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REPORT TO THE CONGRESS

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Operations Auditing By The Defense Contract Audit Agency - - Accomplishments, Problems, And Actions To Improve

Department of Defense

Operations audits of the Defense Contract Audit Agency are designed to evaluate the efficiency and economy of contractor operations. These audits have resulted in significant reductions in contract costs.

However, improvements are still needed to give increased assurance that contractors' costs are proper and can be accepted for reimbursement without detailed audit on a contract-by-contract basis.

The agency has improved the operations audit concept and is considering some of the recommendations contained in this report.

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DEC. 18, 1975



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

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To the President of the Senate and the
Speaker of the House of Representatives

This report summarizes the result of our examination of operations auditing by the Defense Contract Audit Agency. It identifies accomplishments, problem areas, and actions necessary to improve the audit concept to stimulate increased economy and efficiency of contractors' operations and lower contract cost.

We made our review pursuant to the Budget and Accounting Act, 1921 (31 U.S.C. 53), and the Accounting and Auditing Act of 1950 (31 U.S.C. 67).

We are sending copies of this report to the Director, Office of Management and Budget; the Secretary of Defense; the Secretaries of the Army, Navy, and Air Force; the Directors, Defense Supply Agency and Defense Contract Audit Agency; and the Administrator, National Aeronautics and Space Administration.

A handwritten signature in black ink, reading "James B. Stacks".

Comptroller General
of the United States

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ABBREVIATIONS

DCAA	Defense Contract Audit Agency
DOD	Department of Defense
GAO	General Accounting Office

COMPTROLLER GENERAL'S
REPORT TO THE CONGRESS

OPERATIONS AUDITING BY THE
DEFENSE CONTRACT AUDIT AGENCY--
ACCOMPLISHMENTS, PROBLEMS, AND
ACTIONS TO IMPROVE
Department of Defense

D I G E S T

Operations audits by the Defense Contract Audit Agency are designed to evaluate the efficiency and economy of contractor operations. These audits are one of the principal bases on which the Department of Defense accepts claimed contract costs for reimbursement under cost-type and flexibly priced contracts.

About \$22 billion a year in claimed costs are audited under this concept. (See ch. 1.)

GAO evaluated the Agency's effectiveness in applying the operations audit. GAO reviewed 60 audits made at 9 contractor plants, which represent about 10 percent of total claimed costs under Defense contracts.

These audits were generally representative of all operations audits made during the period covered by the GAO examination. (See p. 25.)

GAO supports the operations audit concept. (See p. 24.) The Agency has made considerable progress in planning and making operations audits.

Effective audits have resulted in recommendations for considerable savings in contractor operations thereby reducing the Government's ultimate costs. (See pp. 5 to 8.) These audits indicate the Agency's high level of professional competency.

However, the Agency should make changes to improve operations audits to give increased assurances necessary as to the acceptability of contract costs for reimbursement without detailed audit on a contract-by-contract basis. These include

--minimizing delays and disruptions in performance due to demands of higher priority work (see pp. 9 to 11),

- improving planning in selecting areas for review (see pp. 12 and 13),
- broadening the scope and depth of audits (see pp. 13 to 15), and
- increasing the emphasis placed on coordination with contract administration offices (see pp. 15 to 18).

Recommendations to the Director, Defense Contract Audit Agency, to improve audit performance are contained in this report. Agency officials generally agreed with GAO's evaluation of operations audits and with GAO's recommendations. The Agency took positive actions to improve performance before and during GAO's review. Some of the report recommendations have been partly carried out and others are being considered. (See p. 24.)

GAO recommends that the Secretary of Defense monitor the Agency's progress in implementing the recommendations and continue its support of the Agency's efforts to stimulate more efficient and economical operations at contractors' plants. (See p. 24.)

CHAPTER 1

INTRODUCTION

The Defense Contract Audit Agency (DCAA), established in 1965 by directive of the Department of Defense (DOD), is an independent agency within DOD reporting directly to the Secretary of Defense. DCAA is responsible for making all necessary contract audits for DOD and provides accounting and financial advisory services to procurement and contract administration activities for the negotiation, administration, and settlement of contracts and subcontracts. DCAA also provides contract audit services to other Government agencies, such as the National Aeronautics and Space Administration and the Department of Transportation.

Between fiscal years 1972 and 1974, DCAA examined about \$22 billion annually in costs contractors claimed for reimbursement and approximately \$53 billion in estimated costs contractors submitted in support of proposed contract prices. These audits, along with defective pricing, cost accounting standards, and other requested audits, involve issuing about 50,000 reports annually.

DCAA headquarters is located at Cameron Station, Alexandria, Virginia; however, field audit operations are controlled through six regional offices. DCAA has about 350 field offices, most of which are at major contractors' plants where the volume of contract work requires continuous audit. Small contractors are audited from DCAA branch offices located in major population centers. The authorized full-time staff, of which about 80 percent are audit professionals, has been reduced from 3,644 in fiscal year 1971 to 3,357 in fiscal year 1975. DCAA's budget was about \$68 million for fiscal year 1975.

DCAA examines contractor incurred or estimated contract costs and determines whether they are (1) reasonable as to nature and amount, (2) allocable, (3) in accordance with generally accepted accounting principles and practices and standards issued by the Cost Accounting Standards Board, and (4) in compliance with applicable contract cost limitations and exclusions. Operation audits of functional areas of contractors' operations and annual audits of overhead cost claims are the principal bases upon which DOD accepts claimed costs for reimbursement under cost-type and flexibly priced contracts. Detailed verifications of incurred cost are no longer performed on a contract-by-contract basis.

We evaluated DCAA's effectiveness in implementing the operations audit concept. These audits make up about 25

percent of DCAA's total direct audit effort. Previous GAO reviews of DCAA activities have been primarily concerned with the more traditional contract audit work, such as price proposals, defective pricing, and contractors' overhead cost claims.

We reviewed the operations of nine field audit offices in five of the six DCAA regions. We made a detailed evaluation of 60 operations audits made during fiscal years 1972 through 1974. The scope of our review is presented in chapter 6.

DCAA OPERATIONS AUDITS

Operations audits are designed to evaluate the efficiency and economy of operations through reviews of policies, procedures, controls, and practices established by the contractors over particular functions or operations. The audits include financial and operational aspects. They are intended to evaluate the adequacy of management control systems and the reliability of contractors' cost accounting records. Emphasis has been on improving operations to avoid unnecessary future costs. The cost avoidance approach has proven to be an effective technique for controlling the reimbursement of questionable contract costs.

The operations audit concept is employed at contractors' plants with a large volume of auditable business (costs charged to flexibly priced contracts) requiring continuous DCAA audit effort. It is not ordinarily used at small contractors' plants requiring only intermittent audits.

Operations audits involve identifying all functional areas of contractors' operations that contribute to or have major impacts on costs charged to Government contracts. The importance of the areas vary among contractors, depending on such factors as size, character of business, types of contracts, Government-commercial business mix, degree of competition, and effectiveness of management controls. Some examples of the more typical areas are:

- Production scheduling and control.
- Interplant billings.
- Purchasing and subcontracting.
- Labor utilization.
- Make-or-buy decisions.
- Material storage and issue.
- Automatic data processing system.
- Control of scrap, spoilage, and obsolete materials.
- Payroll preparation and payment.
- Labor cost distribution.
- Floor checks.

- Physical inventories and adjustments.
- Facilities management.
- Food services.
- Transportation.

The established areas are scheduled for review at appropriate intervals. Audits of the functional areas consist of (1) identifying the contractor's policies and procedures, (2) evaluating the propriety of the policies and the adequacy of the procedures, (3) making sufficient tests to determine whether established procedures are being carried out, and (4) evaluating contractor activities to identify inefficient, ineffective, or wasteful practices. When the audits involve technical aspects of a contractor's operations, normally outside the auditors' training and expertise, appropriate technical or engineering assistance is available from the cognizant Government administrative contracting office. When significant deficiencies are found in the contractor's operations, audit reports recommending corrective action to revise procedures, improve controls, or restrict the reimbursement of costs associated with the deficient condition are sent to the cognizant Government administrative contracting officer and to the contractor.

It is important to recognize the interrelationship between audits of functional areas and other DCAA contract audit activity. The results of operations audits must be considered when evaluating pricing proposals, making annual overhead cost reviews, or expressing opinions on contract closing statements. Conversely, when the auditors review functional areas of a contractor's operations, they must consider the results of other contract audit activity. Many functional areas involve departments or operations, the cost of which is covered in the annual overhead reviews. Also inefficient or uneconomical practices identified through operations audits may affect recommendations in contract-pricing reviews where cost proposal estimates were based on historical data.

GAO AUDITING STANDARDS

The DCAA operations audit concept is consistent with the audit concepts set forth in the Comptroller General's Standards for Audit of Governmental Organizations, Programs, Activities & Functions published in 1972. The standards also apply to audits of Government contractors and grantees.

The standards provide for a scope of audit that includes not only financial and compliance considerations but also economy and efficiency of operations and effectiveness of programs in achieving desired results. Specifically, the scope of the audit should include the following elements.

1. Financial and compliance--Whether financial operations are properly conducted and the financial reports of the audited entity comply with applicable laws and regulations.
2. Economy and efficiency--Whether the entity is managing or utilizing its resources (personnel, property, space) economically and efficiently and the causes of any inefficiencies or uneconomical practices identified.
3. Program results--Whether the desired results or benefits are being achieved, the objectives established by the legislature or other authorizing body are being met, and the agency or entity has considered alternatives which might yield desired results at lower costs.

This broadening of the traditional financial audit is a result of a demand by the general public and elected officials to know that public funds are properly accounted for, spent in compliance with existing laws and regulations, and used prudently to achieve desired results. Similar assurances are required by Government procurement and contracting officials in making decisions about reimbursing contract expenditures.

DCAA's operations audits are broader in scope than financial and compliance reviews and are designed to provide such assurances. However, DCAA has not been given the authority and responsibility to evaluate program results. Since DCAA's operations audits are designed to delve into all significant aspects of contractors activities affecting contract costs, we believe that the concept is consistent with the GAO audit standards.

CHAPTER 2

ACCOMPLISHMENTS OF OPERATIONS AUDITS

DCAA has made considerable progress in planning and making audits of functional areas of contractors' operations. During our review we identified many effectively performed audits. They showed a high degree of competence by DCAA in evaluating contractor operations which had a considerable impact on costs charged to Government contracts.

These audits were generally characterized by (1) the identification of potential problems before initiating the reviews, (2) clearly defined audit objectives, (3) adequate transaction testing, (4) coordination with the cognizant administrative contracting offices, and (5) development of the dollar impact of problems identified. Many audits discussed in this chapter resulted in recommendations for significant cost savings. In addition, other effectively made audits, although not identifying savings, assured that contract costs were reasonable and acceptable.

MANPOWER UTILIZATION AND PRODUCTIVITY

Several of the more effectively performed audits dealt with manpower utilization and productivity. It appears this was due to the encouragement DCAA headquarters gave to field offices in making this type of review and to the detailed audit guidance developed on the subject.

The objective of these audits was to improve economy and efficiency by identifying weaknesses in contractors' labor utilization practices which, if corrected, could result in cost savings through increased productivity. To achieve this objective, DCAA employed a work-sampling technique to determine worker productivity and the underlying causes of non-productive work.

Effective audit techniques used in one review resulted in identifying a major problem. The audit was started because extensive nonproductivity of shop employees was noted during an audit of another functional area. The potential problem was identified before extensive audit resources were committed.

When it compared observations to established productivity standards, DCAA identified avoidable nonproductive time ranging from 11 to 18 percent in six work areas. It estimated that, by reducing the nonproductivity, the contractor could effect a potential reduction of over 80 man-years, or \$1.3 million, in labor and fringe benefit costs annually.

The contractor generally concurred with the findings and started action to eliminate the causes of the nonproductivity.

The effort was also illustrative of a well-coordinated review. Technical personnel from the administrative contracting office participated in the audit and it was closely coordinated with the contractor. The auditors obtained advance agreement on the sampling techniques to be used and the areas to be sampled, which eliminated possible contractor objections after the audit was completed.

At the time of our review, DCAA planned a followup audit to measure the effectiveness of corrective actions and to question costs associated with nonproductivity if improvements had not been made.

We also noted three other audits of labor utilization which were effective. Projected annual cost savings from \$157,000 to \$220,000 were identified.

PRODUCTION SCHEDULING AND CONTROL

An audit of a contractor's production scheduling and control operations reported cost avoidance savings of over \$1 million. The objective was to determine whether the manufacturing organization had effectively planned and controlled operations regarding material, labor, and facility requirements to insure that production goals and contract delivery schedules would be achieved.

DCAA found that certain production control functions overlapped or were duplicative, and others provided only marginal benefits. For example: (1) two organizations compiled budgetary tracking data, (2) several organizations duplicated the functions of coordinating, expediting, and routing, and (3) the costs and benefits did not justify the frequency of certain meetings and reports. The contractor reduced the size of production control organizations and thereby eliminated unnecessary functions. Most of the cost avoidance savings were attributable to recommended staffing reductions.

LABOR DISTRIBUTION

An audit of labor charges and timecard preparation of engineering personnel included sampling the type of engineering effort being made in the work areas to determine whether the effort was properly recorded on timecards. Special emphasis was placed on charges made to overhead accounts since this had been a problem area in previous years. Technical assistance was obtained from the administrative contracting office.

The audit showed that certain technical work by the engineering activities was incorrectly charged to engineering overhead instead of to the bid-and-proposal cost account. As a result, DCAA, in its annual overhead audit report, questioned mischarges of almost \$500,000. Also, in accordance with DCAA recommendations, the contractor issued detailed instructions to engineering personnel on correct timekeeping procedures.

COMPANY AIRCRAFT OPERATIONS

A joint review of aircraft operations, performed by DCAA and the administrative contracting office at one contractor's plant, considered justifications for company aircraft use, including the cost of operations, distribution of costs, and fuel conservation efforts.

Evaluating operating costs for transporting passengers and cargo disclosed that over 80 percent of the costs were questionable when compared with the cost of using commercial air service. DCAA questioned costs of about \$1.5 million for a 2-year period and recommended more economical operations that would result in a \$760,000 cost saving in the next year.

FOOD SERVICE OPERATIONS

An audit of food service operations was concerned primarily with determining whether the contractor's management procedures and controls were adequate for insuring that operations were carried out on a financially sound basis. DCAA identified over \$800,000 of food service losses allocated to Government contracts over a 3-year period and considered the amount to be unallowable for reimbursement.

DCAA recommended changes to improve operations, including (1) using historical data to establish budgets, (2) adjusting prices to consider rising costs, (3) properly allocating occupancy costs, and (4) competitively negotiating the food service contract.

MATERIAL COSTS

DCAA audited material cost accounting practices to determine the reasonableness of the costs and the adequacy of documentation supporting the charges to Government contracts. They found no systemwide deficiencies and a test of transactions showed that the procedures were effectively carried out. Although the audit disclosed no management weaknesses, it did provide assurances as to adequacy of the contractor's system of accounting for material costs.

CONCLUSION

Effectively made operations audits give increased assurances that selected aspects of contractors' operations are carried out efficiently and economically. Significant reductions in contract costs and improved procedures and controls have resulted from these audits.

CHAPTER 3

PROBLEMS IN PLANNING AND AUDIT PERFORMANCE

Although DCAA has made considerable progress in carrying out the operations audit concept, certain improvements are still needed. A number of problems identified indicated shortcomings in the planning and implementation process. These include (1) delays and disruptions in making the audits due to demands of higher priority work, (2) inadequate planning in selecting functional areas for review, (3) limited scope and depth of audits, and (4) lack of effective coordination with administrative contracting office reviews of related functional areas.

The following illustrates pertinent aspects of planning and auditing which detracted from the effective use of resources and the achievement of operations audit objectives.

AUDITS OF FUNCTIONAL AREAS HAVE LOW PRIORITY

Audits of functional areas are at the bottom of DCAA's priority ranking. In developing the annual audit plan for field offices, operations audits are programmed on the basis of the manpower resources available after planning estimated requirements of higher priority demand audits, primarily reviews of contract price proposals. Other priority audits include defective pricing, cost accounting standards, special assignments, and overhead cost audits.

Unanticipated increases in demand audits during the year have a detrimental impact on the performance and the reporting of the results of operations audits. For example, planned audits of functional areas may be deferred to later years or completing assigned audits may be delayed when staff are reassigned to higher priority work.

Failure to complete planned operations audits also increases the backlog of unaudited costs. This occurs because the reported backlog is based largely on the extent to which programmed audit work is not completed as scheduled. The following DCAA national statistics indicate a significant increase in unaudited costs in recent years.

	Fiscal year		
	<u>1972</u>	<u>1973</u>	<u>1974</u>
	—————(billions)—————		
Dollars subject to audit (note a)	\$31.7	\$32.2	\$34.2
Dollars examined	<u>21.9</u>	<u>21.1</u>	<u>21.7</u>
Backlog of unaudited costs	<u>\$ 9.8</u>	<u>\$11.1</u>	<u>\$12.5</u>

a/Includes the current year's costs and the backlog carried over from the preceding year.

This is a \$2.7 billion, or 28-percent, increase in the backlog over the last 2 years. Although dollars subject to audit increased, dollars examined remained relatively constant.

Completing programmed operations audits promptly has been a problem at most field offices we reviewed. On the average, about 20 percent of the programmed audits were not completed for fiscal years 1972 through 1974 at the nine field offices. At several offices over 40 percent of the audits were canceled or deferred in some years. Statistics available in three of five regional offices reviewed disclosed that the number of programmed operations audits performed declined between fiscal years 1972 and 1974 from 82 to 67 percent.

We found that 46 of 60 audits generally were made promptly. However, 14 audits were delayed because resources had to be diverted to higher priority work. These delays ranged from 2 to 20 months. For example, an audit of material requirements involving 23 man-days took 14 months to complete. There was an 8-month period during performance where no work was done.

DCAA officials acknowledged that operations audits have a lower priority than demand assignments. DCAA has considerably more flexibility in deciding when operations audits will be made, but is subject to tight time constraints in completing demand assignments, such as pricing proposal reviews.

DCAA attributed problems in completing programmed audits to a lack of manpower. Staffing levels have been reduced (as noted in ch. 1) while audit responsibilities have increased.

One DCAA field office we reviewed reduced the problem by establishing a separate audit team devoted exclusively to

operations audits. In fiscal years 1972 and 1973, about one-half of the programmed audits were completed and seven of nine audits we reviewed had been delayed or interrupted because of higher priority work. However, in fiscal year 1974, after the above action was taken, the completion rate increased to 82 percent.

In addition, functional areas for each of the company's components were consolidated into companywide areas. This enabled the DCAA field office to make one review of a functional area instead of individual reviews at various locations. Thus the operations audit team (1) made fewer but more comprehensive reviews and (2) had no assigned responsibilities for higher priority-type audits to delay or interrupt operations audits.

In discussing the results of our review with DCAA headquarters officials, we suggested that they consider more widespread use of operations audit teams at major field offices. We were told that one regional office had initiated action to test this concept. Headquarters is monitoring the effort and will consider DCAA-wide application if the results warrant.

Conclusion

Operations audits of functional areas have not been given a high enough priority within DCAA commensurate with their importance. This appears to be due primarily to (1) DCAA's lack of resources to place operations audits on an equal priority footing with demand audits and (2) the absence of time constraints imposed on completing operations audits.

Recommendations

We recommend that the Director, DCAA:

1. Reevaluate the priority status of operations audits in terms of accomplishing DCAA's overall mission.
2. Require that regional offices monitor progress to insure that operations audits of functional areas are made according to the program plan and completed promptly.
3. At field offices with sufficient staff, establish operations audit teams that are exempt from assignments to other audits.

IMPROVEMENTS NEEDED IN AUDIT PLANNING

DCAA guidance provides that operations audits be concentrated in functional areas with high potential for developing cost savings. Correspondingly, the use of audit resources should be curtailed in areas where previous reviews have disclosed that adequate controls and acceptable conditions exist to insure economical and efficient operations. DCAA policy also provides that, where appropriate, field office staffs rely on contractor internal audit work to conserve audit resources and to preclude duplication.

We noted that in 10 audits, resources could have been conserved through improved planning. It does not appear that, before making these reviews, adequate consideration was given to (1) the importance of the areas and their impact on Government contract costs, (2) the results of contractor internal reviews, and (3) past experience which showed the areas had little potential for containing major deficiencies. The need for improved audit planning is especially important in view of DCAA's limited resources.

Some audits were scheduled and made without considering the areas' importance or the results of previous reviews. An example is a 22 man-day review of make-or-buy decisions. The audit objective was to determine whether the contractor was following established procedures in deciding whether specific items under proposed contracts should be made in-house or purchased from outside sources and whether these decisions resulted in economic and efficient operations. Audit potential was limited in that only three make-or-buy decisions were made during the year covered by the audit. In addition, a DCAA audit of the same area in the previous year had found the contractor's procedures and implementation to be adequate. It is questionable whether the audit should have been made at the time, considering the previous review results and the small number of formal make-or-buy decisions processed during the period.

A 30 man-day audit of a payroll system disclosed that the contractor's controls and labor-costing procedures were adequate. A major part of the review involved basic financial auditing steps for testing payroll controls. DCAA issued a report on the same subject 6 months earlier. The contractor's internal audit staff also issued two reports on selected aspects of payroll operations during the preceding 15 months and had scheduled a third review for the following year. Neither the DCAA audits nor the contractor reviews had identified major deficiencies. Because of the previous audit coverage by DCAA and internal audit, it appears that a major part of the review was not necessary and that the audit resources could have been more productively used elsewhere.

In contrast, a review of payroll preparation and payment by another field audit office was curtailed when it was determined that the contractor's internal audit staff gave the area adequate coverage. The field office now considers the functional area to have little potential for identifying irregularities in Government contract costing and has discontinued it as a regularly scheduled audit area.

Conclusion

It does not appear that field audit offices, in selecting functional areas for review, have, in some instances, adequately considered pertinent factors, such as the importance of impact on Government contract costs or the potential for disclosing deficiencies. Also, not enough emphasis has been placed on ascertaining the extent and adequacy of contractor internal audits of functional areas.

Recommendations

We recommend that the Director, DCAA, reemphasize to field offices the importance of:

1. Concentrating audit efforts in areas with high potential for cost savings.
2. Relying on contractor internal audit results to the fullest extent feasible.

LIMITED SCOPE AND DEPTH OF AUDITS

Many of the audits we reviewed were effectively made and were characterized by adequate scope and depth of evaluations. These audits were illustrated in chapter 2. We noted, however, 17 instances where the audit work either did not include an adequate evaluation of certain aspects of contractor operations having an important impact on Government contract costs or did not include enough tests of transactions with respect to sample size, method of selection, or period tested. Accordingly, opinions expressed concerning the economy and efficiency of contractor operations may not have been valid.

Limited scope of review

A review of transportation policies, procedures, and costs for leased vehicles did not include an evaluation of the need for and use of the vehicles nor a lease-versus-purchase cost analysis. After bringing this matter to the attention of DCAA, the field audit office reviewed the need for and use of leased vehicles. The review concluded that (1) the contractor had no documentation to adequately support

the need for the vehicles, (2) use of the vehicles for non-business purposes was extensive, and (3) vehicle operations should be consolidated to improve administration and control costs. DCAA questioned over \$800,000 of costs incurred over a 2-year period relative to the nonbusiness use of vehicles. The field office also reviewed the reasonableness of vehicle-leasing costs and identified more than \$360,000 of excess costs over the remaining life of the lease. DCAA recommended that the costs be disallowed for reimbursement.

An audit of rentals and leases of facilities and equipment did not include a lease-versus-purchase cost analysis. After discussing this the field office made several audits of facility leases. Two audits resulted in identifying and questioning \$1.2 and \$7.5 million, respectively, in excess lease costs.

An audit of policies and procedures for budgeting and reporting overtime labor did not consider whether the payment of an overtime premium was the most economical means of handling peak workload conditions in relation to alternative means, such as contract services or new hires. In our opinion, considerations of this nature involve substantive issues having a significant impact on Government contract costs and are embodied in the operations audit concept.

In a 100 man-day audit of material requirements and usage, the stated objective was not achieved because appropriate audit steps were not done. The objective was to review methods and procedures used to determine contract material requirements and to ascertain whether purchase actions had been processed promptly and in response to valid requirements. However, most of the audit was spent in reviewing the contractor's procedures for receiving, storing, and issuing materials. Audits of these areas have an entirely different objective than do material requirements and usage reviews. In addition, the field audit office had initiated a 106 man-day review of material receipts, storage, and issuance immediately before the subject audit was completed.

Inadequate test of transactions

DCAA operations audit guidelines emphasize the importance of examining individual transactions to insure that prescribed policies, procedures, and controls are properly carried out. The importance of audit judgment and experience in this phase of the fieldwork cannot be overemphasized. Although it is essential to avoid unnecessary transaction testing, enough evidence must be obtained to support the audit opinion concerning the statement of condition.

Most of the audits we reviewed were characterized by formally developed and effectively implemented transaction-testing plans. However, in nine audits transaction testing was not enough to form an opinion. Testing was too limited, the sampling method was not documented or was inappropriate, or the universe of transactions tested was not identified. Examples follow.

- An audit of material rework costs scheduled on a biennial basis included a limited test of eight rework transactions available on 1 day during the 2-year period. The audit workpapers did not show the universe of transactions from which the sample was taken.
- An audit of the acquisition of special test equipment included a limited test of 12 items judgmentally selected during a tour of the plant area. All items had been acquired several years before the period covered by the audit. Neither the inventory of special test equipment acquired during the audited period nor the appropriate sample size was documented in the workpapers.

Conclusion

The scope and depth of audit coverage requires the auditor's professional judgment to assess the most important and relevant aspects of functional areas requiring evaluation and to determine the extent of evidence necessary to form an opinion on the statement of condition. For the most part, the scope and depth of DCAA operations audits were adequate to achieve the stated review objectives. We found, however, some cases in which limited scope and test of transactions cast doubt on the validity of the audit opinions expressed. We believe that additional management attention is necessary to insure continued improvement in the adequacy of audit coverage.

Recommendations

We recommend that the Director, DCAA, reemphasize to field office staffs the need to exercise due professional care in conducting operations audits to insure that the scope and depth of coverage is adequate. We also recommend that closer supervision of audit work be stressed as the primary means to insure improved performance.

NEED FOR BETTER COORDINATION WITH CONTRACT ADMINISTRATION OFFICES

DCAA headquarters guidance on operations audits stresses a team concept in that field audit office staffs are required to coordinate with resident Government technical and administrative personnel in preparing the annual audit plan and in

making the audits when mutual responsibilities exist in surveillance of selected areas of contractor operations. Coordination is necessary to:

1. Conserve audit resources and avoid overlap or duplicate effort.
2. Maximize effectiveness by exchanging information concerning known or suspected weaknesses or problems.
3. Correlate plans and schedules to facilitate timely assistance.
4. Obtain mutual support and cooperation from contractor officials in resolving problems and carrying out recommendations for corrective action.

Field office staffs were informing the cognizant administrative contracting office of planned operations audits on an annual basis. However, at 4 of the 9 field offices reviewed, 14 audits of functional areas could have been more effectively coordinated to take full advantage of ongoing or recently completed reviews in the same functional areas. Our review was not restricted to the 60 audits in the sample but rather resulted from a selective screening of audit reports issued for the period reviewed. Of the 14 audits, 13 involved functional areas directly or closely related to areas the cognizant property administrator reviewed during annual property system surveys.

The property administrator is responsible for reviewing and approving contractors' property control systems. The annual surveys cover such functions as acquisition, receipt, records, storage and movement, consumption, use, maintenance, physical inventories, subcontract control, and disposition of Government property in the contractors' possession. However, in carrying out this responsibility, the contractors' overall property control systems usually require examinations to verify compliance with prescribed requirements.

DCAA headquarters guidance on reviews of Government property in contractors' possession limits audit responsibilities to financial records and controls pertaining to claimed or proposed costs. This includes ascertaining whether the property was required for contract performance; procured in reasonable quantities and at reasonable prices; and received, inspected, and entered accurately on accounting records. DCAA's reviews of contractor-owned property acquired under fixed-price contracts involve basically the same matters considered by the property administrator. When contractors use the same system for Government-owned as well as contractor-owned material, the various functions are evaluated comprehensively without regard to ownership.

DCAA and contract administration responsibilities for Government-owned and contractor-owned property are closely allied. The opportunity for overlap and duplication is quite evident, and the need for close coordination is obvious. Following are examples of when better coordination could have resulted in more effective use of audit resources.

--Determination of material requirements.

1. Both offices reviewed the contractor's system for requisitioning to assure that excess material was not being acquired.
2. Similar tests were made to determine whether (1) reasonable quantities were purchased in fulfillment of valid requirements, (2) onhand inventory was screened before acquisition, and (3) material requirements were processed promptly.

--Disposition of scrap, spoilage, and obsolete material.

1. Both offices evaluated the adequacy of the contractor's procedures for identifying and disposing of excess and obsolete material.
2. Similar review procedures included tests to (1) insure that excess items were screened against valid requirements before disposition and (2) correct authorization and documentation for disposition was obtained.

In contrast, some DCAA audits were curtailed or limited in scope because the property administrator had reviewed the functional area. For example, in the early planning stages of an audit of material utilization, DCAA contacted the property administrator to determine whether DCAA could rely on a recent system survey. It was determined that the property administrator's review of utilization and consumption of contractor-acquired material was adequate to satisfy the audit objectives. In addition, audit of the acquisition of special tooling budgeted for 300 hours was curtailed after less than 20 percent of the budget was used when it was determined that the property administrator had recently made a similar review.

Conclusion

DOD procurement guidance recognizes the potential for overlap and duplication in the surveillance of contractors' property control systems. The same recognition is evident

in guidance issued by DCAA headquarters. Despite this recognition, we noted some instances where coordination could have been improved.

Recommendation

We recommend that the Director, DCAA, reemphasize to field offices the necessity of coordinating reviews of contractors' property control systems.

CHAPTER 4

AGENCY ACTIONS TO IMPROVE OPERATIONS AUDITS

The operations audit concept has received top-level DCAA emphasis and support. It has been extensively publicized through articles in professional journals, presentations at professional meetings and symposia, and discussions at DCAA headquarters and regional office conferences. Operations audits at internal training courses have been emphasized.

We noted some actions taken to improve the effectiveness of operation audits before and during our review. Examples follow.

INTERNAL REVIEW OF OPERATIONS AUDITS

DCAA's Office of the Assistant for Review and Analysis is responsible for evaluating the effectiveness of regional office management and supervision of field audit operations. The review program includes audit planning, control, and performance; personnel management; and relations with contractors and Government representatives. A separate evaluation is made of operations audits. Regional office reviews of individual field audit operations are also made periodically.

A review of selected reports on the operations of regional and field audit offices disclosed strengths and weaknesses in planning and implementing operations audits similar to those identified and described in chapters 2 and 3. DCAA internal reports have been candid in discussing noted problem areas. Continued emphasis on the internal review function should further strengthen operations audits through identifying needed improvements.

MONITORING AUDIT PROGRESS

DCAA headquarters policy requires each regional office to submit quarterly the most noteworthy operations audit reports for headquarters review. The purpose is to monitor implementation of the concept and to disseminate the results for DCAA-wide guidance.

Regional office monitoring of operations audits varied considerably. Of the five regions we reviewed, one required monthly reports from field audit offices on the number of functional areas programed and completed during the period, two accumulated similar information, and two did not require such reports. One of these five regions also required individual progress reports on selected audits at field offices. The information submitted to the region required

identifying the expected results, potential cost avoidance or cost questioned, the functional area impact on Government contract costs, reason for selection, audit milestone dates, and budgeted man-hours. This reporting requirement was initiated during our review. Consequently we were unable to determine whether benefits will be derived in relation to regional offices where no reporting system exists. Progress reporting of this nature, however, should improve communications and provide for closer regional office supervision of field audit offices.

We suggested that DCAA consider establishing a progress-reporting system for regional office monitoring of audit performance. We were told that a management information system had been implemented in fiscal year 1975 to provide certain programing and performance data on all assignments.

TRAINING

During our review DCAA was developing formal training courses and operations audits guidelines for several major functional areas. Previous instructional courses at the DCAA Audit Institute emphasized auditing and management techniques applicable to various types of contract audits, but none specifically pertained to functional areas of contractors' operations.

Formal training courses in operations auditing, started in fiscal year 1974, were limited to the facilities management area. Courses in production scheduling and control, and automatic data processing were scheduled for 1975. A select number of field office managers and regional supervisors attended the training sessions. During the course audit plans are developed on the basis of (1) detailed guidance published for each functional area, (2) preliminary data on the contractors' policies, procedures, and practices, and (3) the sharing of ideas and experiences among the participants. The plan is carried out later at the contractors' plants and the audit results are summarized for DCAA-wide distribution to supplement existing guidance and to illustrate the types of findings and accomplishments achievable in the particular area. The integrated classroom and on-the-job training provides a climate for effective audit planning and staff development.

Since the courses were only recently established, we were unable to evaluate the effectiveness of the training program. We believe, however, that the quality of audits should improve as a result of the audit guidelines issued

on the facilities management and production scheduling and control areas. Several years ago DCAA issued similar guidance for work-sampling reviews of manpower utilization and productivity. As noted in chapter 2, many of these reviews resulted in recommendations for considerable cost savings.

SPECIALIZED OPERATIONS AUDIT TEAM

One DCAA regional office has established a small team of auditors specifically for making operations audits. Although administratively responsible to the regional office, this team is assigned to individual field audit offices at various defense contractors located within the region.

The concept stems from the belief that auditors who are completely relieved of other administrative responsibilities, should, by concentrating on one area of expertise, be able to make operations audits at a higher level of proficiency and sophistication. The team also provides local field audit office staff with on-the-job training through direct participation in planning and making operations audits.

DCAA data relative to the team's performance shows that in 4 years, 58 audit reports were issued that recommended cost savings of about \$35 million. The audits included reviews of production scheduling and control, security operations, and numerous other areas.

Regional officials believe the team has performed effectively. It has given the region the flexibility to staff operations audits, develop an expert staff to supervise and make such audits, and enhance field audit office capabilities through staff training.

In discussing the results of our review with DCAA headquarters officials, we suggested that DCAA consider expanding this concept to other regional offices. We were told that each regional office was to examine the feasibility of adopting a similar concept. We believe that, if this action ultimately results in DCAA-wide implementation, audit effectiveness should be enhanced.

EFFORTS TO IMPROVE AUDIT PLANNING

In a followup review we found that one field office was taking an innovative approach to developing the annual audit plan for reviews of functional areas. The field office manager developed a decisionmaking model to analyze potential areas and assign priorities on the basis of (1) potential cost savings, (2) the probability of sustaining the savings, and (3) required audit hours.

The model is intended to aid in assigning audit resources to those functional areas with the highest relative priority considering the anticipated cost savings and amount of audit work required. It requires obtaining a considerable amount of information on the contractor's operations for use with the model.

The model was developed in recognition of a valid need. Few of the operations audits previously included in the annual plans and carried out during the years at the field office had any real potential for identifying cost savings. In an environment of limited resources, the field audit manager decided that a decisionmaking model would be useful in identifying those areas of the contractor's operations most likely to produce results.

During our initial review at this field office, we found limited results from operations audits in terms of potential cost savings to the Government. In our followup review, completed during the year the model was in operation, we found obvious improvements in the quality and significance of the audit results. Of 21 formal audit reports, 18 included findings involving questioned costs and avoidable costs amounting to about \$33 million.

Similar models are being tested in other field audit offices. In our opinion, one of the primary benefits derived from using a decisionmaking model is the discipline it imposes on the field audit staff to consider relevant factors in the planning process. It also gives assurances to reviewing authorities that a documented rationale exists for the audit plan. The effectiveness of the model, however, is limited by the validity of the data used in developing the various factors.

CONCLUSIONS

DCAA initiated positive actions at regional and headquarters levels to improve operations audits. In our opinion, pilot efforts started by selected offices to (1) monitor audit progress, (2) use specialized operations audit teams, and (3) develop decisionmaking models for planning, warrant serious consideration for DCAA-wide adoption. We also support continued headquarters reviews of operations audit activity and the accelerated implementation of formal training programs.

RECOMMENDATIONS

We recommend that the Director, DCAA:

- Establish specialized teams in each region to assist and train field office staffs in making operations audits.
- Evaluate the effectiveness of decisionmaking models being used by some field offices in selecting potential audit areas and the desirability of DCAA-wide application of this technique.
- Evaluate the newly established management information system to determine whether it gives the regional offices the information needed to effectively monitor the progress and results of operations audits.

CHAPTER 5

CONCLUSIONS, AGENCY COMMENTS, AND RECOMMENDATION

We believe DCAA's operations audit concept is sound, and we fully support its implementation. The resulting increased visibility of the contractors' operations gives Government procurement and contracting officials a better basis for making informed decisions concerning the reimbursement of contract expenditures.

The effective operations audits we identified indicated a high level of professional competency by DCAA and demonstrated the achievement of major cost avoidance savings and improved efficiency and economy of contractor operations. We also noted areas where improvements should be made in implementing the concept. These concerned the need to (1) minimize delays and disruptions in audits due to demands of higher priority work, (2) improve planning in selecting functional areas for review, (3) broaden the scope and depth of audits, and (4) emphasize coordination with contract administration offices on reviews of related functional areas. We made recommendations to the Director, DCAA, for improving planning and auditing.

DCAA officials generally agreed with our conclusions and recommendations. Some of the recommendations have been partly carried out and others are being considered.

RECOMMENDATION

We recommend that the Secretary of Defense monitor DCAA's progress in carrying out these recommendations and continue to support DCAA's effort to stimulate more efficient and economical contractors' operations.

CHAPTER 6

SCOPE OF REVIEW

We reviewed 60 audits to evaluate DCAA's effectiveness in carrying out the operations audit concept. These audits were made by nine field audit offices in five of the present six DCAA regions during fiscal years 1972 through 1974. These offices, selected on the basis of amount of costs subject to audit, were responsible for \$3.3 of \$34.2 billion of contract costs DCAA reported as subject to audit in fiscal year 1974. Although performed by a relative small number of DCAA's field offices, we believe that the audits reviewed were generally representative of all operations audits made during the period covered by our review.

We reviewed audit reports, supporting workpapers, permanent files, audit-planning documents, management reports, instructions and audit guidance related to functional areas, staff-training records and reports, contract administration records and reports pertaining to coordination, and selected contract cost records. We discussed the results with DCAA headquarters, regional, and field audit officials and cognizant Government contract administration officials.

Our review did not include an independent analysis of the efficiency and economy of contractors' operations in any of the functional areas noted in this report. Rather, we evaluated the effectiveness of DCAA operations audits as documented in the records cited above. We also considered supplemental information on individual audits provided by DCAA during our review.

We made our review at the following DCAA regional and field audit offices.

Atlanta Region:

Pratt and Whitney Aircraft, Florida
Research and Development Center,
West Palm Beach, Florida

Boston Region:

Massachusetts Institute of Technology,
Cambridge, Massachusetts
Raytheon Company, Andover, Massachusetts

Los Angeles Region:

Hughes Aircraft Company, Culver City, California
McDonnell Douglas Astronautics Company,
Huntington Beach, California

Philadelphia Region:

General Electric Company, Valley Forge,
Pennsylvania
RCA Corporation, Moorestown, New Jersey

San Francisco Region:

Lockheed Missiles and Space Company,
Sunnyvale, California
Philco-Ford Corporation, Western
Development Laboratories Division,
Mountain View, California

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Donald H. Rumsfeld	Nov. 1975	Present
James R. Schlesinger	July 1973	Nov. 1975
William P. Clements, Jr. (acting)	May 1973	June 1973
Elliot L. Richardson	Jan. 1973	Apr. 1973
Melvin R. Laird	Jan. 1969	Jan. 1973
DIRECTOR, DEFENSE CONTRACT AUDIT AGENCY:		
Bernard B. Lynn	Nov. 1972	Present
William B. Petty	July 1965	Nov. 1972

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