive contracts.

The negotiated prices for 28 of the 33 contracts were about \$8.7 million higher than indicated by cost or pricing data available to the contractors at the time of negotiations. No overestimated costs were found for the five other contracts examined.

Factors contributing to the overpricing included:

- Failure of contractors to submit to the Government significant cost data which became available after they had submitted their proposals.
- Failure of contracting officers to obtain all significant data or to have these data reviewed by Government auditors.
- Inadequacies in the Government's audits and technical evaluations of contractors' proposals.

In view of the relatively small number and value of contracts examined and the selection of them on the basis of potential findings, general conclusions could not be drawn as to the overall effectiveness of DOD management of its responsibility to negotiate reasonable prices. GAO's findings indicated, however, a need for continued attention by DOD to the performance of its personnel involved in this function.

In its individual reports to agency officials, GAO recommended that they determine the extent to which the Government was legally entitled to price adjustments under the



terms of the contracts. The responses received indicate that the officials have initiated such action. (B-39995, Oct. 14, 1971.)

PROBLEMS IN SETTLEMENT OF CONTRACTORS' CLAIMS  
BASED ON GOVERNMENT-CAUSED DELAYS

Department of the Navy

GAO had issued to the Congress several reports, in prior years, on the Navy's procedures in contracting with private industry for ship construction. A December 1958 report pointed out that contractors had submitted claims for costs, sustained because of Government-caused delays, which were vague and lacked adequate support; that evaluations of the claims by the Navy had been inconclusive; and that the claims had been settled without sufficient data to show the damage sustained by the contractors.

Two other reports, in June and October 1964, pointed out that a lack of effective price evaluation procedures had resulted in the negotiation of unnecessarily high prices for work which had been added to the original contracts by change orders. GAO made a follow-up review to determine whether improvements had been made by the Navy.

Claims submitted in the period April 1965 through January 1969 by three contractors (referred to as contractors A, B, and C) in the amounts of \$114,300,000, \$486,000, and \$1,342,000 were settled in the amounts of \$96,500,000, \$354,000, and \$760,000, respectively. Although the amounts of the claims were purported to represent the additional costs incurred by the contractors because of Government-caused interruptions and delays, the contractors provided no tangible evidence of the additional costs incurred. In the absence of such evidence, the Navy, in GAO's opinion, could not adequately evaluate the validity of the claims.

Following are examples of the rationale on which the contractors based their determinations of additional costs attributable to Government-caused interruptions and delays.

--Contractor A compared the estimated labor-hours in its original price proposal with the labor-hours actually expended and estimated to be expended to complete the contract. The contractor then attributed the increase over the original estimate, after an allowance for the increase it judged to

be caused by its own inefficiencies, to Government-caused delays.

- Contractor B based its claims on judgment factors. The contractor's chief estimator stated that disruption claims were based on highly intangible judgment factors and, in his opinion, were impossible to accurately detail.
- Contractor C compared the labor-hours expended in earlier construction of ships of the same class with the labor-hours expended in the follow-on construction and, after taking into account the physical differences in the ships, attributed the increase to Government-caused delays.

GAO believes that, without information linking the additional costs to actions of the Government, the Government had insufficient assurance that the settlements made were fair and reasonable. Therefore GAO recommended that supervisors of shipbuilding require contractors to furnish evidence relating the delay and disruptions to actions of the Government and to provide specific data in support of additional costs claimed.

GAO found that certain contractors used historical data and standards in preparing proposals for the pricing of contract changes other than those arising from claims, but the Navy generally did not obtain that data. It relied on the personal judgment of its negotiators and analysts. GAO believes that the Navy would have been in a better position to evaluate the proposals and would have had greater assurance as to the reasonableness of the prices negotiated had it obtained the data used by the contractors.

GAO has recommended that the newly implemented "change order accounting" contract clause be clarified to clearly require contractors to segregate their direct costs on constructive changes as well as formally written changes. To facilitate the negotiation of reasonable prices for change orders, GAO has recommended also that:

- Contractors lacking adequate systems for providing a factual basis for proposed prices be encouraged to improve their systems.
- Historical cost data and standards be obtained, whenever appropriate, for evaluation and audit.
- The Navy ensure that supervisors of shipbuilding obtain current evaluations by the Defense Contract Audit Agency of the estimating systems of contractors located in their respective geographic areas and that the evaluations include the bases upon which proposed prices are developed.

The Navy generally concurred in GAO's recommendations but pointed out that some of the cited problem areas were susceptible to improvement but not to total and precise solution. It was the Navy's opinion that this was particularly true of any attempt to achieve total, explicit, and auditable justification of all delay and disruption costs. (B-171096, Apr. 28, 1971.)

FEASIBILITY OF APPLICATION OF "SHOULD COST" CONCEPTS  
IN REVIEWS OF CONTRACTORS' OPERATIONS

Department of Defense

At the request of the Joint Economic Committee, through its Subcommittee on Economy in Government, GAO made a study of the feasibility of applying "should cost" analyses in its audits and reviews of Government procurement. The Committee defined the "should cost" approach as an attempt to determine the amount that a weapon system or a product ought to cost given attainable efficiency and economy of operation. In a report to the Congress on the study (B-159896, May 20, 1970), GAO concluded that it was feasible, in auditing and reviewing contractors' performance, to utilize "should cost" analyses. Subsequently GAO made a trial application of the "should cost" concepts at plants of four contractors.

At each of the plants, GAO found areas where the contractors' operations could have been improved and cost could have been reduced through such things as better production planning and control, more competition in subcontracting, and greater care to avoid assigning engineers of higher competence than that required by the nature of the work to be performed.

Although "should cost" review techniques are intended to find out how contractors' operations can be improved, they also lead to disclosure of areas where Government contracting or administration practices affect contract costs adversely. GAO noted areas where the Government could have improved its practices and reduce costs through consolidation of procurements and through elimination of unnecessary requirements for packaging and for testing.

GAO brought its findings and suggestions for improvements to the attention of officials of the contractors and the Department of Defense. Although the potential for total savings which could accrue from the findings and suggestions was not readily measurable in all cases, in those instances where they were measurable, GAO estimated the potential savings to be almost \$6 million annually. The Department of Defense advised GAO that the agencies concerned would look into the specific matters noted by GAO at the contractors' plants.

Because "should cost" reviews require examinations into many facets of contractors' operations and management not covered in GAO's statutory authority to examine contractors' records, GAO suggested that the Congress may wish to consider expanding GAO's statutory authority to enable it to make effective "should cost" reviews on an independent basis. (B-159896, Feb. 26, 1971.)

FEASIBILITY OF OBTAINING MORE COMPETITION  
IN EMERGENCY PROCUREMENTS

Department of Defense

During fiscal year 1968 the Department of Defense negotiated about \$5.4 billion of emergency procurement; about 72 percent was negotiated without obtaining competition. Emergency procurement declined to about \$2.5 billion in fiscal year 1970, but the percentage of noncompetitive procurement remained at about the fiscal year 1968 level. GAO found that many of the noncompetitive procurements might have been made competitively--at lower costs and with acceptable time for delivery.

A report issued to the Congress in March 1971 pointed out that GAO's review of 54 noncompetitive procurements, amounting to \$33 million, showed that, for 36, amounting to \$31.5 million, information was available at the time of the awards that other suppliers could have delivered items at lower prices and within the desired periods. GAO estimated that, had competition been obtained, about \$3.1 million could have been saved on 14 of the 36 procurements and that an amount not readily determinable could have been saved on the remaining 22 procurements.

GAO has recommended that decisions to procure noncompetitively in emergencies be based on:

- A determination that the selected supplier can make delivery a specified number of days, weeks, or months earlier than other suppliers.
- An estimate of the additional unit cost to result from the proposed noncompetitive procurement.
- A statement, from the commander of the activity needing the item, that the additional cost is justified by the time saved.

The Deputy Assistant Secretary of Defense (Installations and Logistics) stated that there was no need to implement GAO's recommendations because procurement officials were already giving great weight to the urgency of need cited by the

requesting activity and were considering availability of other sources of supply, price factors, and other relevant matters in decisions to procure without competition.

GAO pointed out that the degree of urgency for emergency procurements was generally indicated only by reference to a high-priority number on the procurement request without support as to urgency of mission, date material was required, or effect of delay. Little attempt was made to determine whether the earlier projected delivery date was worth the additional cost. GAO stated that its findings showed a need for the recommended improvements in awarding emergency procurements. (B-171561, Mar. 25, 1971.)



NEED FOR MORE EXPEDITIOUS PROCESSING OF  
CONTRACTORS' ENGINEERING CHANGE PROPOSALS

Department of Defense

During the course of production of military aircraft, many engineering changes are made to make the aircraft safer, more reliable, or easier to maintain. The need for such changes is usually brought to light through test and operation of the units already produced. The changes may originate with either the military service responsible for the aircraft or the contractor, but the plans for the changes, in the form of engineering change proposals, must be approved by the military service before the contractor is authorized to make the changes. A delay in processing a change proposal can increase the number of aircraft delivered without the change. Once the aircraft are delivered, the change could be delayed for months or years or never made at all. Furthermore it is generally more expensive to make changes after production.

GAO examined 547 engineering change proposals, implemented on 11 types of aircraft in the fiscal years 1967 and 1968, to determine whether extensive delays had occurred in processing them.

The average time for processing the 547 proposals was 131 days compared with 45 days for routine proposals, 15 days for urgent proposals, and 24 hours for emergency proposals--time standards established by the Department of Defense. GAO estimated that the additional costs caused by delays in processing 42 of the proposals could amount to as much as \$3.7 million if all the planned changes were made.

Following are some of the causes of delay.

- Ineffective monitoring by project offices of evaluations by reviewing staffs.
- Insufficient direction for contractors from the military services as to the kind and extent of data to be submitted.

- Reliance on a single, overall time standard in lieu of time standards for each individual organization concerned in the evaluation.
- Sequential rather than concurrent reviews by the organizations concerned in an evaluation.
- Duplicate reviews.
- Lengthy processing by groups not under the control of the group managing the project.

GAO suggested that the Secretary of Defense designate a group to establish procedures for effective control of the processing of engineering change proposals and to monitor the implementation of the procedures by the military services. GAO suggested also specific steps that it believed would reduce processing time. The Department of Defense agreed with the suggestions. (B-152600, Jan. 20, 1971.)

NEED FOR CLARIFICATION OF CIRCUMSTANCES UNDER WHICH  
CONTRACTORS MAY ACQUIRE EQUIPMENT FOR ACCOUNT OF THE  
GOVERNMENT

Department of Defense

Department of Defense regulations provide that, with some exceptions, contractors furnish all plant equipment needed for contract performance. Equipment so specialized that its use is limited to testing in the development or production of particular items, or performance of particular services, is not considered plant equipment. Such equipment--known as special test equipment--is generally acquired by contractors for the account of the Government and ownership is retained by the Government. GAO's prior work had indicated that some plant equipment had been inappropriately classified as special test equipment and acquired for the account of the Government.

GAO's review at plants of five contractors showed that, of the equipment acquired for the account of the Government at a cost of \$62 million, about \$12 million worth should have been classified as plant equipment and acquired for the account of the contractors.

The problem of classification stems from the Armed Services Procurement Regulation which defines special test equipment as including "all components of any assemblies of such equipment." This definition permits the acquisition of plant equipment as special test equipment when it is to be included in a group of test equipment items assembled for a specific use. GAO has recommended that the Secretary of Defense:

- Revise the definition of special test equipment in the Armed Services Procurement Regulation and other pertinent Department of Defense regulations to exclude items that are really plant equipment.
- Require contracting officers to review proposals for special test equipment to ensure that plant equipment is not included.

The Department of Defense concurred in the findings and advised GAO that the Armed Services Procurement Regulation was being revised to limit the conditions whereby the Government would take title to special tooling and test equipment and to distinguish this type of equipment from plant equipment in the initial procurement phase. With respect to the second recommendation, these revisions will also require that qualified Government industrial specialists review contractors' listings of special tooling and test equipment proposed for acquisition to ensure that plant equipment is not included. (B-140389, Apr. 9, 1971.)

## DEFENSE INDUSTRY PROFIT STUDY

### PROBLEMS IN DETERMINING EQUITABLE PROFIT OBJECTIVES FOR NEGOTIATED CONTRACTS

#### Department of Defense

The Armed Forces Appropriation Authorization Act for fiscal year 1970 directed GAO to study profits earned on negotiated contracts and subcontracts entered into by the Department of Defense, the National Aeronautics and Space Administration, and the Coast Guard. Contracts of the Atomic Energy Commission to meet requirements of the Department of Defense were also included.

Profit before Federal income taxes, measured as a percentage of sales, was significantly lower on defense work than on comparable commercial work for 74 large defense contractors included in GAO's study. The profits of these 74 contractors for the 4-year period of 1966 through 1969 averaged 4.3 percent of sales on defense work and 9.9 percent of sales on comparable commercial work. When profit was considered as a percentage of the total capital investment--total liabilities and equity but exclusive of Government capital--used in generating the sales, the difference narrowed to 11.2 percent for defense sales and 14 percent for commercial sales. Further, when profit was considered as a percentage of equity capital investment of stockholders, there was little difference between the rates of return.

The major factor causing comparability of the rates of return on contractors' capital investment for defense and commercial work was the substantial amount of capital provided by the Government in the form of progress payments, cost reimbursements, equipment, and facilities. This reduced the contractors' capital investment required for defense work.

GAO also reviewed 146 negotiated defense contracts to see whether it was practical to develop investment data on individual contracts and to see whether any wide range in profits existed. The review showed that data on cost, profit, and invested capital could be developed on individual contracts and that profit rates ranged widely in defense

contracts. The average rates of return for individual contracts were substantially higher than the average annual profit rates developed from the questionnaires GAO submitted to the 74 large defense contractors. The 146 contracts reviewed, however, cannot be considered as a representative sample.

Under current procedures for negotiation of profit for defense contracts, little consideration is given to the amount of capital investment required from the contractor to perform the work. Profit objectives are developed as a percentage of the anticipated costs. As a result, inequities can and do arise between contractors when differing proportions of their capital are required to perform the work. Further, by relating profits to costs, contractors in noncompetitive situations are not provided with positive incentives to make investments in equipment that would increase efficiency and result in reduced costs, especially where follow-on contracts are involved. Under the current system of negotiating contract prices, such investments tend to lower, rather than increase, profits in the long run. Other factors, however, such as whether the program will be continued, could be overriding considerations affecting contractors' decisions concerning investments in equipment.

GAO believes that, in determining profit objectives for negotiated contracts where effective competition is lacking, consideration should be given to capital requirements as well as to such factors as risk, complexity of the work, and other management and performance factors. Where capital requirements of contractors are insignificant, such as in many service-type contracts or contracts for the operation of Government-owned plants, profit objectives would continue to be developed primarily through consideration of the other factors. The system adopted should be used, if applicable, by all Government agencies to simplify industry participation.

GAO did not consider that legislation was required to establish uniform guidelines. GAO recommended that the Office of Management and Budget take the lead in the development of uniform, Government-wide guidelines for determining profit objectives in negotiation of Government contracts and that the guidelines emphasize consideration of the total

amount of capital required by a contractor when appropriate, where effective price competition is lacking.

On June 11, 1971, the Industry Advisory Council Subcommittee on Contract Financing issued a report recommending that the Department of Defense adopt a profit policy which is, in part, based on contractor capital investment. On July 17, 1971, the Deputy Secretary of Defense issued a memorandum to the Assistant Secretaries of Defense (Comptroller and Installations and Logistics) indicating his support of the profit based on capital investment concept and requested the submission of a comprehensive profit policy proposal by December 1, 1971. (B-159896, Mar. 17, 1971.)

## PROBLEMS IN ACQUISITION OF MAJOR WEAPON SYSTEMS

### SUMMARY APPRAISAL OF THE ACQUISITION PROCESS

#### Department of Defense

The acquisition of major weapons has required a large investment in recent years and has involved substantial long-term commitments of future expenditures. This has impacted heavily on the resources available for other national goals and priorities. Because of deep concern in the Congress and because of evidence of serious weaknesses in the weapon systems acquisition process, GAO undertook to provide the Congress and the Department of Defense with a continuing series of appraisals of those factors most closely related to effective performance in procuring major weapons.

The first such appraisal covered 67 major weapons in the current acquisition programs of the Army, the Navy, and the Air Force. A report on the appraisal, issued to the Congress in March 1971, included a classified supplement containing summaries of GAO's evaluations of the individual weapons. In transmitting the report GAO advised the recipients that more detailed studies of each of the weapons had been prepared and would be provided upon request.

GAO drew the following conclusions from its appraisal.

- Over the last several months, the Office of the Secretary of Defense and the military services have been engaged in a substantial effort to identify and solve problems that have adversely affected the acquisition of major weapon systems in terms of compromised performance, delayed availability, and increased costs. Generally the newer weapon procurements are following a slower development pace, and procurement practices are more conservative than those of earlier periods. Because many of the current programs are in early stages of acquisition, evidence of the results of changed concepts is not yet available to adequately assess them, but the outlook is brighter.
- The identification of need for a weapon system and the relative priority to be assigned to its



development are fundamental problems in acquisition of weapon systems. Initial decisions as to which weapon system will be developed and the priority of its development is made by any one of the military services but the Department of Defense has no organized method by which such proposals can be measured against the Department's total needs. Such a method is now under development, but it is in its infancy.

- In recent months the Office of the Secretary of Defense and the military services have paid extensive attention to the persistent problems of defining performance characteristics of weapon systems and of determining the technical feasibility of achieving that performance. There are many encouraging signs that these problems are being abated. Extensive efforts are being applied--early in the weapon development process--to identifying areas with high design risks and to constructing and testing the hardware itself to demonstrate the feasibility of high-risk components before proceeding with further development.
- In the preparation of and attention given to cost-effectiveness determinations, there was a wide range of quality. This variation has lessened the value of these studies to the entire acquisition process.
- One of the most important unresolved problems in the management of major acquisitions is the problem of organization. The essence of the problem appears to be attempts to combine the specialized roles of major weapon systems acquisition management into more or less traditional military command structures. Because of this, there usually are a large number of organizations not directly involved which can only negatively influence the project. There should be a direct relationship between the missions for which weapon systems requirements are determined, e.g., strategic deterrent, land warfare, ocean control, etc., and the organizational structure needed to acquire them. Such an arrangement would facilitate grouping related weapon systems in packages of common mission and would permit putting together an acquisition organization of appropriate size and stature to handle these matters.

On 61 weapon systems where complete cost data were available, estimates on amounts needed to develop and produce these systems had increased some \$33.4 billion. About one third of this increase, or \$9.5 billion, represented the difference between the estimates prepared when the systems were first approved for development (the planning estimates) and the updated estimates prepared when the systems were about to be placed under development contracts. The remainder of the increase, or \$23.9 billion, was due to changes in quantities to be acquired and to a combination of such things as engineering changes, revisions to estimates, and provisions for increased cost due to economic inflation.

GAO has recommended that the Secretary of Defense:

- Make every effort to develop and perfect a Department-wide method--now in its early stages of development--to be followed by all military services for determining two things: first, what weapon systems are needed in relation to the Department's missions; second, what the priority of each should be in relation to other systems and their missions.
- Establish guidelines and standards for the preparation and utilization of cost-effectiveness studies. These guidelines should require that studies be updated and reviewed as part of the decision process when major changes in cost and/or performance require revised schedules for funding commitments.
- Place greater decisionmaking authority for each major acquisition in a single organization within the service concerned, with more direct control over the operations of weapon systems programs and with sufficient status to overcome organizational conflict between weapon system managers and the traditional functional organization.
- Ensure that each selected acquisition report (1) contain a summary statement regarding the overall acceptability of the weapon for its mission, (2) recognize the relationships of other weapon systems complementary to the subject systems, and (3) reflect the current status of program accomplishment.

The Director, Defense Research and Engineering, expressed general concurrence in these recommendations. (B-163058, Mar. 18, 1971.)

## DEEP SUBMERGENCE RESCUE VEHICLE

### Department of the Navy

The deep submergence rescue vehicle is a small submersible craft designed to rescue personnel from a disabled submarine. The development cost and time for the rescue vehicle far exceeded original estimates. GAO made a review to determine the causes.

The estimated cost for the rescue vehicle program increased by more than 1,100 percent between 1964 and 1969--from \$36.5 million for a 12-vehicle system and 1 year of operation to \$463 million for a six-vehicle system. The estimated development and introduction period increased from 4 to 10 years. In addition, costs of support equipment increased because of changes made in the design of the vehicle which necessitated a redesign of support craft and some of the supporting equipment.

The Navy advised that it had initiated a cost-effectiveness study in response to an earlier report to the Congress (B-167325, Feb. 20, 1970) in which GAO pointed out that the increased effectiveness to be obtained from producing four more vehicles, in addition to the two already on order, would be small in relation to their cost. In December 1970, following the study, the Navy reduced the program to the two rescue vehicles already ordered at an estimated cost of \$199.4 million.

GAO believes that a substantial portion of the cost growth and program stretch-out occurred because

- the original estimates, made by a Deep Submergence Systems Review Group established by the Secretary of the Navy, were low and were made without sufficient design, preliminary development, and testing and
- changes were made in the vehicle design to increase its capabilities beyond those stated in the formal requirement document for the vehicle.

The design changes in the vehicle included an increase in the operating depth to almost three times the depth at which

rescue of submarine personnel was possible and an increase in rescue capacity from 14 to 24 survivors.

The Navy management system includes many controls. It does not, however, require formal approval by top-level management of major changes increasing the capabilities of a developmental system beyond those called for in the formal requirement document. GAO found no thorough and well-documented analysis of consideration given in the decision-making process to the effects the changes would have on development cost and time--which were considerable--or to the measurement of the benefits obtainable from the increased capabilities against the increased program costs.

To provide more effective control over development projects and over significant increases in development cost and time, GAO has recommended to the Secretary of the Navy that he require that:

- A sufficient body of design, experimental development work, and subsystem testing be done before promulgation of an end-item system requirement document and thus establish a sound factual basis for authorizing full-scale development.
- Analyses be made of the impact on program cost and time schedules of proposed changes designed to increase the capabilities of equipment beyond the required level.
- Advance approval of top-level management be obtained for all changes which are designed to increase the capabilities of the equipment beyond requirements and which significantly affect program cost and time schedules.

The Navy considered the management objectives implicit in the recommendations to be generally sound but did not cite any actions to be taken. The Navy pointed out that, after initiation of the rescue vehicle program, the Department of Defense established new methods to improve the management of major acquisition programs which would correct the problems that we reported.

The new methods should help to ensure more participation by top management in the acquisition process. GAO believes, however, that it is still necessary to revise Navy regulations. (B-167325, June 3, 1971.)

## DRONE ANTISUBMARINE HELICOPTERS

### Department of the Navy

Through June 30, 1969, the Navy spent over a quarter of a billion dollars for the development and acquisition of the drone antisubmarine helicopter weapon system. This system, designed for the delivery of torpedoes by drone helicopters, operates from surface ships for the purpose of attacking and destroying enemy submarines. The system provided the Navy with a capability it did not have previously; however, the system suffered from a high rate of loss of the drone helicopters--of the 750 purchased, 362 had been lost through April 1969.

In a report issued to the Congress in December 1970, GAO concluded that the difficulties experienced with the system resulted, in large part, from producing the helicopters before they were fully developed and tested. Modifications of some of the ships from which the helicopters were to operate were completed while the helicopters were still under development. This, together with the capability that the helicopter was expected to provide, created strong pressure on the Navy and the contractor to expedite development and delivery.

The concurrent development and production of major weapon systems by the Navy were discussed in an earlier report to the Congress. (B-163058, Nov. 19, 1970.) In that report GAO recommended that the Navy revise its instruction relating to concurrent development and production to provide for the submission of meaningful data to the Assistant Secretaries who make concurrency decisions. GAO recommended also that the Naval Audit Service give consideration to making regularly scheduled audits of the practice of concurrent development and production. The Navy agreed, in general. (B-160877, Dec. 31, 1970.)

ANTISUBMARINE WARFARE DIRECTIONAL LOW-FREQUENCY  
ANALYSIS AND RECORDING SYSTEM

Department of the Navy

The directional low-frequency analysis and recording system (DIFAR) is regarded as critical to the proper operation of the Navy's latest land- and carrier-based means of detecting, classifying, localizing, and attacking enemy submarines. It is intended as the principal antisubmarine sensing means in the P-3C, the latest version of the land-based P-3 patrol aircraft. Older versions of the P-3 and other aircraft are to be retrofitted with DIFAR. The expected costs of procuring P-3C aircraft, which will depend upon DIFAR for achievement of the antisubmarine warfare role, will be about \$2.6 billion. A total of about \$50.2 million had been expended in the development, test, and evaluation of DIFAR, and it was estimated by the Navy that the total program costs would be in the hundreds of millions.

In a report issued to the Congress in June 1971, GAO stated that the Navy awarded contracts in April 1968 for the production of DIFAR for deployment before satisfactory testing to determine its suitability for use in an operational environment and despite available evidence which indicated that its performance would not acceptably meet requirements.

A production contract was awarded for a more complex system (DIFAR II) which had not been successfully tested prior to award even though a less complex system (DIFAR I) had failed testing. GAO believes that neither system was ready for large-scale production at the time the production contracts were awarded.

To preclude the production of developmental equipment which has not yet demonstrated its ability to meet prescribed objectives, GAO recommended that Navy instructions be revised to require that:

- The approval for production prior to completion of development and testing be contingent, as a minimum, on the equipment satisfactorily passing a suitable technical evaluation test by the responsible testing agency.

--The equipment design tested be the same as the design to be produced.

GAO recommended also to the Secretary of the Navy that:

--DIFAR be thoroughly proven in the P-3C aircraft prior to installation in other aircraft.

--The Chief of Naval Operations have adequate information on which to base his decision for producing an unproven item for deployment by requiring that the request for authority to produce include a comparison of the design performance requirements with the performance actually achieved as the result of testing.

The Assistant Secretary of the Navy (Financial Management) stated that the Navy agreed with the intent of the recommendations but did not state that specific actions would be taken with regard to the recommendations.

(B-160877, June 4, 1971.)



## SURFACE SHIP SONAR SYSTEM

### Department of the Navy

In a report issued to the Congress in March 1971, GAO stated that the Navy began procurement of the AN/SQS-26 surface ship sonar system before completion of initial development and testing. As a result, the system underwent continued redesign and modification to correct numerous equipment deficiencies and to incorporate features to improve performance. The cost to develop the system, which was estimated in May 1960 to be about \$12 million, increased to an estimated \$101 million by 1970; costs of production units increased; and delivery of production units was often later than originally scheduled. With the possible exception of the most current models of the system, performance was below expectations.

In an earlier report to the Congress of the Navy's large-scale production of major weapons before completion of development and testing (B-163058, Nov. 19, 1970), GAO had recommended that the Navy revise its instruction relating to concurrent development and production to provide for the submission of meaningful data to the Assistant Secretaries who make concurrency decisions and that the Naval Audit Service give consideration to making regularly scheduled audits of the practice of concurrent development and production. The Navy agreed, in general, with these recommendations. (B-160877, Mar. 9, 1971.)

## TACTICAL VEHICLES

### Department of the Army

The Army Tank-Automotive Command is responsible to the Army Materiel Command for the development and procurement of tactical wheeled and tracked vehicles. During fiscal year 1970 a total of \$35.5 million was programmed by the Army Tank-Automotive Command for functions relating to research and development of vehicles, and the Command awarded contracts valued at \$545.7 million for tactical vehicle production. Previous studies by GAO and by the Army Audit Agency revealed management weaknesses. Recommendations for improvement had been made as a result of the studies.

GAO made a follow-up review and found that problems continued despite organizational and procedural changes.

To improve the management of the tactical vehicles development program, GAO has recommended that the Army ensure that

- requirements documents specifying, in accordance with existing regulations, the desired characteristics of the vehicles to be developed are prepared, thoroughly analyzed, and approved at the Department level before any full-scale development efforts are initiated;
- approved requirements documents clearly set forth valid and realistically attainable requirements, based upon prior exploratory and experimental work, to permit full-scale development and production within the designated time frame;
- coordination and communication between the developing and using agencies are improved to preclude the need for significant deviations from, or later waiver or relaxation of, design or performance characteristics deemed essential by the user;
- mass production of vehicles is authorized only after the vehicles have demonstrated the capabilities to meet the essential characteristics established and after the prospective user has pronounced them

suitable, thereby minimizing costly changes during production; and

- management places greater emphasis on the timely dissemination of complete and current data to decision-making agencies and, to the extent possible, maintains continuity of participants from one meeting to the next throughout the development project to promote stability.

The Assistant Secretary of the Army (Research and Development) agreed, in general, with these recommendations and cited the actions taken. These actions included:

- Army regulations were changed to require an in-process review that will show proof that advanced development is progressing satisfactorily, or that the degree of risk is known and is acceptable to the Army, prior to continuing development.
- Army regulations were changed to require more detailed information to obtain authorization for mass production.
- Continuity was being maintained at the review meetings by project managers' deputies, and other high-level project management members, and the in-process reviews were strengthened by requiring voting members to comment on the minutes of meetings within 30 days.

GAO believes that adequate implementation of these actions and continuing management attention should improve the Army's management of its tactical vehicles development program. (B-133256, Jan. 27, 1971.)

RESEARCH AND DEVELOPMENT

DUPLICATION IN TACTICAL RECONNAISSANCE  
DEVELOPMENT PROGRAMS

Department of Defense

The report issued on this subject is classified  
"Secret." (B-171801, Mar. 29, 1971.)

NEED FOR CLOSER SURVEILLANCE OVER  
AUTHORIZATIONS FOR PRODUCTION OF  
MUNITIONS UNDER DEVELOPMENT

Department of the Army

GAO reviewed the procedures and practices of the Army in authorizing production, purchase, and field use of developmental munitions. The review was limited to a specific round of howitzer ammunition because GAO was informed that the procedures followed were representative of the procedures in managing other developmental munitions.

Production and operational use of materiel prior to completing development and testing is referred to as concurrent development and production or concurrency. The concurrency of Army munitions is authorized by a "Limited Production" (LP) classification. Items so classified are to be used only for the urgent requirement they are intended to fulfill.

The howitzer ammunition had been authorized as LP for 1 year, to fill an urgent requirement for close-range, direct-fire capability in Southeast Asia. The item was still in limited production 3-1/2 years later, although authorization from higher echelons had not been obtained. The rate of use in Southeast Asia was far lower than had been anticipated but production was continued and resulted in an excess stock position.

GAO proposed that the Army improve its overall management of munitions development by

- reviewing all "Limited Production" munitions to determine whether similar problems warranting correction existed;
- enforcing its regulation requiring that "Limited Production" items be used only for the specific, urgent requirement for which purchases were approved;
- complying with its requirements for periodic justification by the developing agency, and approval by the

Army General Staff, of the need to renew a "Limited Production" authorization; and

--monitoring the use of developmental items purchased for the other services.

The Assistant Secretary of Defense agreed with the first three proposals and stated that action had been taken to (1) issue revised regulations strengthening and clarifying procedures for managing "Limited Production" items and (2) restrict the amounts budgeted for procurement of such items. Also the Army reduced funding for procurement of "Limited Production" items from \$220 million in fiscal year 1969 to \$10 million in fiscal year 1971.

The Assistant Secretary did not agree with GAO's proposal that the Army monitor the use of developmental items purchased for the other services. He stated that the Army had a monitoring responsibility only when a safety risk was involved. The new Army Regulation 71-6, dated January 1, 1970, however, does not mention this responsibility. Therefore GAO recommended that the Secretary of the Army revise Army Regulation 71-6 to reflect the responsibility of the Army to maintain cognizance of the use of developmental items in instances involving potential safety risk. (B-169675, Dec. 7, 1970.)

NEED FOR CLOSER SURVEILLANCE OVER SELECTION  
AND MANAGEMENT OF BASIC RESEARCH PROJECTS

Department of the Air Force

GAO sought to evaluate the practices followed by the Air Force Office of Scientific Research (OSR) in selecting, managing, and using the results of research projects. At the time of the review, OSR was supporting about 1,200 projects, costing about \$285 million, most of which had been proposed and were being performed by university researchers.

Federal policy is that the National Science Foundation will provide support for general-purpose research. Other Federal agencies should support basic research only in areas closely related to their missions. This policy is set forth in an Executive order as well as a Department of Defense directive. Guidelines for applying this policy were not provided, however.

OSR interpreted this policy broadly when selecting projects to be funded. Also it did not prepare written justification showing the basis for supporting the projects. Although many of the projects appeared to be closely related to the Air Force mission, some did not. Support of research not closely related to the Air Force mission reduces the effectiveness of its basic research program since fewer dollars are available for closely related research.

Immediately after GAO's evaluation the Air Force reviewed all current projects in OSR as part of a Defense-wide study following enactment of the 1970 Defense Procurement Authorization Act. This act contained a provision forbidding the use of 1970 funds for research projects which did not have a direct and apparent relationship to a specific military function or operation. On the basis of its review, the Air Force disqualified 115 OSR projects--10 percent of the active projects--because of insufficient relevance.

GAO found that OSR was not obtaining maximum benefit from its basic research program because certain procedures were not consistently followed.

--Surveillance over ongoing research projects was not adequate to ensure that researchers did not deviate from negotiated budgets or from negotiated budgets or from the agreed-upon time that the principal investigator would devote to the project.

--Procedures for ensuring that all required scientific reports were being received were not consistently followed; some reports were not obtained at all and others were obtained only after long delays.

--Procedures for disseminating research results were not fully effective.

GAO suggested that the Department of Defense issue guidelines limiting defense funding to projects which were clearly relevant to assigned missions. Consideration should be given to the most appropriate agency to support the research in view of the missions and research performed by other organizations--military and civilian, Government and private. Instructions should be issued requiring the need for each contract to be clearly established in writing. GAO also made a number of suggestions for improving management procedures. The Air Force took actions which were responsive to GAO's suggestions. (B-170801, Jan. 29, 1971.)



## SUPPLY MANAGEMENT

### INACCURACY OF INVENTORY RECORDS

#### Department of the Army

After a GAO report on inventory controls in the Department of Defense, issued to the Congress in 1967, the Department prescribed new procedures to improve the accuracy of recorded inventories. GAO reviewed the Army inventory procedures in the continental United States and in Europe to determine the effectiveness of the new procedures.

Although the Army was attempting to schedule and take physical inventories on a regular basis and its depots appeared to be doing a good job, significant improvement in the accuracy of inventory records had not been achieved. The Army's inventories of about \$3 billion in the continental United States required adjustments amounting to \$830 million in 1969 to reflect quantities based on physical counts-- downward adjustments of \$439 million for inventory that did not exist and upward adjustments of \$391 million for inventory the Army did not know it had. The \$830 million represented an adjustment ratio of 27.7 percent compared with the ratio of 23.5 percent GAO had found in 1966.

The Army's inventories of about \$1.1 billion in Europe required even greater adjustments in 1969: downward adjustments of \$648 million and upward adjustments of \$768 million for a total of \$1.4 billion. These adjustments exceeded the average inventory value by about \$300 million.

Accuracy of records was not improved because the Army had underestimated the magnitude of the task. The manpower and automatic data processing equipment provided for the task had been inadequate and had not been effectively applied.

GAO made a series of recommendations designed to strengthen procedures and to improve accuracy of the Army's inventory records. The Army generally agreed with GAO's findings and conclusions and initiated action on each of the recommendations. The Army's actions, if effectively implemented and pursued on a continuing basis, should bring about substantial improvement in accuracy of the inventory records. (B-146828, Feb. 26, 1971.)

NEED TO ELIMINATE LOW-COST, LOW-USE  
ITEMS IN SUPPLY SYSTEMS

Department of Defense

In a report issued to the Congress in October 1967, GAO pointed out that substantial savings could be achieved by eliminating some 1.2 million low-cost, low-use items from the Department of Defense supply system. The Department of Defense agreed and cited a program undertaken for that purpose.

GAO's follow-up to evaluate the effectiveness of the program showed that there were still as many as 900,000 low-cost items in the supply system that were seldom, if ever, needed. It has been estimated that the annual carrying cost of inventories is from 20 to 25 percent of the value of the inventories.

GAO has proposed that the Department of Defense improve its program for elimination of items from the supply system by ensuring that:

- Stock retention policies of inventory management organizations do not restrict the systematic identification and elimination of low-cost inactive items.
- Inactive items are promptly eliminated unless there are valid future needs that cannot be met readily and economically by purchase or fabrication of stocks as needed.
- Provision is made for periodic identification and elimination of low-cost, slow-moving items that can be obtained readily and economically by purchase or fabrication as needed.
- All inventory management organizations give the program a high priority.

The Acting Assistant Secretary of Defense (Installations and Logistics) agreed, in general, with the findings and proposals. He reported a number of corrective actions,

taken or planned, which GAO believes will eliminate unneeded stocks in the supply system if carried out effectively.  
(B-133118, Mar. 31, 1971.)

POTENTIAL FOR MORE EFFECTIVE USE AND REDISTRIBUTION  
OF EXCESS MATERIEL IN EUROPE

Department of Defense

To obtain maximum use of the materiel in the European theater, the Department of Defense established a special program, conducted by the Materiel Asset Redistribution Center, Europe, to promote redistribution of excess materiel among the military services in Europe. GAO reviewed the program to evaluate its adequacy and effectiveness.

From inception of the program in July 1967 through October 1969, about \$199 million worth of excess materiel was reported to the Center and about \$20 million worth was redistributed. Not all the Navy organizations, however, and none of the Air Force contractors in Europe had reported their excesses to the Center, nor had they used the Center as a possible source of supply for their requirements. GAO estimated that full participation by Navy organizations and Air Force contractors in Europe could have resulted in additional redistribution of \$684,000 worth of excess materiel in the 12-month period ended December 1, 1969, and comparable amounts in subsequent years.

GAO has found that:

- Excesses were released by the Center for disposal after the period of screening against requirements--generally 90 days from the time the excesses were first reported--even though some of the items had a potential for redistribution and were in fact needed shortly after they were released for disposal.
- Substitute and interchangeable excesses were not considered for redistribution even though computer equipment capacity had been provided to include information on such items and an audit in 1968 by the Office of the Secretary of Defense indicated that use of substitute and interchangeable excesses would have increased redistribution by about \$1.5 million in the 15-month period covered in the audit.

--Excesses redistributed to Army requisitioners to meet permissive overstockage may have deprived organizations with a more urgent need and resulted, in some instances, in the subsequent reporting of the same stocks as excess.

GAO has recommended that the Secretary of Defense:

- Require full participation in this program by the military services and contractors.
- Reevaluate the screening cycle to prevent premature disposal of needed items.
- Require the resolicitation of organizations, whose excesses were recently released and are subsequently needed, to determine whether the excesses are still available for redistribution.
- Ensure that the program for considering substitute and interchangeable items is carried out as previously recommended by the Department of Defense audit.
- Establish procedures to hold requisitions for permissive overstockage in abeyance so, if requisitions for current operating stockage are received during the screening period, they can be filled first.

The Department of Defense generally concurred in GAO's conclusions and recommendations. (B-140389, Feb. 3, 1971.)

RETENTION OF EXCESS INVENTORIES OF  
INDUSTRIAL MATERIALS AT NAVAL SHIPYARDS

Department of the Navy

GAO's review at four of the 10 naval shipyards showed that about 30 percent of the inventories of industrial materials at the four yards were excess to their needs. The excess material--valued at about \$17 million--had not been reported to the naval supply system for redistribution or for disposal; the shipyards did not have an adequate program for identifying excess material. GAO estimated that disposal of the excesses at the four yards would eliminate holding costs of about \$3.4 million annually.

Much of the accumulation of the excess material resulted from the ordering of material far in advance of actual need and from the establishment of stock levels on the basis of inaccurate demand and use data.

GAO noted also that the yards were not making maximum use of Navy procedures to reduce the cost of requisitioning high-use, low-value items. These procedures provide for requisitioning of such items in bulk, and placing them in bins in the work areas, rather than requisitioning them in small quantities as needed. Elimination of unnecessary requisitioning at the four yards could reduce costs by about \$1.3 million annually.

Internal audits and studies at shipyards had identified similar conditions but the recommended corrective measures had not been fully implemented.

In response to GAO's suggestions for improvement, the Navy stated that inventories at the 10 naval shipyards had been reduced by about \$28 million in the period January through September 1970--the trend was continuing--and cited a number of related actions taken or planned to

- improve requisitioning of material,
- develop revised stocking criteria,
- establish guidelines for placing material in inventory,

--dispose of excess material and set up annual inventory and reporting requirements, and

--increase to \$10 the unit value of material which may be bulk issued.

The Navy stated also that the Inspector General would provide surveillance of the implementation of audit report recommendations. (B-125057, May 28, 1971.)

UNECONOMICAL USE OF AIR PARCEL POST  
FOR SHIPMENT OF SUPPLIES

Department of Defense

Supply depots of the military services were using air parcel post more than necessary because local controls had not been established, in all cases, to ensure selection of the most economical, yet timely, methods of shipment. Use of alternative methods could save about \$520,000 annually at three of the seven installations included in GAO's review. About \$450,000 is being saved annually at two other installations as a result of adoption of controls that GAO recommended.

Alternatives to air parcel post include Navy and Air Force, contractor-operated, domestic cargo airlift systems; special types of lower cost airlift postal services to overseas areas; and surface transportation. The Army monitors official mail addressed to overseas activities to select the least costly mode of transportation by which the mail will reach its destinations within delivery requirements. In fiscal year 1969 this program reduced mailing costs by over \$5.4 million. GAO believes that the savings could have been much larger if the monitoring program had covered all parcels being sent overseas through the military postal system.

GAO has recommended that:

- The Secretary of Defense see that procedures at military supply installations are revised to ensure consideration of all acceptable means of delivery and selection of the least costly means that will permit delivery in the required time.
- The Navy adopt a mail-monitoring program at the Navy fleet post offices to select the least costly means of sending official mail overseas.
- The Department of Defense issue policy guidance, similar to that of the Army, requiring all military services and other Government activities using the military postal system to indicate delivery dates or



similar information on supply parcels so as to facilitate the screening process at the postal gateways.

The Department of Defense agreed with the first two recommendations and stated that the third recommendation--requirement that delivery dates be indicated on supply parcels--would be considered in connection with its special review of the military mail concepts, operations, and procedures. (B-157476, May 6, 1971.)

## PHASEDOWN OF UNITED STATES

### MILITARY ACTIVITIES IN VIETNAM

#### PROBLEMS ENCOUNTERED IN THE PHASEDOWN

##### Department of Defense

Between June 8, 1969, and April 15, 1970, the U.S. forces in Vietnam were reduced from 538,000 to 425,500 troops as a part of the phasedown of U.S. military activities in Vietnam. These reductions were made in three steps--over periods of 3 to 4 months for each step--by redeploying military units or placing them in an inactive status, by reassigning individuals, and by curtailing replacements scheduled to be sent to Vietnam. The military services met each of the directed troop reduction schedules despite the relatively short time provided. The phasedown of the large quantities of supplies and equipment was, and continues to be, a more formidable task.

GAO reviewed the policies and procedures being applied in the phasedown to identify problems being encountered--particularly in the logistics area--and to bring the problems promptly to the attention of the responsible military commanders and the Secretary of Defense while the phasedown was continuing. The review was directed primarily to matters connected with the third step--a reduction of 50,000 troops completed April 15, 1970.

The circumstances made it difficult for organizations in Vietnam, subordinate to the command headquarters of the services, to prepare for efficient reductions of military activities. They could not be provided with specific information as to size and time of force reductions until announced by the President. Further, they were placed in the position of having to continue their assigned missions until a few days prior to reassignment of personnel and turn-in of equipment. In many cases detailed procedures for withdrawal had to be improvised even as the withdrawal was taking place. Notwithstanding these constraints, the Department of Defense and the military services were making a concerted effort to account for and control the arms, equipment, and materiel which became excess as the phasedown proceeded.

The constraints contributed to a variety of problems requiring attention of military commands in Vietnam and Washington, including the Office of the Secretary of Defense.

- There was a need for greater coordination among the three military services in supplying the needs of the Vietnamese Armed Forces. Lack of uniform procedures resulted in some cases in equipment needed by the Vietnamese being shipped back to the United States.
- There were problems in returning Army equipment to the United States because of a backlog of equipment which required cleaning (to meet standards of the U.S. Public Health Service and the Department of Agriculture for treatment and processing of materiel being returned to the United States) and a shortage of facilities for cleaning.
- There were problems in returning Air Force materiel to the United States because of a lack of people qualified to pack and crate the materiel.

GAO also observed the following situations where improvement might be possible.

- Because of ineffective screening, Army repair parts and components were issued to the Vietnamese Army, although needed by U.S. military services in Vietnam, or shipped out of Vietnam, although needed by the Vietnamese Army.
- The logistical reporting and accounting system did not provide accurate, complete, or timely data.
- The procedures for cancellation of requisitions for supplies, not needed because of force reductions, were not adequate.
- The Army had a significant backlog of unserviceable equipment in Vietnam because of limited maintenance capabilities.

There may also be a need to strengthen control over transfers to the Vietnamese of such facilities as buildings,

airfields, and water purification plants, to ensure that they are capable of using and maintaining them.

GAO has suggested that the Secretary of Defense:

- Review existing plans of the military services for anticipated withdrawals to ensure that the plans provide for withdrawals on a unit-by-unit basis.
- Establish uniform procedures and criteria (1) for the transfer of excess materiel to the Vietnamese Armed Forces and (2) to ensure that all excess materiel in Vietnam is considered in fulfilling requirements of the Vietnamese.
- Reduce the backlog of equipment awaiting preparation for return to the United States.

The Assistant Secretary of Defense (Installations and Logistics) stated that the military departments concurred generally in the conclusions and suggestions and cited the recent actions to implement the suggestions. GAO believes that the actions, if consistently applied, will improve the conditions which existed in the early stages of the phasedown. (B-171579, Mar. 15, 1971.)

GAO's follow-up review of phasedown actions through December 1970 showed that considerable progress had been made to ensure an orderly phasedown and effective redistribution of equipment and materiel and to cope with problems identified in GAO's earlier report. Following is a summary of GAO's observations in the follow-up review.

Disposition of departing units' equipment--In the earlier phasedown segments, there was a lack of coordination among the services in transferring equipment from one United States service to other than its counterpart service in the Vietnamese Armed Forces, e.g., from the United States Air Force to the Vietnamese Marines. Procedures were established to correct this. As one result, about \$2.9 million worth of materiel was transferred from the United States Marines to various Vietnamese services. Also procedures for controlling transfer of equipment among Army units had been

strengthened and resulted in cancellation of requisitions for equipment valued at about \$5.1 million.

Other actions taken to cope with the problems of disposing of equipment included:

- Revision of unnecessarily restrictive criteria as to the condition of equipment eligible for transfer to the Vietnamese and a resultant reduction in need to ship equipment from the United States.
- Substantial completion of programs for a more accurate identification of Vietnamese requirements for turned-in equipment.
- Implementation of mechanized procedures by the Air Force for screening available equipment against Vietnamese requirements.
- Emphasis by the Air Force that, consistent with the deployment priorities of units returning to the United States, the units not take along their equipment, parts, and supplies without first considering the in-country requirements for the materiel.
- Action by the Army to avoid undue backlogs of turned-in equipment awaiting maintenance and to permit its timely disposal.

Redistribution of excess equipment and materiel--Improvements have been made in the system for redistributing excess equipment and materiel in Vietnam to organizations with requirements for them. Redistribution to meet the requirements--especially those of the Vietnamese--had not been as effective as possible. The following problems were identified by GAO and by other audit organizations.

- Until July 1970 there were no procedures for submission of Vietnamese Army requisitions through United States Army supply channels for screening against in-country materiel, although this screening was technically feasible.

--Even after these July 1970 procedures were established, requisitions for equipment for the Vietnamese, originated in the United States by the International Logistics Center, Army Materiel Command, under the approved military assistance program, were still not being screened against excess materiel available at depots in Vietnam. The Army has since issued new guidance which provides for the use of the depot excesses to meet the requirements of the Vietnamese.

--Until November 1970 the Vietnamese were not allowed to requisition their funded requirements from the large volume of excess materiel reported to the Pacific Command Utilization and Redistribution Agency.

Adjustment of supply flow--Many effective actions were taken to adjust stock levels in response to decreasing requirements. This was reflected in a significant decrease in the stockage level. GAO noted, however, that further improvements could be made and brought problem areas to the attention of management for correction. As a result:

--The Army and Marines canceled a greater number of requisitions of departing units and thus further reduced the quantities of unneeded materiel being shipped to Vietnam.

--The Army is blocking more effectively the processing of requisitions of units scheduled for phaseout.

Property disposal operations--GAO limited its review efforts in the area of property disposal to avoid duplicating the work being performed by the Army Audit Agency. The Agency concluded in its report on this work that the Army had exerted a strong effort to develop means of disposing of excess personal property.

All the problem areas presented in GAO's report were brought to the attention of local management and were discussed with appropriate officials in the Department of Defense and the military services. In each instance prompt corrective action was taken or promised. Therefore GAO included no specific recommendations in its report. (B-171579, Aug. 9, 1971.)

## MAINTENANCE, REPAIR, AND OVERHAUL

### NEED TO EXPEDITE REPAIR OF HELICOPTERS

#### Department of the Army

Because of large quantities of helicopters, engines, and components awaiting repair at the Army Aeronautical Depot Maintenance Center and the unusual military need for the equipment, GAO reviewed the Army's helicopter maintenance program.

The backlog of equipment awaiting repair had increased substantially during the 18-month period preceding January 31, 1970, because of increased military operations and insufficient use of maintenance capabilities. At that date 200 helicopters, valued at about \$63 million, and large quantities of engines and components with an original cost of about \$88 million, were awaiting repair and overhaul. At the same time the Army had on order, or was planning to buy, about 1,700 helicopters and large quantities of engines and components.

In a report issued to the Congress in December 1970, GAO concluded that the Army could attain the same or increased availability of helicopters at less cost by expanding its maintenance program and by reducing or stretching out its procurement program. The Army had sufficient physical plant and equipment available to expand its maintenance program. Additional funding was needed, however, for personnel costs involved in establishing a second work shift and, if necessary, a third shift.

GAO proposed that the Army:

- Reappraise its maintenance program to take full advantage of both in-house and contractor maintenance capabilities to reduce the backlogs of aircraft, engines, and components awaiting overhaul.
- Review the supply status of aircraft, engines, and major components to reevaluate both the need for those on order and their delivery schedules.

The Army agreed with these recommendations and stated that overhaul programs had been or would be increased and that procurement requirements for some of the new items had been reduced. Subsequently the Army reduced its planned procurement of helicopter engines and components by about \$113 million. (B-146888, Dec. 7, 1970.)



## NEED TO MONITOR TIRE-REBUILDING PROGRAMS IN EUROPE

### Department of Defense

In a report issued to the Congress in January 1971, GAO estimated that about \$1 million could have been saved in Europe during fiscal year 1969 if the motor vehicle tire-rebuilding programs of the Army and Air Force had been more effective. Significant quantities of used tires that could have been rebuilt were sold to scrap dealers at nominal prices. Neither the Army nor the Air Force had surveillance systems to monitor the programs.

GAO has suggested to the Secretary of Defense that the programs could be improved by:

- Inspection of tires on vehicles during vehicle maintenance to ensure removal at the required time for rebuilding.
- Inspection, periodically, of condemned tires in disposal yards to ensure that tires which can be rebuilt and used are not scrapped.
- Initiation of operational standards and a reporting system that would measure the performance of the tire-rebuilding program at each base.

The Department of Defense concurred in these suggestions. The Department stated that a program similar to one instituted for aircraft tires would be initiated. (B-159200, Jan. 8, 1971.)

## ADMINISTRATION OF MANPOWER MATTERS

### ADVERSE EFFECTS OF CEILINGS ON EMPLOYMENT OF CIVILIAN PERSONNEL

#### Department of Defense

Before fiscal year 1969 civilian personnel ceilings for the executive departments and agencies generally were established on the basis of annual budgets and were administered by the Bureau of the Budget (now the Office of Management and Budget). On June 28, 1968, the Congress enacted the Revenue and Expenditure Control Act of 1968 which imposed restrictions on hiring of civilian employees. These restrictions superseded the ceiling system previously imposed by the Bureau of the Budget. On July 22, 1969, the restrictions on hiring imposed by the act were repealed and the earlier ceiling system imposed by the Bureau of the Budget was reinstated. GAO reviewed the effect of the personnel ceilings and hiring restrictions on management of civilian personnel.

In GAO's opinion, personnel ceilings or hiring restrictions, whether imposed by statute or by the Office of Management and Budget, do not provide the most effective management control over civilian personnel. They tend to be

- arbitrarily applied because of the difficulty of making them fit program requirements;
- inflexible because they do not allow for changes in skills as needed in changed programs;
- uneconomical when they permit accomplishment of programs through use of overtime labor at premium pay; and
- ineffective in controlling expenditures since, as an alternative, programs may be accomplished through contracting with firms or institutions for personal services.

GAO believes that personnel levels can be better controlled through budget and program planning procedures.

GAO proposed that the Director of the Office of Management and Budget permit departments and agencies to accomplish their programs without restrictions on numbers of personnel--being limited only by the availability of funds. In December 1970 the Director agreed to eliminate employment ceilings in the Department of Defense for a 1-year trial period. GAO recommended that the Secretary of Defense establish a centralized group of officials to assess the effectiveness of fiscal and program constraints on employment levels during the test period.

GAO suggested also to the Secretary of Defense that substantial improvements in the management of total personnel resources could be achieved through continuous evaluation by officials independent of the component organizations of the Department of Defense. GAO proposed that he establish a group of high-level officials, responsible to him, for continuing and objective evaluation of missions, programs, and activities of the component organizations within the Department. The Department of Defense did not consider that establishment of such a group would significantly improve its existing review process and pointed out that virtually every level of management was making maximum effort to achieve savings necessary to meet budget reductions. (B-165959, Apr. 30, 1971.)

## MISASSIGNMENT OF ENLISTED PERSONNEL

### Department of the Army

At the time of GAO's review of the use of Army enlisted personnel, there were about a million trained enlisted personnel assigned to Army units--divided about equally between continental U.S. installations and overseas installations. GAO found that about 10 percent of the personnel at the four continental U.S. installations included in the review were assigned to duties for which they had not been trained. Information obtained in other reviews at overseas installations showed that the rate overseas was even higher.

GAO recognized that personnel turbulence--the number of men entering and leaving the Army and the number being assigned and reassigned--has increased significantly in recent years and has added to the problems of personnel management. The Army needs a personnel management system capable of coping with the varying degrees of turbulence. The existing system, with some revisions and adequate enforcement, may afford the Army the potential for effective personnel management. But the adequacy of the system could not be evaluated because the Army failed to strengthen and enforce it and continued to circumvent it.

Some of the problems in personnel management stemmed from inaccuracies in the data accumulated under the Army's personnel statistical and accounting system. Others resulted from practices which circumvented the normal operation of the personnel management system. These practices included "bulk filling" of requisitions for personnel (assignment of personnel in groups rather than on the basis of the requisitioned skills and skill levels of the individuals) and mandatory levies (a practice, outside the normal requisitioning procedures, which directs installations to transfer personnel to fill vacancies at other installations).

GAO has recommended that the Army:

--Enforce existing personnel management policies and procedures at all levels of command and refrain from

initiating at headquarters level such actions as "bulk filling" and mandatory levies.

--Strengthen existing personnel management policies and procedures rather than introduce new programs or changes which add to reporting requirements and complicate the operation of the system.

--Give priority attention to the manpower requirements for the personnel management career field and stabilize the tours of such personnel as soon as practicable.

The Department of the Army agreed with the general thrust of GAO's report and stated that increased attention to the personnel management area had been programmed by the Army Audit Agency. (B-146890, May 6, 1971.)

NEED FOR CLARIFICATION OF GUIDANCE ON  
ASSIGNMENT OF CREWS TO SHIPS UNDER  
CONSTRUCTION

Department of the Navy

The Navy assigns nucleus or skeleton crews, for temporary duty periods up to 6 months, to ships under construction to ensure delivery of ships with trained, well-organized crews. Over 2,800 enlisted men, representing more than 980 man-years and costing about \$6.2 million, had been assigned to temporary duty as nucleus crews for 43 ships during the 12-month period ended July 31, 1970.

GAO's review of crew assignments for five of these ships showed that:

- The number of personnel assigned was based on personal judgment and precedent rather than on actual need.
- Crew members were sent to construction sites before they were needed and were assigned to perform tasks that already were the responsibility of other Navy organizations.
- The Navy had not evaluated work requirements to determine the type of personnel that should be included in a nucleus crew.
- The system for obtaining information on the use of nucleus crews was inadequate.

In January 1971 the Navy approved a pilot program to place a fleet introduction team on permanent shore duty at ship-construction sites to perform many of the tasks being performed by nucleus crews. This program represents a significant departure from traditional manning practices for newly constructed ships.

GAO has recommended that the Secretary of the Navy:

- Determine the essential functions that nucleus crews should perform.

- Evaluate the composition and duration of manpower needed to perform the functions.
- Assign to nucleus crews only the rates and ratings for the man-months needed.
- Establish procedures which will provide for a continual evaluation of nucleus crew needs, including the requirement that prospective commanding officers recommend needed changes to nucleus crew authorizations in their monthly ships' progress reports.
- Monitor the actions taken by the Navy to make certain that valuable manpower resources are used efficiently.

The Navy concurred in these recommendations and initiated actions to implement them. (B-172632, Aug. 9, 1971.)

NEED FOR A COMPREHENSIVE ALCOHOLISM  
CONTROL PROGRAM FOR MILITARY PERSONNEL

Department of Defense

GAO made a review of alcoholism among military personnel at the request of the Chairman, Subcommittee on Alcoholism and Narcotics, Senate Committee on Labor and Public Welfare. In a report on an earlier study concerning Federal civilian employees (B-164031, Sept. 28, 1970), also made at the request of the Chairman, GAO pointed out that the Government could realize estimated annual savings of \$135 million to \$280 million from an alcoholism program for civilian employees, assuming prevalence rates of alcoholism ranging from 4 percent to 8 percent.

The Department of Defense (DOD) has no complete, reliable data that show the extent of alcoholism in the Armed Forces. Although the incidence of alcoholism in the military population may be no greater than that of the civilian population, it could be a more serious problem because of the frequently dangerous and critical duties involved.

Substantial savings, as well as humanitarian benefits, can be realized from the establishment of a comprehensive alcoholism control program for military personnel. For each 1-percent reduction in the incidence of alcoholism, the potential gross savings could be about \$24 million annually. If the incidence is comparable to the estimated average 5 percent in the civilian work force, then the potential annual gross savings could amount to about \$120 million.

Factors which could encourage the incidence of alcoholism among military personnel include social climate, family separations, low cost and ready availability of alcoholic beverages, and boredom. Factors which could discourage the development of alcoholism include military discipline and standards and the lower average age of the military personnel.

Negative attitudes and punitive statutes and regulations have hidden the problem. The military alcoholic has little incentive to come forward to seek help.



No DOD-wide alcoholism prevention and rehabilitation program existed for military personnel, nor were there any guidelines specifying procedures to be followed in treating them. As a result the treatment given to the military alcoholic at many bases was limited. Alcoholism rehabilitation programs, however, had been formally established at some military installations and DOD recently established a task force to study all aspects of alcohol abuse among military personnel.

GAO has recommended that the Secretary of Defense establish a comprehensive alcoholism control program for military personnel which would provide that:

- Alcoholism be recognized as a disease which is treatable rather than as misconduct which is punishable.
- Educational programs be established to inform personnel of the dangers of the abusive use of alcohol.
- Rehabilitative measures be made available to personnel having alcoholism problems.
- A study be made to determine more precisely the incidence of alcoholism and problem drinking.

DOD agreed with the last three of these four points. With respect to the first point--that alcoholism be recognized as a disease rather than misconduct--DOD pointed out that disease is equated with physical disability which is compensable. It would prefer to recognize alcoholism as a condition, rather than a disease, which is preventable and treatable through the application of enlightened attitudes and techniques.

GAO recognized that certain statutes and regulations affecting military compensation hold alcoholism to be misconduct. But as GAO stated earlier, these statutes and regulations have resulted in hiding the alcoholism problem. If they are not modified, there is little assurance that this condition will be corrected. Title V, section 501, of Public Law 92-129, amending the Military Selective Service Act, requires the Secretary of Defense to make such recommendations for additional legislation as are necessary to deal with the

problem of drug and alcohol dependence. GAO believes that the Secretary's recommendations properly should include proposals to deal with the problems of recognizing alcoholism as a disease. These problems include those involving pay, retirement, and related benefits. (Report to the Chairman, Subcommittee on Alcoholism and Narcotics, Senate Committee on Labor and Public Welfare, B-164031, Nov. 2, 1971.)

## INACCURACY OF MILITARY LEAVE RECORDS

### Department of the Army

Inaccurate accounting for military leave in the Army has been a continuing problem and has been the subject of a number of GAO's earlier reports. The weaknesses in accounting for leave have persisted despite the adoption of additional procedures and controls by the Army. Military personnel are paid for the unused leave at the time they are separated from military service. Inaccurate balances of unused leave have been a major factor contributing to improper payments by the Army to its military personnel. In April 1971 GAO issued a report to the Congress on its current review of the problem.

On the basis of the incidence of the errors GAO found in the follow-up review, estimated annual overpayments of about \$23 million and underpayments of about \$3 million could result. This was a conservative estimate. The ultimate improper payments could be at considerably higher rates of pay because of subsequent longevity and statutory pay increases and promotions. GAO estimated that, should the military personnel choose to use their erroneous leave balances rather than receive payment at the time of separation, a net loss of about 4,600 man-years of manpower availability could result.

The following conditions contributed to the high incidence of errors.

- Prescribed records were not used to establish dates servicemen arrived at installations and leave taken while in travel status was not charged.
- Leave taken in connection with intrapost transfers (leave taken between completion of training and reassignment to another unit at the same installation) was incorrectly treated as routine delay en route.
- Attendance records were not used as the source for recording leave.
- Inadequate supervision of the work of pay clerks.

--Little or no internal audit of leave either by local internal review staffs or by the Army Audit Agency.

GAO recommended that the Secretary of the Army:

--Direct that local internal review staffs be increased and that they and the Army Audit Agency regularly conduct reviews of pay and allowances with emphasis on military leave.

--Order a study of the Army's leave practices to ensure that the leave data input to the military pay system will be more accurate.

--Direct that travel orders be endorsed by appropriate officials to show dates of arrival and departure at all military locations to which the individuals traveled, including intermediate points, and that these endorsements be used with the travel voucher to compute the chargeable leave.

The Army generally concurred in the findings and conclusions and accepted the first two recommendations. With respect to the third recommendation, the Army expressed doubt that endorsement of travel orders would reduce the error rate significantly. (B-125037, Apr. 2, 1971.)

PROBLEMS IN CONVERSION OF NATIONAL GUARD  
TECHNICIAN POSITIONS TO FEDERAL POSITIONS

Department of Defense

The National Guard Technicians Act of 1968 converted Army and Air National Guard technicians from State to Federal employee status, effective January 1, 1969. One of the principal purposes of the legislation was to provide an adequate and uniform retirement and fringe benefit program.

National Guard technicians are civilian employees whose employment generally requires them to be members of the Guard also. Prior to the conversion they were considered employees of the States although their salaries were paid out of Federal funds.

As stated in its report issued to the Congress in April 1971, GAO's review of the records of over 1,000 technicians selected at random in 12 States showed that, in general, the conversion had been carried out in accordance with the act and implementing regulations and instructions. With few exceptions the grades, rates of compensation, leave balances, and annual leave accrual categories recorded at the time of conversion were proper. There were many discrepancies, however, in data pertaining to service prior to conversion, attributable primarily to clerical errors, omission of data, and misinterpretation of instructions. The erroneous data had no significant effect on the status of the technicians at the time of conversion and generally will not have any significant effect as long as they are employed by the Federal Government. But the errors could have an effect on the technicians' retirement rights and benefits and the related cost to the Government.

GAO recommended that the Secretary of Defense require the National Guard Bureau, in cooperation with the States, to review the personnel records of all technicians converted to Federal employee status to ensure the accuracy of the data recorded. The Assistant Secretary of Defense agreed, in general.

Three of the 12 States had separate personnel offices for the Army National Guard and the Air National Guard.

(The other nine had, or were planning to have, consolidated personnel offices.) Consolidation offers the advantages of centralized authority, uniformity of operations, and possible savings in personnel costs. GAO was subsequently informed by the Department of Defense that the personnel offices in all the States had been consolidated by the end of calendar year 1970.

Under the act of 1968, many of the technicians elected to be covered by the Federal civil service retirement system. There is a question as to the status of those Federal contributions remaining in the State systems which are not committed to pay retirement benefits to such technicians. The Senate Committee on Armed Services requested the Department of Defense to resolve this matter with the States. The Department assigned this responsibility to the National Guard Bureau. (B-20748, Apr. 29, 1971.)

NEED FOR IMPROVEMENT IN MANAGEMENT OF  
SUPPORT FORCES OF THE 8th U.S. ARMY

Department of the Army

GAO reviewed manpower procedures and practices concerning support forces of the 8th U.S. Army in Korea and found that decisions resulting in changed manpower needs of individual units were controlled by a ceiling for military personnel rather than justification of the need for specific positions. GAO also found a need for Army headquarters and the 8th Army to improve their practices for requesting and assigning military personnel.

With better management there could be a reduction in the number of military personnel assigned to the 8th Army and an increase in the readiness of individual units.

The Army has advised GAO that manpower accounting and requisitioning procedures in the 8th Army have been revised and that the Army will continue to emphasize the correction of deficiencies noted. (Report to the Chairman, House Committee on Appropriations, B-132990, Apr. 12, 1971.)

## MILITARY CONSTRUCTION

### MEASURES NEEDED TO ENSURE COMPLIANCE WITH CONTRACT SPECIFICATIONS IN CONSTRUCTION OF MILITARY FACILITIES

#### Department of the Army and Department of the Navy

The Army Corps of Engineers and the Naval Facilities Engineering Command, agents for the Department of Defense for construction of military facilities, need to strengthen their procedures and practices for inspecting construction so that military projects will be constructed as contracts specify.

A number of military facilities accepted by the Government as completed were not built in compliance with contract specifications. As a result, the facilities were not fully satisfactory for their intended use and/or the Government had to spend additional time and effort having deficiencies corrected.

GAO recommended that the Secretaries of the Army and the Navy have the two construction agencies:

- Systematically monitor their field offices' enforcement of contractors' quality control programs.
- Review their field offices' inspection reporting practices, correct those not in compliance with agency regulations, and implement a system for prompt communication of inspection findings from the field offices to the construction management levels.
- Improve the Army's training programs for inspectors and establish such programs in the Navy.
- Perform more comprehensive reviews of field offices' implementation of agency procedures for inspection and supervision of military construction.

GAO recommended also that the Secretary of Defense take action to ensure that the two construction agencies exchange information and coordinate activities in areas of mutual interest regarding construction quality assurance.



The Department of Defense agreed with these recommendations and in June 1971 advised GAO of the following corrective actions taken or planned by the two construction agencies.

- Regulations regarding the implementation of contractor quality control systems have been revised and headquarters personnel are conducting systematic reviews and visits to monitor field office implementation.
- Regulations have been issued setting forth requirements for inspection reporting and for the monitoring of such reporting by management levels.
- Improved training programs are to be initiated. For fiscal year 1972, the Army is expanding and adapting its courses and procedures to also accommodate Navy inspection personnel.
- Significant time is now devoted by Army personnel to field visits to review the implementation of agency procedures for inspection and supervision of military construction. Periodic on-site reviews of such procedures are to be made by Navy personnel.

GAO was advised that the two agencies had been coordinating their operations and that the Office of the Secretary of Defense would stimulate and expand, if possible, such mutual beneficial cooperation. (B-171496, Apr. 16, 1971.)

NEED FOR IMPROVED SPACE CRITERIA  
FOR BUILDING GENERAL CLASSROOMS

Department of Defense

The use of criteria established by the military departments for planning space requirements for general academic classrooms can result in the construction of excessive classroom space.

Space allowances of 15 to 18 square feet for each student were used widely in planning and constructing general academic classrooms in civilian colleges and universities. Army regulations, however, allow up to 35 square feet and Navy regulations allow 30 square feet for each student for such classrooms. Neither department has issued instructions for applying information on planned student load and training curriculums to these criteria in determining the number and sizes of classrooms to be built.

At several Army and Navy installations, classrooms which provided about 18 square feet of space for each student had been constructed. These classrooms were considered adequate by local officials.

Air Force instructions allow 12 square feet of general academic classroom space for each student included in the total student load. In determining the number and sizes of individual classrooms, however, there is no requirement that consideration be given to the number of students to be seated in class at any one time or to the expected number of hours of classroom instruction. Thus unless all students attend classes simultaneously, the criterion will result in providing more than 12 square feet of space for each student.

This criterion had been followed in constructing classrooms at Lackland Air Force Base, Texas. Excessive classroom space costing about \$300,000 had been constructed but has since been converted to other uses.

GAO recommended that the Secretary of Defense see that improved space-planning criteria be developed for general academic classrooms. Such criteria should (1) provide reasonably uniform space allowances for each student and (2)

require that the number of classrooms constructed be based on efficient scheduling and classroom use. GAO recommended also that the military departments review their classroom construction projects to determine if it would be feasible to reduce or eliminate proposed construction.

The Department of Defense agreed with these recommendations and in October 1971 advised GAO that it had developed the recommended uniform criteria for use by the military departments for planning general academic classrooms. The new criteria require (1) consideration of curriculums, class sizes, and class schedules in determining the number and sizes of classrooms and (2) use of standard square feet allowances for each student in the classrooms.

GAO was also advised that the military departments were continuing reviews of general academic projects to ensure compliance with the new uniform criteria. (Report to the Secretary of Defense, B-133316, Sept. 13, 1971.)

ACCOUNTING AND INFORMATION SYSTEMS

INACCURACY OF DATA FOR PROJECTING FUTURE REQUIREMENTS  
FOR MAJOR ITEMS OF MILITARY EQUIPMENT

Department of the Army

The Army relies on two computerized management information systems for information as to (1) its major equipment needs for aircraft, combat vehicles, tactical and support vehicles, communications and electronic equipment, missiles, and weapons and (2) equipment of these types already on hand. GAO tested the accuracy of these two systems since information derived from them must be dependable for the Army to make accurate and timely decisions for budget preparation and procurement requests.

GAO found significant weaknesses in both information systems. As a result of inadequate data, the validity of fiscal year 1970 budget and procurement actions was highly questionable. Unless there is significant improvement, equipment imbalances may affect seriously the Army's ability to perform its mission effectively.

Inaccuracy in data on equipment needs resulted from lack of adequate controls to ensure that all pertinent data were considered. For example:

- Some valid equipment requirements for entire Army units were excluded from the system's computations.
- Requirements were included for units that did not need the equipment.
- Requirements were included for units scheduled for deactivation.
- Some requirements were considered more than once.
- Some activities were not revising their equipment requirements to reflect current needs.

- Changes to requirements took an inordinate length of time to process for approval through the various Army commands.

Inaccuracy in data on equipment on hand resulted from weaknesses in reporting. For example:

- Army units did not report accurately the equipment in their possession.
- Quantities of equipment were "lost" in the Army system and not reported at all.
- Acceptable substitute equipment was not reported as available assets.

At one depot GAO found that 100 cargo trucks, valued at \$1.5 million, had been in storage for almost a year but had not been included in the Army's computations of available equipment. Because of questionable validity of the data, some inventory managers refused to use the equipment data derived from the information system. Instead, the inventory managers used data, also of questionable validity, that they had developed through estimates or personal knowledge.

GAO has recommended that the Army:

- Establish a procedure to ensure that all appropriate data are considered in determining equipment needs.
- See that processing of changes to equipment authorizations is accelerated.
- Require internal auditors to validate equipment requirements periodically and to review the accuracy of units' reports of equipment on hand.
- Continue with the plan to revise the asset information system through the reporting of major items of equipment by serial numbers.
- Direct that procedures be revised so that all major equipment on hand will be included in asset reports.

The Army concurred in the recommendations and stated that it had taken, and would continue to take, corrective action against the problems cited in our report. GAO believes that the Army's actions--completed, begun, or planned--should bring improvements. (B-163074, June 8, 1971.)

LACK OF UNIFORMITY IN  
COST ACCOUNTING SYSTEMS FOR MAINTENANCE

Department of Defense

The Department of Defense spends about \$7 billion a year for depot-level maintenance operations--the major overhauling or rebuilding of military equipment. GAO reviewed the cost accounting systems for depot-level maintenance of aircraft engines.

The cost accounting systems differed among the three services, and among installations within each service, making impossible any meaningful comparisons between facilities performing similar work. For example:

- The Army and Navy used job order systems but in different ways; the Air Force used an entirely different system--one based on hours of work.
- All three services had a procedure for determining cost of "exchange material"--a charge for rebuilt parts taken from stock less an allowance for the unserviceable parts returned to stock in exchange; however, the Army used a substantially different formula from that of the Navy and Air Force for determining the allowance for the unserviceable parts returned.
- Fuel, used in considerable quantities for testing overhauled engines, was treated as a direct material cost by the Navy and an indirect cost by the Army and Air Force.
- Fringe benefits, such as annual and sick leave and Government contributions to life and health insurance and to retirement, were treated as indirect cost by the Air Force and an integral part of labor cost by the Army and Navy.

GAO proposed that the Secretary of Defense issue instructions that would ensure that the cost accounting systems provide complete, comparable, and accurate information on the operations and accomplishments of depot-level maintenance.

The Department of Defense agreed that there were inconsistencies in cost reporting and that there were some areas requiring more explicit instructions; however, the Department believed that a more strict compliance with existing directives and instructions would generally ensure the desired uniformity in cost information. (B-159797, Feb. 2, 1971.)



BETTER COST ACCOUNTING NEEDED FOR  
OPERATION AND MAINTENANCE OF  
FAMILY HOUSING

Department of Defense

Operation and maintenance of military family housing cost about \$400 million in fiscal year 1970. The accounting system for accumulating these costs provides information on the annual cost of operating and maintaining different types of housing units. The cost figures are distorted, however, because widely dissimilar units varying in age, size, type of construction, and condition are grouped and the differences in cost are thereby averaged out.

The usefulness of the cost data is further eroded by doubt as to the reliability of the data. Costs recorded at 14 installations were found to be inaccurate and incomplete in a number of cases. Further, little or no use was made of the collected costs at most installations reviewed.

Despite inadequacies in the cost data, it is readily apparent that many housing units are no longer economical to operate and maintain and should be replaced.

GAO has recommended that the Secretary of Defense:

- Consider reclassifying housing into new categories for cost accounting purposes--taking into account age, size, type of construction, and condition of units--to provide cost data that are more nearly comparable and more useful for cost management and for reference in setting standards for the future.
- Issue more comprehensive directions to ensure greater uniformity in recording and reporting costs of operation and maintenance throughout the armed services.
- Provide the Congress, in the annual construction authorization requests, with a plan for the phased, orderly replacement of family housing units no longer economical to operate and maintain.

DOD agreed that reclassifying housing for more meaningful comparison of cost data would be useful but said that establishing a larger number of categories would increase the work load and would not offer benefits commensurate with the added cost. GAO pointed out that DOD had not determined the cost of operating the existing cost accounting system nor the additional cost of an expanded system and recommended that DOD make such a determination.

DOD agreed with the second and third proposals and stated that its instructions were being clarified and that a request would be presented to the Congress for authorization to replace uneconomical housing as soon as more urgent priorities were met.

In view of the indefinite nature of DOD's intent to present a plan for replacement of uneconomical housing, GAO suggested that the Congress may wish to consider:

- Requesting DOD to present an inventory of uneconomical housing.
- The merits of authorizing current expenditures for replacement of uneconomical housing to achieve future savings in operation and maintenance costs.

(B-159797, July 2, 1971.)

NEED FOR IMPROVEMENT IN COST ACCOUNTING  
FOR TRAINING UNDER THE GOVERNMENT  
EMPLOYEES TRAINING ACT

Department of Defense

The Government Employees Training Act provides for Government-sponsored programs to supplement and extend self-education, self-improvement, and self-training by employees. House Report 329, issued June 1, 1967, identified problems in employee training in the Government and recommended certain improvements. GAO reviewed the employee training program at 14 installations of the Department of Defense to see what had been done in response to the recommendations.

The weaknesses identified in 1967 regarding training costs continued to exist within the Department of Defense during fiscal year 1970. The military departments and agencies of the Department of Defense did not have adequate accounting systems for determining and reporting accurate costs of training and not all of the training costs were being identified in the cost accounting systems. Information reported to the Congress in the annual training reports tended to give a distorted picture of the training programs that were being operated under the act because cost of internal training, which represents more than 75 percent of the total costs, was not reported. Also trainee salaries were not reported as a training cost. GAO believes that training cost is the most significant cost element in the Federal training program and that it should be reported.

The costs shown in the annual training reports were not obtained from the accounting system but from various source documents. In most cases the source documents either were not available for GAO's review or could not be reconciled with the reports.

Instructions issued by the military services and the Defense Supply Agency for determining training needs and developing training plans generally appeared adequate but had not been effectively implemented at most of the installations GAO visited. Training selection procedures were generally fairly applied but there was little indication of a systematic method of selection at some of the installations.

To correct these and other weaknesses observed in the training program, GAO has recommended that the Secretary of Defense:

- Consider identifying training costs in the accounting system to make these data available to managers at all levels.
- Ensure that the Department of Defense Instruction 1430.5, prescribing policies and standards for conducting training, is properly implemented.
- Ensure that adequate procedures and management controls are established for recording completed training in the personnel files.
- Promote increased emphasis on surveillance of training activities by the use of management review groups, including internal auditors.

GAO has recommended also that the Civil Service Commission:

- Provide leadership in recommending or establishing a uniform costing system for training items to ensure that costs are comparable.
- Provide more frequent inspections of the training activities at military departments and agencies of the Department of Defense.

The Department of Defense and the Civil Service Commission agreed, in general, with the findings and cited corrective actions which appeared to be responsive to the conditions cited in GAO's report. (B-70896, May 25, 1971.)

POTENTIAL SAVINGS THROUGH TRANSFER OF  
INVENTORY ACCOUNTING FROM STOCK FUNDS  
TO INDUSTRIAL FUNDS

Department of the Army

The Army's Aberdeen Proving Ground was maintaining an industrial fund accounting system and a stock fund accounting system which resulted in duplication of certain accounting functions and records. GAO concluded that the industrial fund could be used as the principal accounting means to finance and account for inventories being controlled by the stock fund and to process related transactions. Elimination of the stock fund accounting system would simplify accounting procedures and would result in:

- Annual savings of almost \$100,000 in personnel costs.
- A reduction of about 45 hours a month in computer processing time.
- A potential reduction in keypunch and verification effort.

Aberdeen officials concurred in GAO's conclusion and stated that the changeover would not involve any significant costs or problems.

GAO recommended that the Secretary of Defense direct the Secretary of the Army to eliminate the stock fund accounting system at Aberdeen and to place the inventories owned by the stock fund under the control of the industrial fund. Because the industrial fund-stock fund arrangement at Aberdeen was typical of installation organization at many military installations, GAO recommended also that the Secretary of Defense determine the installations at which it would be practicable for industrial funds to finance and control inventories and take action to eliminate unneeded stock fund accounting systems.

The Department of Defense agreed with the objectives of these recommendations but believed that the recommended financial procedure was not in accordance with the provisions of 10 U.S.C. 2208 which authorized working capital funds.

GAO's review of the legislative history of these provisions indicated that the recommendations were not contrary to the intent of 10 U.S.C. 2208. Therefore GAO suggested that the Department of Defense reconsider its position and implement the recommendations. (B-159797, July 30, 1971.)

## DEFENSE INTERNATIONAL ACTIVITIES

### PROBLEMS IN ADMINISTRATION OF THE MILITARY ASSISTANCE TRAINING PROGRAM

Department of Defense and  
Department of State

At the request of the Chairman, Senate Committee on Foreign Relations, GAO performed a detailed review of the military assistance training program in 10 recipient countries. In recent years the total funds provided for training foreign military personnel under the military assistance and service-funded programs have averaged about \$74 million a year.

In assessing the training against the military requirements and resources of recipient countries, GAO observed that some of the training was unnecessary or not of high priority. For example, in Iran nearly one fourth of the \$155,000 for 1970 Navy training was spent for postgraduate courses for four men. In two other countries training was given at a cost of about \$525,000 that was unrelated to equipment on hand.

GAO also noted that inadequate consideration was given by the U.S. military advisors of the recipient countries' capabilities to provide training from their own resources and that no formal effort was made by the advisors to correlate the military assistance or service-funded training programs with other U.S. Government training programs.

Finally, in the selection of foreign students being trained, GAO found that the U.S. advisors did not take the necessary steps to ensure that a sufficient number of qualified candidates were nominated, screened, and tested in time so that they would be available to attend scheduled training courses. As a result, some courses had to be canceled or deferred and, in other cases, marginally qualified and unqualified personnel entered the training program.

GAO concluded that it was difficult to assess to what degree U.S. military assistance training had increased the effectiveness of forces in the recipient countries included

in its review. The difficulty arose from the lack of established measurement criteria and a system for periodically evaluating the training program.

GAO suggested that a reexamination of the overall program, for which substantial costs were being incurred for training, was warranted and recommended the following alternatives for consideration: (1) concentrating more effort by U.S. advisors on planning, programming, administering, and supervising the training programs to achieve effective management or (2) reducing the size of the training program so that it could be effectively managed with presently authorized staffs.

GAO suggested also that the Committees of the Congress might wish to consider the desirability of enacting legislation requiring the Secretary of Defense to establish a measurement system to assist in determining the effectiveness of expenditures for the military assistance training program.

The Department of State commented on the report by letter dated April 6, 1971, and generally agreed with the information contained in the report.

The Department of Defense commented on the report by letter dated July 13, 1971, and, in general, took a negative view of the information in the report. For example, the Department stated that:

"The valid but limited criticisms that resulted from this review of military assistance training will be only of limited assistance in the management of the training program." (B-163582, Feb. 16, 1971.)



## OTHER AREAS OF OPERATIONS

### INADEQUATE CHARGES TO COMMUNICATIONS SATELLITE CORPORATION FOR LAUNCH SERVICES

#### Department of the Air Force and National Aeronautics and Space Administration

The Communications Satellite Corporation (Comsat) and the National Aeronautics and Space Administration (NASA) entered into agreements whereby NASA would supply launch services to place commercial communications satellites in orbit. These satellites are sponsored by the International Telecommunications Satellite Consortium (Intelsat), a consortium of 80 nations dedicated to improving global communications. Comsat, as the largest investor in the consortium, acts as its manager.

Some of the services that NASA agreed to furnish actually are provided by the Air Force and are billed to Comsat through NASA. At the request of Senator Mike Gravel, GAO evaluated the Air Force charges to Comsat. GAO did not evaluate the NASA charges to Comsat.

On the basis of GAO's computation of the charges, the Air Force did not charge Comsat for about \$6.1 million of launch services costs through fiscal year 1969. About \$3.1 million of this amount was not attributed to Comsat launches by the Air Force mainly because of deficiencies in accounting procedures of the Air Force. Another \$3 million was attributed to Comsat launches by the Air Force but was not charged because of an agreement between NASA and the Department of Defense to exclude certain costs.

Because the parties have agreed upon the method used to determine costs chargeable to Comsat for the Intelsat I, II, and III series of launches, no legal basis existed for changing the method. For the Intelsat IV series of launches, a new agreement was reached. Although this agreement is essentially the same as before, it does provide that the method used to determine costs may be changed through negotiation.

GAO believes that, since Comsat is now a going concern and a profitmaking enterprise, charges to Comsat for the Intelsat IV series of launches and for future launches should be determined on a full-user-charges basis. This would be in accord with the following statement made by the President on this situation in May 1966.

"When the Federal Government provides special services for special groups, it is both good economics and good government to charge fees for these services--good economics because user charges make possible an efficient allocation of resources among alternative programs; good government because user charges ensure equitable treatment of the general taxpayer."

The Air Force was in general agreement with GAO's views. The Department of State believes, however, that it would be detrimental to the foreign policy interests of the United States to change the basis of billing to Comsat for the Intelsat IV launches.

GAO recommended that the Air Force determine costs of Intelsat IV and future launches on a full-user-charges basis, including depreciation, and that NASA negotiate with Comsat to use such costs in its billings. The Air Force and NASA stated that a review was in progress to reexamine the entire billing process.

GAO recommended also that the Secretary of Defense require the Air Force to determine the actual costs incurred for Intelsat III launches in accordance with the method that had been agreed upon and that the Administrator of NASA bill Comsat on this basis, including the unbilled costs of approximately \$31,000 GAO identified as being chargeable to Comsat under the agreed-upon method. (B-168707, Oct. 8, 1971.)

NEED FOR A REEVALUATION OF THE  
CIVIL DEFENSE PROGRAM

Department of the Army

In 1961 the civil defense program of the United States was revitalized and was directed toward providing protection for millions of people against radioactive fallout in the event of a nuclear attack. A long-range program was recommended by the President to identify existing fallout shelters and to provide new ones and the Office of Civil Defense was created in the Office of the Secretary of Defense. In 1964 responsibility for civil defense, together with the Office of Civil Defense, was transferred to the Department of the Army.

The principal goal of the current civil defense program--the development of a nationwide fallout shelter system--is complemented by related program elements, such as warning and detection. There are, however, no programs (other than research) aimed at protecting people against chemical or biological weapons or the direct effects of nuclear explosions, such as blast, heat, and shock.

According to the Department of Defense, present fallout shelters would save 18 million to 30 million lives which otherwise would be lost in the event of a nuclear attack. Alternative combinations of additional fallout and blast protection, ranging in costs from \$400 million to \$8 billion for fiscal years 1970 to 1975, could save additional millions of lives. Appropriations for civil defense, however, have decreased.

Office of Civil Defense data indicate that, if current programs continue at present levels, up to one half of the population still will lack standard fallout protection in 1975. Furthermore available protection is dispersed unevenly. In major cities 2.5 fallout shelter spaces are available for each person, compared with less than 0.4 of a space for each person in areas outside major cities.

The Office of Civil Defense has not used information regarding likely targets of an enemy (targeting assumptions) in setting priorities for developing fallout shelters. It

has followed a policy which generally treats all locations as being equally vulnerable. In the light of the limited funding of this program, this is not a realistic approach.

The Office of Civil Defense lacks the authority and funds to finance or subsidize the construction of shelter spaces. The Office can only identify, license, mark, and stock available spaces. The Office has established a minimum level of protection which must be met if the shelter is to be licensed, marked, and stocked by the Office. Where shelters of this level are not available, however, many lives could be saved and injuries could be reduced by use of the best protection available even though it is below the standard. The Community Shelter Planning program encourages the use of protected space under the minimum standards, but these shelters normally are not licensed, marked, or stocked by the Office of Civil Defense.

GAO has recommended that:

- The Secretary of Defense set priorities, in developing additional fallout shelter protection, on the basis of targeting assumptions and the best available predictions of risk, to help ensure that the limited financial resources are applied to areas most likely to need additional protection.
- The Office of Civil Defense stock the best available shelters regardless of protection rating, pending an overall assessment of area priorities, in undertaking protective measures.
- The Secretary of Defense (1) provide additional justification to the Congress concerning the part which civil defense plays in the overall national security posture and (2) give consideration to whether higher priority should be given to marking and stocking good shelter spaces already identified, in view of the relatively low per capita cost of the protection which these shelters provide.

The Department of Defense stated that it was aware of the need to reevaluate the civil defense program and that broad policy decisions were expected to be made on the basis

of current administration studies. The Office of Civil Defense stated that it hoped to extend its efforts for seeking the cooperation of Government departments involved in providing financial assistance in construction programs for facilities, such as urban renewal and housing agency projects, which have the potential of providing vast quantities of fallout shelter space. It defended the use of the current fallout protection standard as a future planning objective but stated that the best available concept of shelter use was being applied in its current operational planning.

In view of (1) the imbalance of fallout protection, (2) the potential for expanding the protection by using best available space, and (3) the limited progress of the civil defense program in meeting its objectives and in view of two special studies recently made by the administration pertaining to civil defense, GAO suggested that appropriate committees of the Congress may wish to review the reports on these studies for use in any consideration of civil defense requirements. (B-133209, Oct. 26, 1971.)