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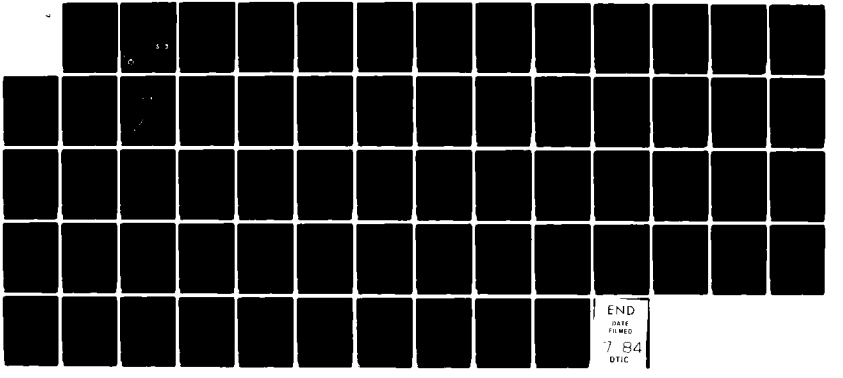

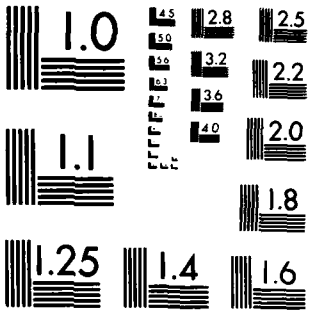

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BY THE U.S. GENERAL ACCOUNTING OFFICE

Report To The Secretary Of Defense

AD-A141 425

Further Improvements Needed In Navy's Oversight And Management Of Contracting For Facilities Construction On Diego Garcia

To support an increase of the government's presence in the Indian Ocean and Persian Gulf area, the Department of Defense in 1980 began a program to increase the number and types of its facilities on Diego Garcia. Defense plans to spend more than $685 million for the program through fiscal year 1986. In July 1981, the Navy awarded a cost reimbursable contract to a joint venture to construct facility projects for fiscal years 1981 and 1982 with an estimated cost of $285 million.

Although the contractor was required to establish management information and materials control systems before proceeding with construction, the Navy permitted the contractor to proceed before that requirement was met. Without effective management information and materials control systems, unnecessary costs were incurred and construction delays were exacerbated.

Recently, the Navy has taken a more aggressive management role and the contractor has begun corrective actions. GAO is making several recommendations for further strengthening management of this program.

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UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

NATIONAL SECURITY AND
INTERNATIONAL AFFAIRS DIVISION

B-209865

The Honorable Caspar W. Weinberger
The Secretary of Defense

Dear Mr. Secretary:

This report discusses improvements needed in the Navy's oversight and management of contracting for facilities construction on Diego Garcia.

The report contains recommendations to the Secretary of the Navy. As you know, 31 U.S.C. § 720 requires the head of a federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and the Senate Committee on Governmental Affairs not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to the Director, Office of Management and Budget; the Chairmen, House Committee on Government Operations, Senate Committee on Governmental Affairs, and House and Senate Committees on Appropriations and on Armed Services; and the Secretary of the Navy.

Sincerely yours,

Frank C. Conahan

Frank C. Conahan
Director

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GENERAL ACCOUNTING OFFICE
REPORT TO THE SECRETARY
OF DEFENSE

FURTHER IMPROVEMENT NEEDED IN NAVY'S OVERSIGHT AND MANAGEMENT OF CONTRACTING FOR FACILITIES CONSTRUCTION ON DIEGO GARCIA

D I G E S T

Because of the government's interest in increasing and accommodating its military presence in the Indian Ocean and Persian Gulf area, the Department of Defense (DOD), in 1980, began a program to increase the number and types of its facilities on Diego Garcia, a small British-owned island in the Indian Ocean. DOD plans to spend more than $689 million for the program through fiscal year 1986.

In July 1981, the Navy awarded a cost reimbursable contract (cost plus award fee) to Raymond, Brown & Root, Molem, a joint venture, to construct facilities for fiscal years 1981 and 1982 with an estimated cost of $285 million. For fiscal year 1983, planned facility projects had an estimated cost of $57.6 million.

In view of the size of the actual and planned expenditures and the type of contract used, GAO reviewed the Navy's oversight and management of the acquisition of these facilities.

A COST REIMBURSABLE CONTRACT MAKES STRONG CONTRACT ADMINISTRATION VITAL

Under the contract, practically all costs incurred by the joint venture are reimbursed by the government. The joint venture is guaranteed a fixed fee for undertaking the work and earns an award fee based on its performance, management, cost control, and quality of work as determined by the Navy.

The Navy used a cost reimbursable contract rather than a fixed-price contract because the cost reimbursable contract provided the flexibility to cope with an inexact scope of an urgent expansion program and because it better accommodated the large mobilization effort required by the isolated nature of the construction site.

Under a cost reimbursable contract, the government assumes more financial risks than the

contractor. Certain provisions, such as inspection and acceptance clauses, found in a fixed-price contract to protect the government's interests are not found in a cost reimbursable contract, thus making the government vulnerable to increased costs and delayed completion dates. The cost of any work the government directs the contractor to do, including remedial work, is an allowable cost under the contract. To minimize the government's vulnerability to increased costs, the contractor's activities must be closely monitored.

IMPROVED CONTRACT ADMINISTRATION COULD REDUCE COSTS AND AVOID CONSTRUCTION DELAYS

The Navy appointed an Officer in Charge of Construction to provide direction and guidance to the contractor and protect the government's interests. He did not effectively ensure that the contractor's capabilities were employed economically to the maximum extent possible. Ineffective management caused problems and weaknesses affecting the contract.

Although the contract required the contractor to establish and document management information and control systems, the Officer in Charge of Construction did not see to it that the contractor complied with the requirement before permitting the contractor to proceed with the contract. During our review, which was made more than 18 months after the contract was awarded, the contractor still did not have fully operational systems that provided (1) accurate and timely financial information, (2) an effective way of managing materials from the requirements determination stage through final disposition, or (3) an effective resource-leveling plan--a plan for determining construction resources required to do the work within a specific time frame. Without effective systems for materials control and resource leveling and without timely corrective action by the Officer in Charge of Construction, unnecessary costs were incurred and construction delays were exacerbated.

For example:

--Scheduled completion dates for 11 of 45 projects have been missed, and slippages

in 12 other projects are expected. (See p. 18.)

--Practically no claims were filed for materials reported missing or damaged during shipment. (See p. 19.)

--Materials delivered to Diego Garcia have not always conformed with the construction needs. (See p. 19.)

Other inconsistencies in the management of the contract indicate that changes are needed in the Navy's contract administration and award fee structure because

--the Navy has used criteria to adjust the contract amount for projects added to the program which differed from those for projects deleted from the program (see pp. 24 and 25),

--the Navy paid the contractor fees to buy to buy several items the Navy should have furnished (see pp. 23 and 24), and

--the contractor may be paid half of the award fee for work rejected by the Navy. (see pp. 26 and 27).

The Navy has taken a more aggressive role recently. For example, after not doing so for 18 months, the Navy withheld payment for materials missing or damaged in shipment because the contractor seldom filed claims for missing or damaged materials. Also, the award fee paid to the contractor was reduced because the contractor still did not have management information and control systems. (See pp. 27 and 28.)

BETTER FINANCIAL MANAGEMENT SYSTEM ESSENTIAL FOR EFFECTIVE PROGRAM OVERSIGHT AND COST CONTROL

The financial management reports used by the Navy and contractor personnel in determining how much money has been spent to construct a project and how much money is needed to complete a project are unreliable and thus provide limited benefit to decisionmakers. Information is needed by the contractor, the Navy, and the Congress to use for decisions on a wide variety of issues, including funding levels and cost control. GAO's review disclosed:

--Accounting system data is sometimes incomplete in that not all direct and indirect costs incurred during a reporting period are included in the contractor's cost accounting reports for that period. (See pp. 36 and 37.)

--Little analysis was made of differences between estimated and actual costs. (See pp. 37 and 38.)

--Cost estimates do not always reflect the most current information. (See pp. 39 and 40.)

--The Navy expects cost overruns; only the magnitude is uncertain. (See pp. 41 and 42.)

During the first 18 months of the contract, decisionmakers have not been able to systematically compare the program's estimated and actual costs and progress. These comparisions not only aid in estimating total program costs, but they also serve as tools to highlight potential problems--for example, cost overruns--in time for corrective action. (See pp. 39 and 40.)

Although the Navy expects cost overruns, it is not known with any certainty how much additional funding is required to complete the program or how many projects will have to be deleted or scaled back to complete the program within available funding. In essence, the Navy is not in a position to judge the reasonableness of costs incurred or the reliability of estimated costs. (See pp. 41 and 42.)

RECOMMENDATIONS

GAO recommends that the Secretary of the Navy direct the Commander, Naval Facilities Engineering Command, to require the contractor to

--demonstrate that essential management information and control systems are fully operational and reliable,

--develop procedures for filing and processing claims to prevent another backlog of reports for materials missing or damaged, and

--complete a physical inventory and reconciliation of all materials and supplies periodically.

GAO also recommends that the Secretary direct the Commander to

--enforce the contract provisions that require the contractor to maintain a viable financial management system,

--ask the Defense Contract Audit Agency (DCAA) or the Naval Audit Service (NAS) to review the contractor's cost accounting and cost estimating systems to determine whether all necessary corrective action has been taken to make the systems accurate and timely, and

--place a greater emphasis on monitoring contractor-generated financial information and substantiating the validity of the reports so that they can be effectively used. (See p. 42.)

Additional recommendations are included on pages 29 and 30.

AGENCY COMMENTS

DOD generally concurred in most of GAO's findings and recommendations and considered the report a reasonable assessment of the situation from the time of contract signing through the period reviewed. DOD also stated that the areas of concern addressed by the report were known to the Officer in Charge of Construction and the Navy before the review but that GAO efforts helped the Navy identify additional details of deficiencies that required contractor corrections.

In a draft of this report, GAO proposed that NAS review the contractor's cost accounting and cost estimating system to determine whether the contractor had taken all necessary corrective action to make the system accurate and timely. DOD replied it had recognized the need to review and audit the contractor's cost accounting and estimating system and had tasked DCAA with ensuring that discrepancies noted in prior reviews were being corrected. GAO believes that DCAA can perform this task, and GAO has changed its recommendation to provide for NAS or DCAA audit coverage.

Tear Sheet

CONTRACTOR COMMENTS

The contractor recognized weaknesses in most of the areas covered in this report and started an all-out effort in 1983 to improve the accuracy and internal control in its accounting and materials control systems. The contractor reported that a task force had been sent to the construction site to help reconcile inventories and analyze and review all cost accounts. The contractor stated that the accuracy of the accounting records had been much improved from the work of the task force.

Contents

ABBREVIATIONS

CPAF	cost plus award fee
DOD	Department of Defense
GAO	General Accounting Office
NAVFAC	Naval Facilities Engineering Command
OICC	Officer in Charge of Construction

CHAPTER 1

INTRODUCTION

Diego Garcia is a small island in the north central Indian Ocean under the control of the United Kingdom. The United States entered into an agreement in 1966 which permitted development of a United States military facility on the island. This facility has expanded rapidly from the original austere Navy communications station and support airfield built in the early 1970's to a multiservice forward logistics support base for units operating in the Indian Ocean today. Greatly increased requirements for the use of Diego Garcia developed as a result of international conflicts, the need to protect vital petroleum sources and supply routes, and Soviet expansionist tendencies in Southwest Asia. (See maps on pp. 3 and 4.)

There are three major U.S. Navy shore activities on Diego Garcia: the Navy Support Facility, the Naval Air Facility, and the Naval Communications Station. These 3 primary activities support about 30 organizations, including units from the U.S. Air Force. Although the projected permanent island population is 2,150 people, over 6,000 people will require limited support, i.e., transient personnel and personnel aboard ships operating in the area and anchored at Diego Garcia. The major expansion program includes permanent facilities to support this increased population and forces that might move through the area on the way to a conflict in the Southwest Asia or Persian Gulf region.

In 1981, a cost-plus-award-fee (CPAF) contract was negotiated and awarded to greatly increase the number and types of facilities on Diego Garcia. This followed 10 years of work by the Naval Construction Force, which provided the infrastructure for support of limited United States military operations in the Indian Ocean.

Funding for military construction on Diego Garcia began in fiscal year 1970 and is projected to continue, as shown below. See appendixes I and II for a list of projects constituting the expansion program.

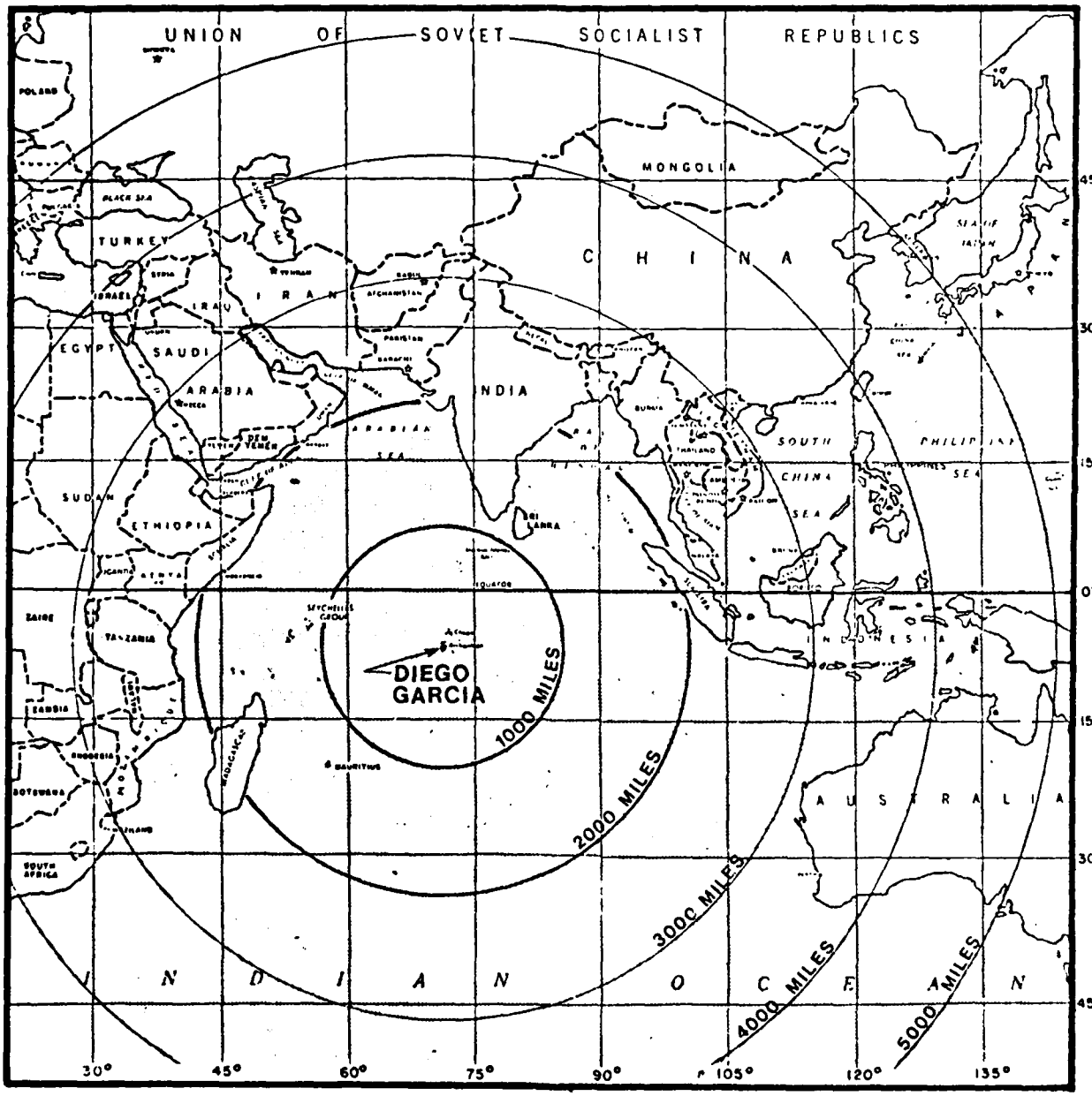
Military Construction Funding for Diego Garcia Fiscal Years 1970-86

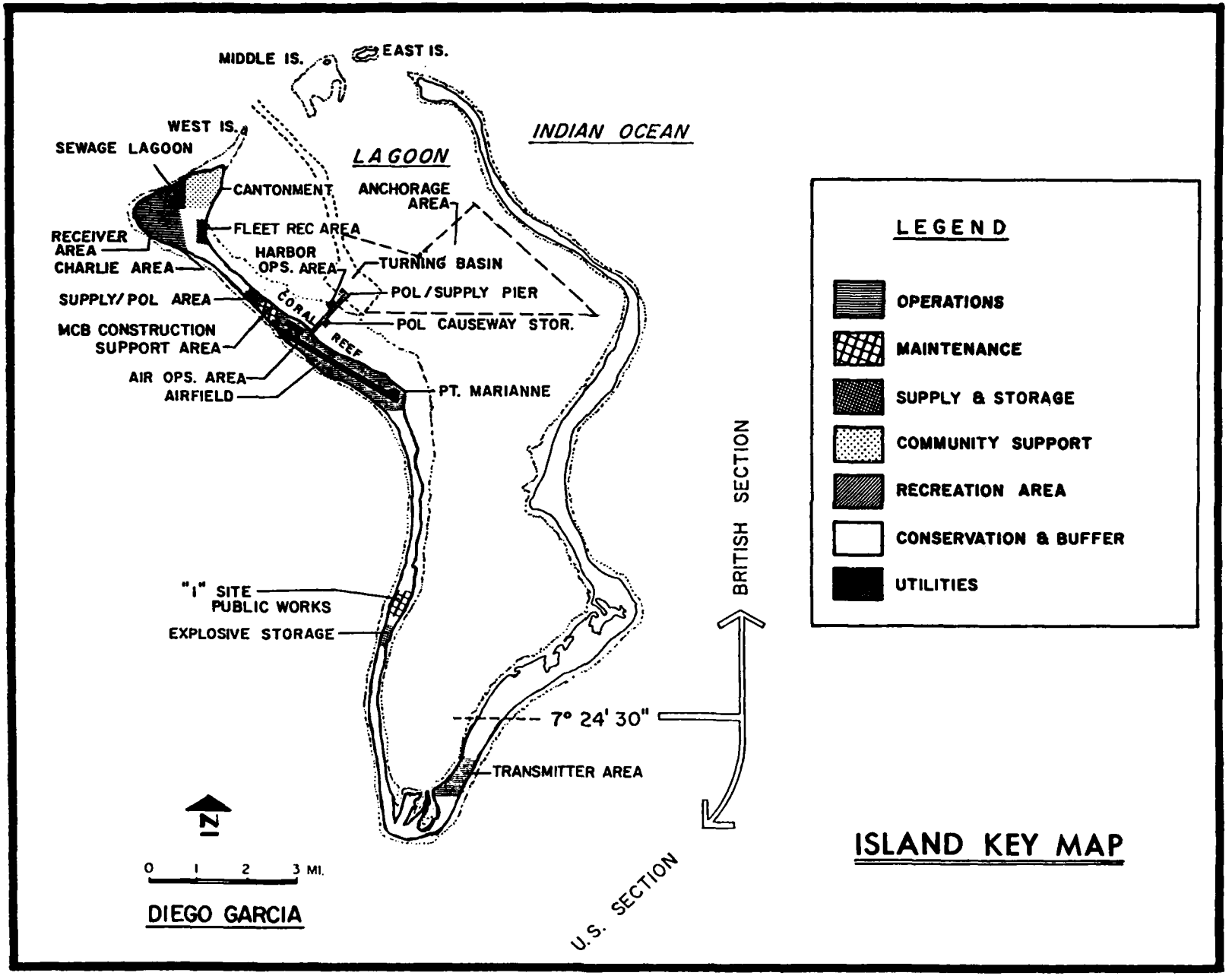
	Appropriations fiscal year					Projected fiscal year				
	70/73	75/76	78	80/81	82	83	84	85	86	Total
	(millions)									
Navy construction	$23.8	$33.6	$7.3	$124.3	$122.8	$53.4	$ 42.9	$33.1	$79.0	$520.2
Air Force construction	-	3.3	-	23.7	115.0	5.5	58.2	16.0	-	221.7
Planning and design[a]	.3	1.9	.8	6.0	3.2	4.6	1.9	.9	.7	20.3
Total	$24.1	$38.8	$8.1	$154.0	$241.0	$63.5	$103.0	$50.0	$79.7	$762.2

[a]Another $3 million could be spent for planning and designing the projected construction.

LOCATION MAP

DIEGO GARCIA




MIDDLE IS.
EAST IS.
WEST IS.
SEWAGE LAGOON
INDIAN OCEAN
LAGOON
CANTONMENT
ANCHORAGE AREA
FLEET REC AREA
RECEIVER AREA
CHARLIE AREA
HARBOR OPS. AREA
TURNING BASIN
SUPPLY/ POL AREA
CORAL REEF
POL / SUPPLY PIER
POL CAUSEWAY STOR.
MCB CONSTRUCTION SUPPORT AREA
AIR OPS. AREA
AIRFIELD
PT. MARIANNE
"I" SITE
PUBLIC WORKS
EXPLOSIVE STORAGE
7° 24' 30"
TRANSMITTER AREA
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DIEGO GARCIA
LEGEND
OPERATIONS
MAINTENANCE
SUPPLY & STORAGE
COMMUNITY SUPPORT
RECREATION AREA
CONSERVATION & BUFFER
UTILITIES
ISLAND KEY MAP

EVOLUTION OF USE OF DIEGO GARCIA

Since the early 1970's, Diego Garcia has evolved from an austere Navy communications station manned by fewer than 300 people to a major multiservice forward logistics base with planned personnel support facilities and work spaces for 2,150 personnel. As shown below, however, the evolution of Diego Garcia as an important Indian Ocean base began in the 1960's.

1963 The United States and the United Kingdom held preliminary discussions on the possible use of Diego Garcia as a joint base. The British interest in establishing a military presence in the British Indian Ocean Territory was promoted by concern brought on by the decline of British authority "east of Suez" and the need for security of communications and transit routes between Africa and the Far East.

1966 The United States and the United Kingdom signed an agreement making the island available for use as a joint base. The agreement is for 50 years and continues for 20 more years unless within 2 years of expiration, either government notifies the other that the agreement shall terminate. As the British-United States agreement was finalized, the island plantation was bought out and the workers gradually resettled in Mauritius between 1966 and 1971. The island thus became exclusively a military facility.

1972 The two governments signed a supplement to the agreement concerning the scope of construction for a limited U.S. Navy communications station. The Naval Construction Force had already begun construction in March 1971 on the communications facility, airfield, housing, and support facilities for the communications station.

1973 The U.S. Naval Communications Station-Diego Garcia became operational.

1975 Diego Garcia began changing from a communications facility to a base capable of providing minimal support to the U.S. fleet and other operating forces in the Indian Ocean, with a corresponding increase in development.

1976 The United States and the United Kingdom signed an additional supplement to the agreement which provided for further expansion of facilities on Diego Garcia to support the increased activity and to accommodate an island population of about 600 people.

1977 The U.S. Navy Support Facility-Diego Garcia was officially established.

1979/ International developments increased the
1980 operational role and importance of Diego Garcia.

1981 A separate U.S. Naval Air Facility-Diego Garcia was established. In July the Navy awarded a cost-plus-award-fee contract for construction of facilities.

Recognizing the greatly increased operational role of Diego Garcia, a major military construction program was begun in 1980. With this program came the additional planning and funding necessary to rapidly increase the number and types of operational and support facilities required for a significant logistics support base. Increased U.S. Air Force missions and Navy fleet operations in the region and implementation of the rapid deployment force concept required expanded operational facilities. A major expansion of the airfield complex will include a new aircraft parking apron, a taxiway, and a hazardous cargo pad to support increased Military Airlift Command passenger and cargo operations, as well as Strategic Air Command operations. The Air Force also plans to install a satellite detection and tracking facility and a navigational aid facility. Increased anchorage area and moorings were provided for the Near Term Prepositioned Force ships stationed in the lagoon, as well as other Navy ships. Support facilities in the program include housing, dining, medical, and similar facilities.

NAVY CONTRACT ADMINISTRATION

The Commander, Naval Facilities Engineering Command (NAVFAC), is the contracting officer for Navy construction projects and is responsible for ensuring that construction is executed effectively within legal limitations and other restrictions which may be imposed. For the Diego Garcia facilities expansion program, NAVFAC delegated the responsibility of contract administration to the Pacific Division, NAVFAC, which appointed an Officer in Charge of Construction (OICC).

The OICC's headquarters is collocated with that of the contractor's in Houston, Texas. Staffing consists of nearly 30 persons performing management, contract administration, and engineering assistance functions.

On Diego Garcia, the Deputy Officer in Charge of Construction performs onsite construction inspection and contract administration. Staffing consists of 3 resident OICCs and about 30 civilians, including construction management engineers, construction representatives, time and material checkers, and administrative staff. The Deputy OICC also performs surveillance for the Naval Construction Force projects.

In July 1981, NAVFAC awarded a $285 million cost-plus-award-fee construction contract for Diego Garcia to a joint venture consisting of Raymond International Builders, Inc., and Brown and Root, Inc., of Houston and Mowlem International, Ltd., of Middlesex, England.

The initial contract involves construction for the fiscal years 1981 and 1982 Diego Garcia facilities expansion program for the Navy and Air Force. It calls for new construction and major additions, as well as upgrades to existing facilities, including airfield and waterfront construction projects and petroleum facilities.

The contractor has a site office on Diego Garcia. It employs about 1,400 people on Diego Garcia. The first contractor personnel arrived for preliminary investigation of the site in July 1981, and construction started in early 1982.

OBJECTIVES, SCOPE, AND METHODOLOGY

Our objective was to assess the effectiveness of the Navy's management of the procurement of facilities for Diego Garcia. We undertook this review because (1) the procurement is one of the largest facilities acquisition programs in the Navy, (2) the contract was negotiated and signed as the total facility needs were being planned and programmed, and (3) the Navy chose an infrequently used contract type for construction programs, a negotiated cost-plus-award-fee contract. Overall, we focused on the Navy and the contractor management information systems to determine whether they provided information that could be used to make proper and timely decisions.

Our work was performed at (1) Headquarters, Department of Defense (DOD) and Departments of the Navy and the Air Force, Washington, D.C., (2) the Naval Facilities Engineering Command, Alexandria, Virginia, (3) the U.S. Army Corps of Engineers, Washington, D.C., (4) the National Aeronautics and Space Administration, Washington, D.C., (5) the Pacific Division, Naval Facilities Engineering Command; the Pacific Air Force; and the U.S. Pacific Fleet, Honolulu, Hawaii, (6) the Officer in Charge of Construction and the contractor, Houston, Texas, and (7) the Deputy Officer in Charge of Construction and the contractor, Diego Garcia.

We compared the provisions of CPAF construction contracts and fixed-price construction contracts. Our objective was to identify and analyze those provisions which would result in changes to the authority or responsibility of the Navy or the contractor or the operating relationship between them. We interviewed Navy and other federal contracting officials and performed procurement regulation and general bibliographic research on the use of CPAF contracts and their provisions to determine how the provisions affect contract administration.

During our work, we reviewed various contractor operations and the Navy's oversight of them to determine whether the government's interests were being fully protected. We reviewed the Navy's manual on administering cost reimbursable contracts; the contractor's standard operating procedures; and the contractor's and the Navy's reports, records, files, and other data. We also talked with Navy and contractor representatives and observed various operations.

Our review of the cost accounting system involved testing the reliability of the costs accumulated and reported for 12 projects in the January 1983 cost report. We selected the 12 projects, from the universe of 48, on the basis that as of December 1982, the projects

--were over 60 percent complete or

--had original estimated costs exceeding $50 million, or

--were over 30 percent complete and had original estimated costs exceeding $10 million.

The 12 projects are listed in appendix III.

Although we used statistically valid sampling techniques to test the specific transactions, we did not select the 12 projects on a statistically valid basis. To do so could have resulted in a sample which included projects with little or no financial activity because work had not begun on some projects or progressed very far on others. We confirmed with the contractor's manager of finance and administration that both the projects and the period selected were typical representations.

We tested the accuracy of the January 1983 cost report by tracing the amounts distributed to the documents that distributed the costs to the projects. For some types of costs, especially equipment usage and material issues, the limited number of transactions permitted testing the entire universe. For other costs, particularly labor, the volume of transactions required us to use a statistical sample with a 95-percent confidence level and a 5-percent error rate.

We reviewed contractor and Navy cost estimating reports for January, February, March, and April 1983. Although the level of detail in which we reviewed the different estimates varied, we tested them to determine whether the reported amounts were consistent within and between the months and with other contractor and Navy estimates. Because the cost accounting reports provide the historical cost information for the cost estimating reports, we also tested the reasonableness of the estimated amounts based on the costs incurred to date and the work still to be completed.

CHAPTER 2

A COST REIMBURSABLE CONTRACT MAKES STRONG CONTRACT ADMINISTRATION VITAL

The Navy determined that a cost-plus-award-fee contract rather than a traditional fixed-price contract was appropriate for the facilities expansion program on Diego Garcia because the CPAF contract provided the flexibility the Navy needed to cope with various uncertainties in the program. The CPAF contract is infrequently used for construction programs. When used, however, it is used in response to the uncertainty of the project environment and varies substantially from a fixed-price contract in terms of structure and administration.

The Commander, NAVFAC, as the contracting officer, is responsible for protecting the government's interests. The OICC, as the contracting officer's authorized representative, is responsible for day-to-day contract administration. The contract administration responsibility and authority of the OICC and the contracting officer under CPAF differ significantly from those under a fixed-price contract. According to the Navy, a CPAF contract, such as the Diego Garcia contract, usually includes language which transfers certain costs from the contractor to the government and typically excludes language which protects the government against contractor-caused delays and defects.

REASONS FOR USING A COST REIMBURSABLE CONTRACT

A fixed-price contract is designed to function in an environment where the government's project goals and objectives can be identified in detail and are relatively stable. In such an environment, the managerial and operational duties of the contractor can also be clearly established. However, in certain situations, a more flexible contract structure is desirable. The cost reimbursable contract provides this flexibility. For example, more flexibility is needed where (1) an unusual work environment exists as in the case when equipment, materials, the labor force, and supporting facilities must be transported and assembled in remote locations or in multiple locations concurrently or (2) agency operations may interrupt contractor operations.

A cost reimbursable contract which contains a mechanism for paying the contractor a profit based, in part, on performance is a cost-plus-award-fee contract. The Defense Acquisition Regulations define a CPAF contract as

". . . a cost reimbursement type of contract with special fee provisions. It provides a means of applying incentives in contracts which are not susceptible to finite measurements of performance necessary for structuring incentive contracts. The fee established in a CPAF contract consists of two parts: (1) a fixed amount which does not vary with performance, and (2) an award amount, in addition to the fixed amount, sufficient to provide motivation for excellence in contract performance in areas such as quality, timeliness, ingenuity, and cost effectiveness. Award fee may be earned by the contractor in whole or in part."

The expansion of the cost reimbursable contract format to include an award fee broadens management's flexibility. It enables the managers to evaluate the contractor's performance in accordance with criteria established jointly with the contractor for each evaluation period. Further, during the contract negotiations, management and the contractor agree upon the number and duration of award fee periods and the distribution of the award fee among the periods.

DIFFERENCES BETWEEN A COST REIMBURSABLE AND FIXED-PRICE CONTRACT

In general, a CPAF contract differs in several significant respects from fixed-price contract. In particular, a CPAF contract includes clauses defining the allowable cost and award fee evaluation and payment plans while excluding or modifying clauses dealing with inspection and acceptance, the contract completion date, and liquidated damages. Two clauses, not found in a fixed-price contract, form the basis of a CPAF contract's uniqueness. The allowable cost clause defines what costs the government will reimburse the contractor for. The award fee clause defines the criteria and process under which the contractor's performance will be periodically evaluated and fee entitlement determined.

During the contract negotiations, the government and the contractor agree on a definition of allowable costs. The government will pay the contractor the allowable costs of performing the contract subject to the contracting officer determining that the costs conform with section XV, part 4, of the Defense Acquisition Regulations and the contract terms. The Defense Acquisition Regulations state:

"Factors to be considered in determining the allowability of individual items of cost include (1) reasonableness, (2) allocability, (3) standards promulgated by the Cost Accounting Standards Board, if applicable, otherwise, generally accepted accounting principles and practices appropriate

to the particular circumstances, and (4) any limitations or exclusions set forth in this Part 2, or otherwise included in the contract as to types or amounts of cost items."

The contract award fee clause defines the maximum award fee the contractor will be paid, the method of grading the contractor's performance, and how the fee will be determined. The grading method portion of the clause defines the categories of performance, their relative weight, and any important attributes under each category of performance. The clause defining how the fee will be determined also defines the rights of the contractor to appeal award fee decisions, the formation of the award fee evaluation board, and the duration of each fee evaluation period. Overall, this clause provides both criteria and the procedures under which the contractor's performance will be evaluated and the fee paid by the government.

A fixed-price contract contains an inspection and acceptance clause which grants the government the right to inspect and test all material and workmanship required by the contract. Further, the clause requires the contractor, without charge, to replace any material or correct any workmanship which does not conform to the contract's requirements. The Navy told us that under a CPAF contract, the cost of remedial work is generally included in the definition of allowable cost. Consequently, an inspection and acceptance clause is not included in a CPAF contract. Further, the inclusion of remedial costs as allowable costs in a CPAF contract transfers the financial risk of nonconforming work to the government. Essentially, the cost of any work the government directs the contractor to perform, including remedial work, is an allowable cost unless precluded by the definition of allowable cost in the contract. The Diego Gacia contract specifies that remedial work is included in allowable cost unless the remedial work is the result of fraud, lack of good faith, or willful misconduct by the contractor's officers or employees.

Also, under a fixed-price contract, a completion date is established as a fixed contract date based on the estimated number of calendar days necessary to complete the project. The liquidated damages clause, using the established completion date, protects the government from unauthorized delays caused by the contractor by financially penalizing the contractor for late completion. In the CPAF contract awarded for Diego Garcia, the government could not establish a specific completion date for the overall contract because the estimated calendar days to complete the project could not be precisely determined and the number of interruptions in the contractor's work could not be anticipated. For the individual construction projects, the contractor prepares schedules for doing work and thus projects intermediary completion dates. Due then to the inability to establish a contract completion date, the government could not use a liquidated damages clause.

AWARD FEE PROCESS

Reflecting the assumption that profit is a basic motive of good business, a CPAF contract is structured to motivate the contractor by equating profit with performance through the award fee structure. The key question is how the structure is established and functions.

The Defense Acquisition Regulations define award fee as follows:

> ". . . Award fee may be earned by the contractor in whole or in part. The amount of award fee to be paid is based upon a subjective evaluation by the Government of the quality of the contractor's performance, judged in the light of criteria set forth in the contract. The number of criteria used and the requirements which are represented will differ widely from one contract to another. Therefore, when determining criteria and rating plans the using activity should be flexible and select a plan which will motivate the contractor in a positive way to improve performance."

The use of an award fee requires an evaluation plan and a fee payment plan. The evaluation plan sets forth the factors upon which the contractor will be evaluated and the procedures for evaluating performance. The fee payment plan, building on the evaluation plan, sets forth the mechanism for translating the evaluation results into dollar equivalents and the time periods for the fee calculations. Obviously, the two plans depend upon each other and the management organization established to administer them. Further, the process of executing the two plans has significance, beyond determining award fee payments, as a tool for broad project control by fostering a steady flow of information.

Evaluation plan

The factors used to evaluate the contractor can include any aspect of contractor performance, provided it is measurable and is largely under the contractor's control. Factors such as scheduling work load, cost control, technical performance, or management methods may be selected and subdivided into any level of detail. For example, the CPAF contract for Diego Garcia includes three levels of evaluation factors beginning with quality of work, management, performance, and cost--with weights of 20, 30, 25, and 25 percent, respectively. The contract also provides that each factor contain between three and eight subfactors. For example, the quality of work subfactors are workmanship, skills demonstrated, and completeness. Further, the Navy has established nine award-fee evaluation elements (e.g., work in place, personnel management, and control systems) against which to apply each factor and subfactor.

In summary, there are virtually no constraints on what areas of contractor performance can be evaluated. Careful planning is required to make sure that those selected can be measured in a timely and dependable manner, can be controlled by the contractor, are relevant to the government's needs, and motivate the contractor.

Fee payment plan

This plan is a process of converting the performance evaluation results into dollar equivalents.

The OICC's instruction detailing the procedures for fee evaluations identifies eight primary evaluators, primarily senior project officials, who are responsible for completing the award fee evaluation narratives and final grading. After defining the four evaluation factors and multiple subfactors contained in the contract, the instruction establishes seven adjective descriptors with numerical values on a scale of 0 to 4, as follows: best (4), good (3.8), satisfactory (3.4), adequate (3.2), unsatisfactory (2.8), rejected (2), and default (0). Therefore, if the contractor was rated a 4 on all factors and subfactors, it would receive 100 percent of the award fee for the period being evaluated.

The evaluators are responsible for scoring the contractor's performance by using the numerical rating scale and for helping the OICC prepare the final award fee recommendation. The OICC is responsible for presenting the recommendation to the Award Fee Evaluation Board. The board, composed of three senior NAVFAC officers unrelated to the project and/or the Pacific Division, NAVFAC, is responsible for determining the final award fee payment. In determining the award fee, the board considers recommendations from the OICC and the contractor as well as any information it may request.

As discussed above, the adjective descriptors are based on a scale of 0 to 4. The instruction establishes a factor of 3.4 for satisfactory and 2 for rejected. Consequently, if the contractor receives a satisfactory rating, it will receive 85 percent of the award fee and if its work is rejected, which is less than unsatisfactory, it will still receive 50 percent of the award fee. Establishing a high point value for satisfactory performance, in essence, guarantees a portion of the award fee to the contractor.

One theory states that the contractor's normal level of work, i.e., satisfactory work, should be equated with zero on the numeric scale, thus converting the entire scale to a reward scale for performance in excess of normal. Conversely, another theory holds that the contractor's normal level of work should be established at some point along the scale, usually 50 percent to 70 percent, thus permitting reward as well as penalty. This latter theory was adopted for the Diego Garcia contract.

However, under the OICC instruction, satisfactory work is defined as at least 80 percent, thus implying that the portion of the fee below 80 percent is in effect guaranteed. This is particulary true in light of Navy officials' statements that they would not anticipate the contractor being scored below satisfactory because, as stated in the OICC instruction, they had ". . . selected the best contractor who sought the work, and all scores must be assigned accordingly."

THE NAVY AND THE CONTRACTOR HAVE JOINT RESPONSIBILITY, BUT THE NAVY MUST TAKE THE LEAD IN ENSURING ECONOMY AND EFFICIENCY

Under a fixed-price contract, the government's level of interest in cost does not usually extend to what specific costs are incurred and how they are incurred. Under a cost reimbursable contract, the government's level of interest in cost does extend to what costs are incurred and how they are incurred because the government is reimbursing the contractor for them. Under a cost reimbursable contract, the contractor and the government have a close relationship because the government contracts for the contractor's physical construction capability, which is subject in large measure to the government's control.

The Navy's role

The responsibility and authority for contract administration and management are vested in the government's representative--the contracting officer. The contracting officer delegates this authority to the OICC, who is responsible for the onsite, day-to-day control and direction of the contractor and project accomplishment.

The NAVFAC Cost Reimbursable Construction Contract Manual establishes two major areas of concern for the OICC in administering a cost reimbursable contract. These areas are (1) the contractor's adherence to the plans and specifications during construction and (2) the adequacy of the contractor's financial management relative to both internal cost techniques and reporting. The manual indicates that the OICC is expected to exercise strong control in both areas.

The OICC functions in areas that are normally the contractor's responsibility. The OICC and his staff are actively involved in the day-to-day actions of the contractor, including the direction of the work, i.e., assigning work to the contractor and ensuring that the contractor's capabilities are economically used.

In summary, the OICC and the contractor in many respects function as a single organization with mutually dependent responsibilities. The technical management and quality

assurance of assigned phases of the work remain the responsibility of the contractor, while the OICC retains responsibility for overall progress.

The contractor's role

The contractor, under the direction of the OICC, has responsibility for the efficient completion of all the work assigned by the OICC.

The NAVFAC Cost Reimbursable Construction Contract Manual assigns the contractor basic responsibility for completing assigned work within the contracting officer's guidelines. The manual notes that beyond this basic responsibility, the legal obligations of the contractor are established by the contract terms.

Under a cost reimbursable contract, the contractor is subject to restrictions and enjoys privileges not normally afforded the contractor under a fixed-price contract. As a result, the contractor may be required to alter normal operating procedures.

In summary, the cost reimbursable contractor has the same legal status with the government as any contractor, is bound by the contract terms, and has a special interlocking relationship with the government.

CHAPTER 3

IMPROVED CONTRACT ADMINISTRATION COULD REDUCE COSTS AND AVOID CONSTRUCTION DELAYS

Despite the responsibility to protect the government's interests by exercising more than normal involvement in a cost reimbursable contractor's operations, the OICC has not required the contractor to establish and document financial management information and control systems before proceeding with the contract. Consequently, numerous problems and weaknesses affecting the contractor's operations have arisen and several continue unresolved. These problems and weaknesses have resulted in unnecessary costs and construction delays.

Strong day-to-day control and aggressive corrective action taken by the OICC early in the contract would have prevented many of these problems and minimized several of the weaknesses that developed. Management information regarding the contractor's operations from contract inception through construction completion is critical if the OICC is to adequately protect the government's interests and ensure that the contractor's work is done economically and efficiently.

However, the OICC did not have such essential information because he did not require the contractor to establish and document management information and control systems before proceeding with the contract. Over 18 months after the contract was awarded, the contractor still did not have fully operational systems that provided (1) accurate and timely financial information, (2) a way of managing materials from the requirements determination stage through final disposition, or (3) a way of managing resources efficiently and economically. In July 1983, 2 years after the contract was awarded, the Commander, Pacific Division, NAVFAC, concurred that the contractor's information was unreliable for a considerable length of time but noted that reliability had improved considerably.

A system that accurately and promptly reports costs and accounting transactions is a key element in adequately administering a cost reimbursable contract. Therefore, the Diego Garcia contract required that a comprehensive financial management system be developed within 45 days of contract execution. More than 18 months after the contract was awarded, the contractor still did not have an accurate or timely financial management system. Because reliable financial information is so important to this type of contract, we devoted a separate chapter to the subject. (See ch. 4.)

Without effective systems for materials control and resource leveling (a systematic means of planning, assigning, and controlling construction resources) and without timely

corrective action by the OICC, unnecessary costs were incurred and construction delays were exacerbated. Additional problems and delays could occur because the OICC has not required the contractor to implement such systems.

Furthermore, changes are needed in the Navy's contract administration and the award fee structure. The Navy has paid fees to the contractor which could have been saved, and the potential for paying such fees in the future remains. In addition, the award fee structure developed for this contract could have provided additional motivational value to emphasize the importance of establishing management information and control systems during the early stage of the contract. The Navy has taken some actions to improve contract administration since our review.

THE CONTRACTOR'S MATERIALS CONTROL SYSTEM IS INEFFECTIVE

Although a system for managing all facets of materials control is imperative to the efficient completion of the Diego Garcia construction program, the contractor did not have an effective system in place more than 18 months after the contract was awarded. Several approaches for managing materials had been tried, including a costly but unsuccessful effort to develop an automated system. Failure of this system during its development phase cost the government over $50,000 and led to additional efforts to implement a materials control system. At the completion of our fieldwork in March 1983, the contractor was still in the process of implementing a system for managing all facets of materials control.

A comprehensive materials control system is essential for controlling materials from the determination of requirements through procurement, transportation, receipt, issue, and inventory control to final dispositon. Such a system is necessary to determine not only the proper type and quantity of materials required but also the stocking levels, storage facilities, personnel, and delivery schedules required. In addition, the system should protect the government's interests by ensuring maximum competition, fair and reasonable prices, and full accountability for all materials. The absence of a comprehensive materials control system contributed significantly to scheduled completion dates being missed on many construction projects and additional slippages being anticipated. Moreover, because the OICC did not require the contractor to effectively control materials purchased for the Diego Garcia program, several problems and unnecessary costs resulted. These costs and problems could have been avoided, or at least minimized, if the OICC had been more aggressive in directing and controlling the contractor's operations and required that an effective materials control system be implemented early in the contract.

Scheduled completion dates have been missed, and additional slippages are anticipated

The OICC's role in administering the Diego Garcia contract requires active participation with the contractor in planning, scheduling, and determining the resources required to do the work within the specified individual time frames. Also, the OICC is responsible for providing day-to-day control over the contractor's operations and for ensuring that the contractor has an adequate system for determining initial materials requirements and a continuing supply of materials necessary for the timely completion of the construction program.

The OICC has not exercised adequate control over the contractor's operations and has not required the contractor to implement an effective materials control system. Consequently, 11 of the contractor's 45 construction projects on Diego Garcia had, by January 1983, already missed their scheduled completion dates. Furthermore, slippages in the completion of 12 other projects were anticipated. (See app. IV.) According to the OICC, most of these projects where slippages are anticipated are critically needed, particularly the dining facility, enlisted personnel housing, the power plant, and utility systems. Thus, delays in completing these facilities could hamper the Navy's ability to accomplish its mission on Diego Garcia and could place hardships on the personnel assigned to the island.

Although various causes contributed to these delays, we believe the primary cause was the absence of an effective materials control system to ensure that necessary materials were available when needed. During the January 1983 contract evaluation meeting, the contractor's project director and the site project manager admitted that the scheduled completion dates had been missed because of problems with materials deliveries. Also, the OICC identified late delivery of materials and an incomplete materials inventory as the two most significant reasons for the delays.

Unnecessary problems have risen and costs incurred because of ineffective materials control

Several other problems and weaknesses detrimental to the government's interest have also arisen because the OICC has not exercised adequate control over the contract and required the contractor to implement an effective materials control system. These problems and weaknesses have resulted in unnecessary costs, but more importantly, the contractor's ability to fulfill a basic responsibility--property accountability--has been hampered.

The following examples show that the OICC has not required the contractor to effectively and economically control and manage materials. Further, until the contractor implements an effective materials control system, the the OICC will be unable to ensure that materials are procured, received, transported, or issued in the most economical and efficient manner.

Reports of missing or damaged materials allowed to backlog

Because the OICC did not require the contractor to implement standard operating procedures that fully cover the movement and accountability of materials, a large backlog of reports on missing or damaged materials developed. This backlog increased for over 12 months because the contractor did not have a claims department or formal procedures for filing claims on missing or damaged materials. As a result, the OICC reimbursed the contractor about $200,000 for materials that either were not received on Diego Garcia or were received damaged.

Acting on our recommendation, the OICC took action to collect from the contractor for materials that the government had paid for but had not received or had received damaged. However, at the completion of our fieldwork, the contractor still did not have formal procedures for resolving reports of missing or damaged materials. Consequently, another backlog of such reports may develop.

Materials deliveries have not always conformed with construction needs

The absence of an effective materials control system has resulted in unnecessary costs, as well as deliveries of materials to Diego Garcia that have not always conformed with actual construction needs. The late delivery of materials has already delayed the completion of several critical projects and other projects are expected to be delayed.

On the other hand, some materials have been prematurely procured and delivered to Diego Garcia, thereby resulting in an undetermined investment in idle stock. Furthermore, the contractor has incurred unnecessary costs storing these materials, many of which will be stored for a year. For example, all the bathtubs for the officers' housing construction project were delivered in January 1983 even though they were not expected to have needed until December 1983. As of March 1983, the contractor had spent over $173,000 for temporary storage to accommodate these and other materials delivered much too early.

Problems with freight-forwarding service

The OICC's inadequate contract administration and oversight of materials management allowed problems and weaknesses to develop with the freight-forwarding services and several of

these are continuing. It may have helped to avoid these problems and weaknessess if the OICC had prepared a preaward survey to evaluate the capabilities of various subcontractors and if the contractor had prepared a formal requirements package defining the scope and type of services needed. Further the process was not conducted on a fully competitive basis; only selected companies were offered the opportunity to submit bids.

The original contract for freight-forwarding services had been amended several times. The contract allowed the contractor or the freight forwarder to terminate the contract after 30 days' notice. Without a formal description of the required services, the contractor could not have obtained such services from alternate sources within the 30-day period. If the freight forwarder had exercised its option to terminate the contract unless amendments increasing the contractor's total cost had been included in the contract, the contractor would have been faced with two alternatives. It could have continued service by accepting the freight forwarder's proposed amendments or disrupted shipments to Diego Garcia.

The charges for handling and packing materials also increased, and some of these increases are questionable, especially considering the quality of freight-forwarding services provided. For example, the freight forwarder may not have been receiving and inspecting materials as adequately as it should have been. Also, we observed problems with the packing of materials, and several contractor officials raised questions about the freight forwarder's packing and documenting of the materials shipped to Diego Garcia. Because of the questions and the rising cost of freight-forwarding services, we believe the Navy may have been paying more than necessary for these services.

Both the OICC and the Defense Contract Audit Agency are investigating the possibility that the Navy is paying more for freight forwarding than necessary. In commenting on the draft of this report, DOD noted that the weaknesses have been rectified. According to DOD, a freight-forwarding requirements package was developed and a new subcontract for freight-forwarding services was awarded through the competitive process to a new contractor.

Problems in reconciling the materials inventory

At the completion of our fieldwork, the contractor had not yet completely reconciled the physical inventory of materials and supplies with the accounting records. As of March 1983, there was a difference of almost $4 million between the value recorded in the contractor's accounting system and the physical-inventory. According to an OICC official, these discrepancies were due primarily to errors in performing the physical inventory and were being resolved. Resolving the discrepancies

should significantly reduce the difference, ideally to zero. We believe these discrepancies could have been avoided if the OICC had required the contractor to implement a system for effectively controlling materials from the time requirements are identified until the materials are incorporated into the construction project.

Contractor comments

In commenting on a draft of this report, the contractor noted that:

--An effective manual system was used on Diego Garcia for materials receipts and inventory control and a tracking system was reporting the status of materials procurement.

--The primary materials management system was operational in March 1983; enhancements were made after that date.

--The fact that materials constraints were a problem was only partially attributable to the lack of a materials control system.

--The late delivery of materials cannot be used for measuring the effectiveness of a materials control system without considerng the other circumstances which affected delivery of materials.

--The materials control system in operation since the initial stages of the project fulfilled the contractor's property accountability requirement.

During our fieldwork, the contractor was working to improve the materials management system. The improvements involved automating a considerable portion of the system, as well as significantly modifying previously automated portions. The time when the system was fully operational (i.e., when the implementation process was completed) depends on whether the enhancements made after the primary system became operational are considered part of the comprehensive system.

We believe a comprehensive materials management system extends beyond the automated system and includes manual functions and managerial involvement. Those portions of the system should address circumstances affecting materials deliveries before they affect actual delivery dates.

During our fieldwork, the system in place was not a fully integrated comprehensive system. We have not analyzed the enhancements made since our fieldwork has been completed.

The contractor's comments essentially stated the lack of an effective materials control system did not hamper property

accountability. Although the onsite materials inventory system provided information on materials actually on Diego Garcia, similar information was not readily available for materials before they arrived on the island.

In its comments, the contractor also reiterated points made to us during our fieldwork and considered by us in preparing the report.

THE CONTRACTOR DOES NOT HAVE A RESOURCE-LEVELING SYSTEM

A systematic basis for employing and leveling construction resources is a necessary part of effective workload management, especially under a cost reimbursable contract. Since practically all costs incurred by the contractor are reimbursable, the OICC must be assured that the contractor has a system for effective workload planning and leveling and for determining the construction resources required to do the authorized work within the specified time frame.

The contractor has not, however, been able to demonstrate an effective resource-leveling system. During our preliminary work in August 1982, the OICC told us the contractor was going to start resource leveling in the near future. When we asked the status of the efforts during our fieldwork, we were told the first attempts had been made and the system should be fully operational shortly. Until the system is operational, we question how the OICC can be assured that the contractor's resources are efficiently and economically applied against construction requirements. Questions concerning the likelihood of completing the construction program within the time frame specified have arisen. While the absence of a resource-leveling system was not the primary reason contruction milestones were missed, it could be a significant factor contributing to delays in completing future projects. To date, the contractor has been able to shift idle resources from one project to another or, in some cases, start projects ahead of schedule. As the program progresses, however, there will not be as many projects to absorb available resources. Thus, without effective resource leveling, not only may projects miss construction milestones, but staffing and equipment may both be inefficiently used.

The potential for additional problems affecting the economy and efficiency of the contractor's operations and for even more construction delays is increased by the lack of a resource-leveling system. Moreover, the size and complexity of the construction program on Diego Garcia, as well as the remote location, make it even more important for the contractor to have an effective resource-leveling system.

THE NAVY PAID FEES TO THE CONTRACTOR WHICH COULD HAVE BEEN SAVED

In its role as protector of the government's interests, the Navy should ensure that fees are paid only for work the contractor must do and that adjustments to the contract's value are calculated consistently. The Navy could have saved fees by purchasing several items itself, rather than paying the contractor fees to purchase them. Also, the Navy has used inconsistent criteria to make adjustments to the contract. Furthermore, various understandings regarding fee payments are informal in that they have not been incorporated into the contract itself or otherwise formally documented.

The Navy could have saved fees by purchasing several items

The Navy included procurement of generators and a telephone exchange in the contractor's scope of work. Earlier in the fiscal year, however, the Navy had bought several identical generators for Diego Garcia. Meanwhile, the Navy hired a third party to prepare the specifications for the telephone exchange so that it would be compatible with the existing system and then directed the contractor to procure the system. The Navy could have saved as much as $293,000 in fees paid to the contractor on the estimated costs of $4.3 million for the generator and the telephone exchange by making both procurements.

Although it is the general policy of the Department of Defense that the contractor furnish all material required to perform a contract, there are exceptions applicable to this situation. The Defense Acquisition Regulations state ". . .the Government should furnish material to a contractor when it is determined to be in the best interest of the Government by reason of economy, standardization, the expediting of production, or other appropriate circumstances." NAVFAC regulations also cite economy and standardization as reasons why the Navy may furnish equipment and materials.

Navy officials contend the regulations are not applicable because they believe that the regulations apply to specialized items the government buys in large quantities, like communications equipment, and not to a small quantity of a common item, like a generator or a phone exchange. They also told us the price the contractor paid for the generators was comparable to what the Navy had paid earlier. We believe, however, that the government's interests would have been best served if the Navy had bought those items and thereby saved the $293,000 in fixed and award fees paid to the contractor. To standardize the major components of the utility systems, the Navy instructed the contractor to purchase generators identical to ones which the Navy had purchased earlier and which were compatible with those already on Diego Garcia. Similarly, the Navy hired a third party to design a system that would be compatible with Diego

Garcia's existing telephone system and then instructed the contractor to buy such a system. Thus, the contractor's involvement was limited to essentially placing orders for items specified by the Navy. The Navy could have placed the orders and bought the items for about the same price as the contractor and thus saved about $293,000 in fees paid to the contractor.

When the Navy furnishes material to be used in construction projects by the contractor, neither award fee nor fixed fee is paid on the estimated cost of those materials, according to the Comptroller, Pacific Division, NAVFAC. While this arrangement has been accepted by the contractor, it has not been included in the contract or formally documented.

Additions to and deletions from the contract were not handled consistently

Changes in the contract's scope were handled inconsistently; consequently, avoidable fees were paid to the contractor. When work was added to the contract, the Navy increased the contract value for direct and indirect costs plus the fees on those estimated costs. When work was deleted, the Navy decreased the contract value for only direct costs and the fees on just those estimated direct costs.

During our fieldwork, we reviewed the two contract modifications which significantly affected the scope of work and contract value. One modification added work to the contract and the other deleted work. The first modification added a facility estimated to cost about $154,000 for direct and indirect costs. The contract value was increased by that amount as well as the fees on the amount. The second modification deleted a facility with a total estimated cost of about $9.5 million. The contract value was decreased by only about $6 million for just direct costs and the fees on just those estimated costs. By their very nature, indirect costs cannot be directly associated with a particular construction project. Thus it is difficult to determine how such costs will be affected by additions to or deletions from the scope. We believe that once it is decided how indirect costs will be treated in contract modifications, all modifications should be made consistently. Since the Navy chose to add indirect costs for work added to the contract, it should have subtracted indirect costs for work deleted. If the Navy had handled the contract modifications for deletions the same way as additions, the Navy could have saved the fees on the approximately $3.5 million of indirect costs left in the contract--as much as $235,620.

The contract does not specify how additions to or deletions from the contract should be handled, only that changes should be made equitably. According to the OICC, the Navy and the contractor have agreed that the fees on any additions to the scope will be calculated using the percentages established by

the initial contract. This agreement has not, however, been reduced to writing or included in the contract.

An unclear contract modification was used as a basis for certain award fee payments

The Navy paid both fixed and award fees to the contactor to procure materials for others even though a contract amendment calls for only fixed fees to be paid on the estimated cost of such items.

In August 1982, the contract was modified to provide that the contractor be paid only a fixed fee for procuring materials or equipment for other parties. Specifically, the modification stated:

> "In addition to the original contract scope, the Contractor may be directed to procure and deliver materials and equipment for use or installation by the Navy and/or others. For such procurements, the Government shall pay the contractor a fixed fee of one and a half percent (1.5%) of the estimated cost of the materials or item procured and delivered. Such estimated costs shall include the direct procurement, freight handling and shipment charges incurred by the Contractor, plus an appropriate allowance for overhead."

In October 1982, the scope of the work for two projects was changed to require the contractor to essentially just procure the materials, rather than perform all the construction work. The Navy agreed to pay both the award and fixed fees for procuring the materials when only the fixed fee should have been paid in accordance with August 1982 modification. The Navy would have saved as much as $10,000 in award fees by applying the August 1982 provisions.

The Commander, Pacific Division, NAVFAC, told us that because the contractor's engineering department determined the type and quantity of materials to procure, the contractor was entitled to a fixed fee and an award fee. The August 1982 modification does not make that distinction; therefore, we believe the contractor should be paid the fixed fee only. The Commander told us the modification would be clarified to distinguish the amount of work expected from the contractor to procure materials in return for just a fixed fee versus the work required to earn both.

THE MOTIVATIONAL VALUE OF THE AWARD FEE COULD BE INCREASED

The Navy's actions during the early phases of the Diego Garcia construction program enabled the contractor to earn very little of the award fee during the first year of the contract and, in essence, guaranteed half the award fee to the contractor. The resulting award fee distribution and rating scale structure provided minimal motivational value during the early stage of the contract.

Award fee distribution

A total award fee of about $14.9 million was provided under the initial contract. Of this total, less than $1 million, or 6 percent, was available for the contractor to earn during the first two award fee periods. These 6-month periods (July 15, 1981, to January 31, 1982, and February 1, 1982, to July 31, 1982) coincided with the contractor's goals to establish a project organization, develop and implement management systems, and begin initial construction operations.

The basis for the award fee was established by the contract terms and by subsequent agreement between Navy and the contractor. In essence, the level of award fee available in any evaluation period was tied to the work done by the contractor. The definition of work performed included physical construction work as well as all the contractor's other efforts during the entire contract period, including the pre- and postconstruction periods.

One of the contractors's major work items during the preconstruction period was the development and implementation of financial, materials control, and resource-leveling systems. As discussed elsewhere in this report, the operational reliability of these systems is of the utmost importance to successful management of the actual construction. Thus, the contractor's performance at this early contract stage should be a major concern. The award fee provisions, because they are intended to motivate the contractor, can help to foster sound management systems and thereby reduce or minimize subsequent problems, such as those experienced on the Diego Garcia contract.

During our review, we discussed with Navy officials the significance of the amount and motivational value of the award fee distributed to the early contract period in relation to the importance of the contractor's work during the period. The officials acknowledged the importance of the contractor's work during this period. The Deputy OICC stated that if the management control systems had been fully implemented during the early contract period, the scheduled completion dates probably would not have slipped. The Navy officials also agreed that the amount of award fee available during the first two periods was

not sufficient incentive for the contractor to make extensive improvements in the operations. The Commander, Pacific Division, NAVFAC, told us that along with increasing the potential award fee for the early period, a mobilization project with specific objectives and milestones, similar to an actual construction project, should have been included in the program. This would have provided the Award Fee Evaluation Board a solid basis for applying the rating scale when grading the contractor's efforts during the critical preconstruction period.

Rating scale structure

The motivational aspects of the award fee process are translated into a monetary reward by grading the contractor's performance. The OICC instruction governing the process established seven grading levels ranging from best to default. Each level included a numerical score between zero and four, a numerical percentage, and an adjective describing the numerical score. To further clarify the degree of contractor performance represented by each grade, a narrative definition was included with each grading level.

During our review, we noted that the OICC instruction prescribed no grade between default (0 percent) and rejected (50 percent). In effect, this grading structure appears to provide the contractor half the potential award fee for performing work rejected by the Navy. Thus, only the remaining half serves as a motivational value for the contractor to produce acceptable work. Therefore, provided the contractor does not default, half the award fee can be paid and, for all practical purposes, becomes guaranteed.

We discussed this issue with the OICC, who stated that although the instruction included a single percentage for each grade, it was intended that each grade be represented by a range, centered upon the instruction's single percentage.

RECENT OICC ACTIONS TO IMPROVE CONTRACT ADMINISTRATION

During our fieldwork, which was done more than 18 months after the contract was awarded, the OICC assumed a more authoritative role in administering the contract and in protecting the government's interests. Even then the OICC's actions were prompted in part by our concern that the government's interests were not being adequately protected. In this new role, on March 11, 1983, the OICC withheld over $137,000 in payment to the contractor for materials reported missing or damaged. He did this because of the contractor's reluctance to file third party claims for missing or damaged materials. Now both the financial liability and the motivation to collect for these materials rest with the contractor. However, the contractor still needs to develop formal procedures for resolving future reports of materials missing or damaged.

Also, in the January 1983 performance appraisal, the OICC criticized the contractor's management information and control system. Specifically, the OICC wrote that the effects of the lack of a functioning control system from contract inception to date might cause the contractor to exceed authorized funds. Therefore, the board reduced the contractor's award fee from almost $2.8 million to about $1.8 milion, or by 33 percent.

CONCLUSIONS

Unnecessary problems and weaknesses affect the Diego Garcia construction program because the Navy has not provided proper direction or assumed adequate control in administering the contract. These problems and weaknesses have increased program costs and contributed to several delays in completing construction. Not only is action needed to correct existing problems and weaknesses, but changes are also needed to ensure that the government's interests are fully protected in future CPAF contracts.

We believe the Navy should have taken a more authoritative position early in the contract. If the Navy had done this and required the contractor to establish fully operational systems for financial management, materials control, and resource leveling, as called for in the contract, there would have been fewer problems after 18 months of operations and they would have been much less serious. For example, scheduled completion dates should have been met or slipped minimally and materials deliveries should have conformed with construction needs. Until the contractor can attest to the reliability of the systems, all the decisions based on the information they contain will be subject to question. Decisions based on inaccurate or outdated information may prompt actions detrimental to the program's objectives.

The Navy's actions involving fees paid to the contractor have already resulted in additional costs to the government. The Navy caused unnecessary fees to be paid by requiring the contractor to purchase certain items the Navy should have furnished and by handling modifications to the contract inconsistently. Furthermore, understandings regarding the fee structure for items the government furnishes to the contractor and work added to the contract must be formalized to prevent potential problems and additional costs. Unless the Navy improves its contract administration in these areas, the government may incur additional unnecessary costs.

The Navy could have increased the motivational value of the fee. By making only 6 percent of the award fee available during the first year, the Navy may have inadvertently indicated to the contractor that early project planning was less important than actual construction work. The current grading scale, in our opinion, guarantees the contractor at least half the award fee, and, therefore, has limited motivational value.

Recently the Navy has taken a more authoritative role; however, an even more aggressive role must be assumed to ensure that the contractor's capabilities are employed economically to the maximum extent possible.

RECOMMENDATIONS

We recommend that to correct existing problems and weaknesses in the administration of the Diego Garcia contract, the Secretary of the Navy direct the Commander, NAVFAC, to require the contractor to

- --demonstrate that essential management information and control systems (i.e., materials control and resource leveling) are fully operational and reliable;
- --develop procedures for filing and processing claims to prevent another backlog of reports for materials missing or damaged; and
- --complete a physical inventory and reconciliation of all materials and supplies periodically.

Furthermore, the Secretary should direct the Commander to

- --handle future additions to and deletions from the contract consistently,
- --furnish the contractor materials and equipment when doing so is economically advantageous to the government,
- --incorporate into the contract the understandings concerning fee payments for items the government furnishes to the contractor and for work added to the contract, and
- --instruct the OICC to amend the OICC instruction detailing the award fee evaluation procedures so that it sets forth the range of percentages to be used in conjunction with each of the seven grading categories.

We also recommend that to ensure that the government's interests are adequately protected in future CPAF contracts, the Secretary of the Navy direct the Commander, NAVFAC, to

--require an independent review of the contractor's management information and control systems to verify that they are fully operational during the early stages of the contract and before the contractor is allowed to begin actual construction,

--ensure that the amount of award fee allocated to the initial contract periods is commensurate with the importance of preconstruction tasks and thereby provides motivation for the contractor, and

--ensure that the percentage scores used in the award fee grading process provide the maximum motivational value and preclude the guarantee of a large portion of the award fee.

AGENCY COMMENTS

Commenting on our draft of this report in a letter dated January 26, 1984, the Assistant Secretary of Defense stated that DOD basically concurred in most of our findings and recommendations. He said that the recommendations generally iterated sound contract administration criteria and were concurred in since they were consistent with DOD standard policy and procedures which had been exercised by NAVFAC in this case.

DOD did not concur that the contractor's deficiencies caused by the contractor's ineffective materials control system were a result of inaction by the OICC. DOD said that the OICC had recognized the problems with the materials control system before our audit and had directed the contractor to implement corrective action.

DOD did not concur that the contract language could define a proper fee allowance that would accommodate all ranges of circumstances and contractor involvement for government-furnished material or work transferred to others. DOD believed that each case must be reviewed independently and a fee considered based on the contractor's involvement. Further, DOD explained that it was the OICC's responsibility to negotiate fees for such arrangements fairly and equitably.

We agree that language defining the entire range of the contractor's involvement for government-furnished materials and work transferred to others will be difficult to incorporate into the contract. We are not advocating that the entire range be addressed. However, we are recommending that agreements concerning the fee payments for future years' work added to the contract and for government-furnished material be incorporated into the contract. This should not be difficult because the Navy and the contractor have already agreed informally on the basis for establishing the fees to be paid for future years'

work and have agreed that no fee should be paid for government-furnished material.

DOD partially concurred in our recommendation requiring an independent review of the contractor's management information and control systems to verify that they are fully operational before the contractor is allowed to begin actual construction. However, DOD believed that to delay the contractor from beginning construction pending approval of satisfactory operating management information and control systems could result in delays of required completion dates and added overhead costs.

During our review, we were told that if these systems had been fully implemented during the early contract period, the scheduled completion dates probably would not have slipped. Sound contract administration would require the contractor to carry out its responsibility in accordance with the contract terms. To that end the contractor's management information and control systems should have been fully operational before beginning construction on any project. Scheduled completion dates for the construction projects were established after considering the mobilization period and the time required to install the information and control systems. We believe when construction projects are permitted to proceed before the contractor has satisfactory operating management information and control systems necessary to meet completion dates, the problem of missed scheduled completion dates will be compounded. If, on the other hand, the Navy prohibits the contractor from starting work until the Navy is satisfied that the information systems necessary to meet completion dates are operational, then the problem of missed completion dates could be minimized because the essential data necessary to make proper decisions would be available, valid, and timely.

CONTRACTOR COMMENTS

In its comment on our report draft, the contractor stated that its management scheduling and control system was not fully operative at the time of our review; therefore, the resource-leveling capabilities of the system were not being used. The contractor further stated the capabilities of the system were used in June and October 1983, which was after our review was completed. In addition, the contractor said that after our audit, its new staff hour report had been implemented to provide productivity information to establish variances to plan for use of labor.

CHAPTER 4

BETTER FINANCIAL MANAGEMENT SYSTEM IS ESSENTIAL FOR EFFECTIVE PROGRAM OVERSIGHT AND COST CONTROL

The contract for facilities expansion on Diego Garcia required the contractor to have a comprehensive financial management system in place within 45 days of the contract award date. The system, among other things, would provide the budgeting and cost accounting data the contractor needs to prepare the financial reports which provide project managers a basis for determining how much money the contractor has spent to construct a project and how much money the contractor needs to complete the contract. After 18 months of operation, the contractor does not have a comprehensive system in place and the budgeting and costing data used in the contractor's financial report is unreliable. In the January 1983 award fee evaluation, the Commander, Pacific Division, NAVFAC, pointed out that he did not have confidence in the contractor's financial reports. In July 1983, he again stated his concern over the adequacy of the contractor's financial management system and noted his attempts to improve the contractor's control and quality of records. Also, the OICC expressed concern that the potential existed for severe cost overruns. During our review, both the contractor and the OICC began to correct the deficiencies we had identified. More must be done, however, before the reports accurately reflect the program's financial status.

Accurate cost accounting and budgeting functions are crucial to the effective management of a cost reimbursable contract. The financial information generated during the first 18 months of the contract and maintained by the contractor was only of limited benefit to the Navy.

Decisionmakers cannot rely on the contractor's cost accounting reports and estimates because they contain inaccurate and untimely information. Although the contractor issues monthly reports on the cost of each particular project, our examination of the reports revealed they are not reliable. When the contractor's cost estimates for fiscal year 1983 work were reviewed by the Defense Contract Audit Agency, almost 50 percent of the $49.6 million proposal was considered unsupportable or questionable. While the contractor and OICC both anticipate cost overruns, the magnitude remains in question because of the problems in the cost accounting and cost estimating system.

WHY THE CONTRACTOR MUST MAINTAIN A RELIABLE FINANCIAL MANAGEMENT SYSTEM

Under a cost reimbursable contract, reliable financial management information is of paramount importance because unlike a fixed-price contract, the cost reimbursable contract allows reimbursement for almost all expenses incurred. Thus, the OICC

and the contractor must work together in carrying out their mutually dependent responsibilities to provide the facilities at the least possible cost. The contractor must maintain a financial management system which provides adequate internal controls over construction materials and equipment, payrolls, and cash, and it must produce reliable financial reports will assist the decisionmakers. The system must maintain the overall financial integrity of the program and provide the cost accounting and cost estimating reports for use as management tools. They should fairly present the contract's financial status; point out any significant aspects that require corrective action, such as differences between actual and estimated costs; and enable all parties involved in the program to manage their financial resources. If they are not reliable, the actions taken may provide only limited benefits or may even be improper.

To benefit the decisionmakers involved in all facets of the Diego Garcia expansion program, the cost accounting and cost estimating reports must be based on timely and accurate information. The reports, therefore, require the continual attention of managers at all levels. For example, the funds assigned to the projects must be periodically evaluated against the actual construction progress to detect imbalances which require adjustment or some other action. Basically, the reports are needed to accurately identify

--the actual cost to date to build the projects,

--the estimated cost to complete them,

--the estimated cost to build future projects, and

--whether the funds the Congress appropriated are sufficient to complete the contract.

Cost accounting system

The contractor is reimbursed to establish and maintain a cost accounting system that provides a method to distribute various categories of cost (e.g., labor, materials, and equipment operation) to individual construction projects. Such a system simplifies and provides additional control over the facilities expansion program's operations. The contractor must, however, monitor the balances and maintain control over how the costs are distributed to derive maximum benefit from the system.

Assigning costs to projects by categories such as labor and materials enables the contractor to know how much it is spending in relation to the estimated cost of the project. Cost accounting reports should be used by the OICC and the contractor to perform variance analysis and to update cost estimates. If the cost accounting system is not reliable, the OICC cannot assess the contractor's performance for award fee purposes because

he cannot evaluate how well the contractor controls costs. Furthermore, any decisions made by the OICC or the contractor without an accurate cost accounting system might not be correct.

Since not all projects are funded by the same appropriation or by the U.S. government, the cost accounting system must accurately distribute costs to the correct projects. For example, the Diego Garcia contract is funded by the Navy and Air Force with fiscal years 1981 and 1982 appropriations, plus funds from a privately owned company. (See table on p. 41.) To protect the integrity of the funding sources and ensure one source does not subsidize another, the contractor must accurately distribute the cost of items to the correct projects.

Cost estimating system

The contractor is also reimbursed to prepare and update project cost estimates. The first estimates were submitted when the contract was awarded. They are updated with cost data from the accounting system and quantity usage data from the construction site. When the contractor prepared the original cost estimates, there were too many unknown variables to allow precise estimating. While this situation is typical in cost reimbursable contracting, reliable cost estimates are nevertheless extremely important because the contract value does not represent the maximum amount the contractor will be paid for constructing all the facilities included in the contract, as it does in fixed-price contracts. Under a CPAF arrangement, the contract value represents only an estimated amount the contractor will be reimbursed. The uncertainty regarding the funds needed to complete the projects prompted the Navy to direct the contractor to periodically update the cost estimates. As the contractor purchases more items and completes more work, the number of unknown variables should decrease. The contractor should thus be able to provide a more realistic estimate, based upon the latest information available, of what it will cost to complete the assigned work and do new work.

The development of reliable cost estimates facilitates effective financial planning and control. Contract participants must continually compare actual expenses with planned or estimated expenses to ensure funding ceilings are not exceeded and contract objectives are achieved. For example, the cost estimating system should identify any cost overrun before it occurs so that appropriate action may be taken if possible. The cost estimating reports must also provide a basis for estimating the cost of additional projects. When the original contract was signed, the scope of the work that DOD planned for the entire facilities expansion program was unknown. Currently, DOD plans to spend an additional $296 million to continue the Diego Garcia program through fiscal year 1986.

How the reports are used

The contractor, NAVFAC, OICC, and the sponsoring services need reliable cost accounting and cost estimating reports to effectively execute their contract responsibilities. The validity of their decisions depends on the accuracy of the reports.

The contractor provides the basic financial management system necessary for overall contract management. The types of decisions based on the system's report vary from the contractor performing variance analysis to the sponsoring service preparing annual congressional budget requests. Furthermore, a portion of the contractor's award fee depends on effective cost control and the accuracy of the financial management system.

How the contractor uses the reports

The contractor must rely on the financial management system to provide an overview of the past, present, and future operations. For example, the contractor must continually account for cumulative expenditures and reimbursements so that the Navy can be billed for all allowable unreimbursed expens s. The contractor must rely on the system to control costs by analyzing such things as pricing trends, materials usage, labor usage, equipment usage, unit costing, and wasted material. The contractor also uses the reports to assign costs to projects and maintain the integrity of the funding source.

How NAVFAC and the OICC use the reports

NAVFAC has the overall responsibility for managing the contract. Although NAVFAC delegated much of the responsibility to the OICC, it still must rely on the reports provided by the financial management system to

--keep sponsoring services aware of the project's financial status,

--recommend funding or reprograming action required by the contract,

--approve termination of the contract, and

--approve completion of the contract.

The Navy's manual addressing CPAF contracting states one of the prime areas of importance to the OICC, relative to a contractor's work in a cost reimbursable arrangement, is to ensure ". . . the adequacy of his (the contractor's) financial management relative to both internal costing techniques and the reporting thereof. . . The OICC is expected to exercise strong directive control to ensure timely completion, quality

construction, and accomplishment within the funds available for the work."

The OICC relies on the financial management system to approve and control the contract's overall obligations, commitments, and expenditures against the available funds. The OICC must also ensure that the contractor is continually accountable for all the government's assets and resources. For example, the OICC reimburses the contractor weekly for expenses incurred during that week, based on account balances in the financial management reports. Thus, the OICC must have confidence in these balances. He must also monitor the contractor's budgeting system for any significant variation that would warrant either funding or scope changes. If such actions are required, the OICC must refer them to NAVFAC.

Finally, the OICC must rely on the financial management reports to provide the Award Fee Evaluation Board information on the contractor's performance in the areas of "cost" and "management." These two areas constitute a total of 55 percent of the award fee rating and evaluate the contractor's efforts to, among other things, (1) minimize waste, (2) do the work within the estimated cost, (3) make cost-conscious decisions, and (4) perform the cost accounting and reporting functions.

How the sponsoring services use the reports

The sponsoring services need reliable reports to manage their current financial resources and project the financial requirements of future projects. Following congressional authorization and appropriation actions, the sponsoring services provide the funds required to do the required work to the OICC through NAVFAC. The uncertainties surrounding project cost estimates require the sponsoring services to be kept continually informed so that they can determine if the work will require additional funding or provide a surplus of funds. Without such reports, subsequent congressional budget requests will be as imprecise as the original request. Unreliable reports could place the government at a disadvantage when negotiating a contract for additional work because the government could not accurately estimate the amount required for the additional work.

UNRELIABLE COST ACCOUNTING AND COST ESTIMATING REPORTS PRECLUDE EFFECTIVE MANAGEMENT ANALYSIS

The contractor's financial management system is not sufficiently reliable to provide program managers a basis for making sound decisions. The transactions it processed were often untimely and sometimes inaccurate. The contractor's cost estimating system was not always updated with historical costs and did not estimate the cost of all of the projects

consistently. During our review, the contractor's cost accounting system reported less than half the value of site direct charges (labor, materials, equipment usage, and other costs) that should have been reported for 12 construction projects during 1 reporting period. In addition, in March 1983, the Navy estimated that the contractor's cost estimating system understated the estimated cost of completing the work on all the projects by about $35 million. The errors in the cost accounting and cost estimating reports stemmed from the contractor not promptly entering data and not correcting obvious errors. Consequently, the sponsoring services, NAVFAC, the OICC, and the contractor do not have a reliable estimate of what the scheduled work will cost even though about $200 million, or about 72 percent of the contract, has been committed. Furthermore, these reports provided limited benefit in estimating the cost of work funded by fiscal year 1983 appropriations. The contractor has already spent about $100,000 to correct previous errors in the reporting system, but many of the problems still remain and the system is not yet reliable.

Problems with cost accounting reports

The contractor's cost accounting reports are not reliable enough for effective financial management. We examined financial transactions for 12 of 32 projects that were active during the period starting December 19, 1982, and ended January 15, 1983. The contractor told us that the projects and period reviewed were typical of the contractor's projects and financial reporting period. We found that the contractor had not reported almost $1.5 million of the approximately $2.9 million in site direct charges that should have been reported in January. The value of the unreported charges is increased to about $2.7 million when the charges for general expense are added to the site direct charges. The table on page 38 summarizes the charges reported by the contractor in the January 15, 1983, statements and compares them with the charges supported by contractor records.

The warehouse material issue cost category contained the largest dollar value difference because the contractor did not report transactions promptly. The contractor did not report any new warehouse issue charges during the period even though the contractor documented about $1.75 million in material issues during the January 1983 reporting period reviewed. The only material issue transactions reflected in the January 1983 report were adjustments for the previous periods. The lack of timeliness in reporting transactions was not an isolated situation; our preliminary work showed that the August 1982 cost report included charges that were actually incurred in February 1982. The physical separation of the contractor's field and headquarters offices should not be a reason for the delays in reporting transactions, because the Navy established a direct communications line to enable the Diego Garcia and Houston offices to transfer information at any time.

Furthermore, some transactions which occurred during the period the report covered were not included in the report. The following table shows the dates of the transactions the contractor said would be included in the January 15, 1983, report and compares them with dates of the transactions actually included. Essentially, the contractor told us the cutoff dates for the six site direct cost categories would be between December 31, 1982, and January 15, 1983. An examination of the transactions showed the reports' actual cutoff dates for all except one of the six categories were earlier, thus making the report less up-to-date than it said.

Transaction Dates the Contractor Stated Were Included in the Cost Accounting Report Dated January 15, 1983, Versus Dates Actually Included

Cost category	Reported dates	Actual dates	Missing dates
Labor	12/01/82-12/31/82	11/18/82-12/25/82	12/26/82-12/31/81
Warehouse material issues	12/12/82-01/08/83	Prior period adjustment only	12/12/82-01/08/83
Equipment usage	12/05/82-01/01/83	12/05/82-12/18/82	12/19/82-01/01/83
Other direct costs:			
Subcontracts	12/19/82-01/15/83	11/21/82-12/18/82	12/19/82-01/15/83
Plants	12/11/82-01/08/83	12/05/82-01/08/83[a]	12/12/82-12/18/82[a]
Shops	12/11/82-01/08/83	12/05/82-01/08/83	None

[a]Concrete charges for 12/12/82 through 12/18/82 were not included in the report. Aggregate and concrete charges for 12/05/82 through 12/10/82 were included in the 12/18/82 report.

Besides being untimely, the contractor's cost accounting system did not prevent invalid or inconsistent transactions from being processed. From the project's inception through January 1983, the contractor processed numerous material issue and equipment usage transactions that incorrectly contained no unit cost. The contractor's system also processed equipment usage transactions which charged the equipment's operating cost to one project. Contractor and OICC representatives admitted the system would charge two different accounts even though only one account should be charged for both labor and operating costs. Final, the contractor also processed transactions that assigned costs to projects that did not exist. Sometimes the errors

were caught and corrected in the review process. Other times, however, either the errors went undetected or the contractor inadvertently charged the wrong project when trying to correct the error. Again, such errors were not isolated errors detected during our review of the January 1983 report; our preliminary review identified similar errors made in the transactions reported in August 1982.

While it would be impractical to try to determine that every document was prepared correctly before it was entered into the cost accounting system, we did analyze the reasonableness of some of the transactions processed during the period reviewed. That limited analysis identified over $33,000 in erroneous charges. For example, some of the sampled projects were charged for labor, materials, equipment usage, or other items that the OICC representatives stated had not been used on the projects charged. Although the incorrect distribution of costs does not affect the program's overall costs, it does affect the accuracy of the costs of the individual construction projects and the integrity of the funding sources.

Problems with cost estimating reports

The contractor's cost estimating system should have been more effective for estimating the cost of doing both currently scheduled work and future work, as well as for detecting problems by facilitating cost comparisons. The contractor has not maintained a budget that accurately represents the expected cost of the scheduled work. A number of errors in the contractor's January 1983 budget were identified by both GAO and the Pacific Division. Consequently, in March 1983, the Pacific Division reviewed the contractor's estimates for all the cost categories for the construction projects, as well as for general expense, and concluded that the contract would cost about $292 million, or about $33 million more than the contractor anticipated. The contractor's April 1983 estimate narrowed the difference to about $15 million.

Our review of the budgets was not designed to endorse the amounts of the estimates, but rather to evaluate the methodology used to project costs and thus the overall reliability of the cost estimating system. In the past, the contractor has appeared reluctant to increase the cost estimates or effectively use the cost estimating system as a management tool. For example, at the time of our review, the contractor had not established a time-phased general expense budget which reflected when and at what rate general expense was to be incurred. Moreover, the actual costs in about 16 percent of the general expense cost categories had exceeded or were very close to exceeding the estimated amounts. If a time-phased budget had been established, the contractor would have been able to easily compare the total costs incurred to date with the costs expected as of that date. After we discussed this point with the OICC, the contractor submitted a time-phased budget. According to the

Comptroller, Pacific Division, the submission was almost identical to the initial estimates the Navy prepared in early February 1983. This action prompted the Pacific Divison to undertake the review of all cost categories in March 1983.

One of the most significant examples of an unrealistic cost estimate is freight. In January 1983, both the estimated total cost and actual cost to date for freight were about $22 million, even though the contractor expected to ship at least four additional loads of cargo to Diego Garcia. On February 26, 1983, the contractor increased the freight budget to about $28 million. The Pacific Division, however, estimated on March 10, 1983, that freight would cost about $30 million.

The contractor was also slow in updating the automated cost estimating system with current detailed cost estimates, thus inhibiting its use as an effective management tool. As of January 1983, the contractor had up-to-date cost estimates for 35 of the 47 scheduled construction projects. The automated cost estimating system, however, had been updated with the detailed cost estimates for only 18 of the projects. Contractor officials admitted they had been precluded from performing at least three analyses because the information in the system was not current. These analyses are intended to systematically compare actual cost and quantities incurred with estimated amounts and thus identify potential problem areas in time for corrective action to be taken. In addition, the reports should enable program managers to systematically compare estimated costs between projects and readily identify irregularities. For example, it was not until the Pacific Division, NAVFAC, performed its detailed analysis of all project costs in March 1983 that it discovered that some projects which required parking lots did not have such items included in any of the cost estimates. The Comptroller, Pacific Division, estimated the parking lots would add about $500,000 to the estimates.

The Defense Contract Audit Agency's report on the contractor's price proposal for fiscal year 1983 work stated that about 50 percent of the proposed amount was questionable or unsupportable. In August 1982, the OICC directed the contractor to prepare a cost estimate for projects to be funded with fiscal year 1983 appropriatons. In October 1982, the contractor submitted a construction cost proposal totaling about $61.3 million. The DCAA stated the proposal was unauditable and returned it to the contractor to be redone. In January 1983, the contractor submitted a $49.6 million construction cost proposal, about $11.7 million less than the earlier one. The DCAA report of the estimated construction cost in this proposal stated about $5.9 million was questionable and about $18 million was unsupportable. The report explained that the cost and pricing data submitted were not always adequate and that, in some respects, the proposal had not been prepared in accordance with applicable standards and regulations.

Cost overruns are probable

Indications of cost overruns and the problems with the contractor's financial management system prompted the OICC to admit the potential for severe cost overruns exists. As of April 1983, the contractor and the Pacific Division disagreed on whether the cost of the entire contract would exceed the allotted amount. At that time, the contractor estimated a cost underrun of about $2 million while the Pacific Division projected a cost overrun of about $13 million. Both the Navy and the contractor agreed, however, that the projects being built with fiscal year 1981 appropriations would cost more than the funds allotted. The contractor estimated that the Navy fiscal year 1981 projects would cost about $9.1 million more than allotted and that the Air Force fiscal year 1981 projects would cost about $1.4 million more than allotted. The following table compares the contactor's April 1983 cost estimates with the amounts allotted.

Comparison of the Contractor's Estimated Costs With Amounts Allotted April 1983

Funding source	Contractor's cost estimate	Amount allotted	Expected cost underrun/ (overrun)
	(thousands)		
Navy fiscal year 1981 appropriations	$ 84,805	$ 75,579	$(9,226)
Navy fiscal year 1982 appropriations	99,474	99,992	518
Air Force fical year 1981 appropriations	21,361	20,000	(1,361)
Air force fiscal year 1982 appropriations	71,347	83,500	12,153
Work for other than the U.S. government [a]	183	154	(29)
Total	$277,170	$279,225	$ 2,055

[a]A British firm reimbursed the Navy for the cost of constructing a building to support radio, television, and telephone communications for personnel on the island.

Another indication that cost overruns can be expected is that according to the contractor's cost estimates, those projects more than 60 percent complete are expected to cost $9 million more than allotted. Meanwhile, the contractor expects those projects barely started to cost less than anticipated and thereby absorb the cost overruns. Although this could happen, the reliability of the contractor's cost estimates for projects barely started is questionable since the contractor has, as previously discussed, provided so little in the way of reliable cost accounting and cost estimating information.

The method by which cost overruns will be handled has not been determined. The flexibility of omnibus funding enables the sponsoring services to avoid reprograming actions and requesting additional funds from the Congress by either decreasing the scope of work or moving entire projects from one fiscal year to another. The Navy has already used this latter alternative to offset a cost overrun anticipated earlier. Originally, the funding for housing facilities was split between the Navy's fical year 1981 and 1982 appropriations. If money for the Diego Garcia program continues to be appropriated using omnibus funding--as it has through fiscal year 1983--the Navy and the Air Force will continue to have the opportunity to defer projects that are experiencing cost overruns and fund them with appropriations for subsequent years.

Some corrective action already taken

The contractor and the OICC have already taken some action to improve the reliability of the financial management system. More must still be done, however, to ensure the system's viability as a management tool. In September 1982, the OICC authorized the contractor to form a task force to reconstruct a major portion of the accounting system so that the entire system would be consistent and would be in balance. The accounting system did not balance because, among other things, the contractor constantly changed the chart of accounts. The chart of accounts is essentially a numbering system that designates, in a manner which facilitates cost collection and analysis, an account number for each cost category. The contractor spent about $100,000 on the task force effort which, in essence, required the contractor to reenter about 51,000 transactions which took place before September 24, 1982. Although the contractor established new standard operating procedures in March 1983 to protect the integrity of the system, the benefit of the task force effort may have already been lost, because the contractor was still changing the chart of accounts. The Comptroller, Pacific Division, NAVFAC, reported earlier in March 1983 that ". . . the constant changing of the Chart of Accounts is confusing to all users of the chart. This must stop! . . . so that cost can be posted correctly and timely." Until the new procedures are fully implemented, the contractor runs the risk of having to correct the same types of errors again.

During our review, the contractor also began to account for all warehouse material issue tickets, something that had not been done until March 1983. At that time, the contractor discovered about 1,800 tickets had been used but not entered into the cost accounting system. Some of the tickets were later found to have been voided. Most of the unprocessed tickets, however, should have been entered into the cost accounting system to distribute costs to the construction projects. Until these tickets were reviewed and processed, the cost of the projects had been understated. All except 16 tickets had been entered by June 1983. The contractor's representatives told us they would also correct the errors caused by processing equipment usage and material issue documents that contained no dollar amounts.

CONCLUSIONS

Even though the contract required a comprehensive financial management system within 45 days of contract execution, we found that after 18 months of operation, the system does not provide the OICC an adequate basis to judge the contractor's performance or the reasonableness of either the incurred costs or the estimated costs. Furthermore, the system is not timely or accurate and thus impairs the OICC's ability to exercise his general oversight responsibilities and thereby protect the government's interests.

As already discussed in chapter 3, the Navy should have taken a more authoritative stance during the early stage of the contract and required the contractor to establish a fully operational financial management system.

The contractor must maintain an effective financial management system. Without such a system, the OICC cannot provide NAVFAC or the sponsoring services reliable information on whether the scheduled work can be accomplished with the funds provided. Although overruns are probable, the magnitude remains uncertain because of the problems in both the cost estimating and cost accounting systems. This uncertainty frustrates the sponsoring services' attempts to manage their financial resources and to handle cost overruns or underruns on individual projects. Without reliable information, it is possible the sponsoring services may improperly reprogram funds, decrease a project's scope, move a project to another fiscal year, or request additional money from the Congress. Incorrect decisions may result in funding being depleted before construction projects are completed.

While both the contractor and the OICC have begun to take actions to correct some of these problems, a review is necessary to ensure that such actions are effective, complete, and timely. Unless such a review is made, planned actions may not be implemented promptly or corrective actions may not solve the problems or may even create other problems.

RECOMMENDATIONS

In addition to making the recommendations in chapter 3 on the contractor's management information and control systems, we recommend that the Secretary of the Navy direct the Commander, NAVFAC, to

--enforce the contract provisions that require the contractor to maintain a viable financial management system,

--ask DCAA or NAS to review the contractor's cost accounting and cost estimating system to determine whether all necessary corrective action has been taken to make the system accurate and timely, and

--place a greater emphasis on monitoring contractor-generated financial information and substantiating the validity of the reports so that they can be effectively used as management tools.

AGENCY COMMENTS

As stated earlier in this report, the Assistant Secretary of Defense stated that DOD basically concurred in most of our findings and recommendations.

In a draft of this report, we had proposed that NAS review the contractor's cost accounting and cost estimating system to determine whether the contractor had taken all necessary corrective action to make the system accurate and timely. DOD's replied that it recognized the need to review and audit the contractor's cost accounting and estimating system and have tasked the DCAA to ensure that discrepancies noted in prior reviews were being corrected. We believe DCAA can perform this task, and we have changed our recommendation to provide for NAS or DCAA audit coverage.

CONTRACTOR COMMENTS

In the comments on our draft report, the contractor noted that:

--DCAA's categorization almost half of the costs included in a proposal as unsupportable or questionable does not reflect upon the accuracy of cost estimates for projects to be funded with fiscal year 1983 appropriations.

--It has never been reluctant to increase cost estimates when data indicated it was needed.

--The initial cost estimates for fiscal year 1983 work prepared in October 1982 were "conceptual estimates" and included two buildings which were not included in the January 1983 cost proposal.

--A study of actual versus estimated costs for construction projects 95 percent or more complete has been initiated in response to the projection that underruns in construction projects not yet started will offset overruns in construction projects already under way.

Regarding the contractor's position that the accuracy of cost estimates is not necessarily diminished by using data categorized by DCAA as unsupportable or questionable, we maintain that using valid historical data does improve the accuracy of the cost estimates. The contractor stated that the historical data available for the fiscal year 1983 proposal was "suspect" and, therefore, the contractor was reluctant to use it. For estimating fiscal year 1984 work, the contractor noted that historical data had been used.

Although the contractor stated it was not reluctant to increase estimates when data indicated it was needed, our evaluation of the contractor's official cost estimate reports showed that increases in estimated costs seemed to be reflected in the system after the actual increase was realized. If the managers had been using the cost estimating system effectively, we believe the higher estimates would have been reflected in the system more promptly.

The contractor maintained that the October 1982 estimates for fiscal year 1983 work were conceptual estimates out of necessity; i.e, tight time frames imposed by the OICC prevented preparation of definitive estimates. We believe that if the cost accounting and cost estimating system had been fully operational and effective, the contractor could have responded to the OICC's request for estimates and provided estimates based on valid historical data.

NAVY PROJECTS FOR THE DIEGO GARCIA FACILITIES EXPANSION PROGRAM FISCAL YEARS 1981-85

Fiscal year 1981 projects	Estimated cost as of September 1982 (thousands)
Dredging	$ 13,000
Air cargo/passenger terminal	3,118
Wharf	19,092
Small craft berth	29,852
Power plant	7,096
Electrical distribution	4,779
Potable water	8,128
Telephone upgrade	1,775
Sewage improvement	1,050
Ground support equipment shop	854
Dining facility	5,648
Vehicle maintenance	883
Boat shop	1,133
Flammable/hazard storage	635
P-3 aircraft washrack	337
Miscellaneous projects	290
Security fence/lights	300
Runway approach lighting	2,987
Consolidated Naval Construction Force industrial facility	500
Visual approach system	787
Ocean surveillance	2,997
Utilities upgrade	2,000
Other costs	991
Total	$108,232

APPENDIX I

Fiscal year 1982 projects

Taxiway (jointly funded with Air Force)	$ 14,382
Parking apron (jointly funded with Air Force)	4,990
Wharf (second increment)	18,701
Waterfront transit	2,806
General warehouse	1,445
Cold storage	2,839
High explosive magazines	3,312
Roads and parking	2,525
Open storage	942
Fleet landing	489
Medical clinic	1,518
Boat ramp	806
Enlisted housing (3 buildings/94 rooms each)	19,491
Officer housing (2 buildings/58 rooms each)	13,047
Internal security facility	707
Satellite eating facility	612
Tracked vehicle maintenance shop (cancellation costs)	2,000
Utilities (material procurement)	7,632
Vertical replenishment pad	2,161
Airfield utilities (sewer system)	6,000
Warehouse storage (3 buildings)	200
Enlisted housing (2 buildings/94 rooms each)	12,995
Solid waste disposal	1,750
Total	$121,350

Fiscal year 1983 projects

Control tower	$ 4,303
Electrical power distribution	8,256
Utilities	2,059
Photo laboratory	2,386
Gymnasium	3,484
Wharf petroleum, oils and lubricants	580
Enlisted housing (1 building/94 rooms)	7,994
Antisubmarine warfare operations center	6,335
Communications facility	3,357
Command center	4,430
Officer housing	8,412
Total	$51,596

Proposed fiscal year 1984 projects

Bank	$ 322
Ship stores complex	4,787
Ship stores warehouse	837
Amusement center	763
Dental clinic	3,813
Public works maintenance administration facility	9,521
Boat shops	1,228
Waterfront operations building	581
Counseling center	593
Post office	439
Petroleum, oils, and lubricants operations	220
General warehouse	2,806
Weapons complex	2,787
High frequency communications facility upgrade	14,200
Total	$42,897

APPENDIX I

Proposed fiscal year 1985 projects

Lighted navigational range	$ 260
Water system (desalinization)	2,400
Public works maintenance storage facility (warehouse and shed)	3,146
Chapel	3,261
Ordnance operations facility	560
Education/academic/library complex (new)	5,840
Education/academic/library complex (rehabilitation of existing complex)	674
Cargo staging area	876
Laundry addition	2,023
Antenna array	2,350
Trash segregation facility	690
General storage shed	1,772
Navy intelligence security facility	210
Playing fields	472
Transient crew site preparation	735
Officers' club	5,375
Chief petty officers' club addition	1,608
Fire station addition	650
Heat recovery system	180
Total	$33,082

Source: Pacific Division, NAVFAC.

AIR FORCE PROJECTS FOR THE DIEGO GARCIA FACILITIES EXPANSION PROGRAM FISCAL YEARS 1981-1984

	Estimated cost as of September 1982 (thousands)
Fiscal year 1981 projects	
Petroleum, oils, and lubricants storage	$23,700
Total	$23,700
Fiscal year 1982 projects	
Hydrant refueling	$ 3,579
Airfield pavement apron (jointly funded with Navy)	83,288
Hazardous cargo pad	3,735
Dredging	8,000
Airfield lighting	3,441
Demineralized water plant	1,219
Operations/administration facility	4,170
Cargo storage	1,686
Total	$109,118
Fiscal year 1983 projects	
Avionics shop	$ 3,480
Aviation warehouse	2,044
Total	$ 5,524

	Estimated cost as of December 1982 (thousands)
Proposed fiscal year 1984 projects	
Upgrade runway	$ 41,300
SPACE TRACK observation facilities	14,100
Tracking monitor station--NAVSTAR-GPS	2,800
Total	$ 58,200

Source: Pacific Division, NAVFAC.

CONSTRUCTION PROJECTS SELECTED FOR GAO'S REVIEW OF THE CONTRACTOR'S FINANCIAL MANAGEMENT SYSTEM

Air cargo terminal

Air passenger terminal

Deep draft wharf

Small craft berthing

Utilities: sewer

Dining facility

Boat shops

Flammable/hazardous storage

Unaccompanied enlisted personnel housing (2 buildings)

Visual approach system

Aircraft parking apron

Aircraft taxiway

APPENDIX IV

COMPLETION DATES

FOR FISCAL YEARS 1981 AND 1982

NAVY AND AIR FORCE PROJECTS

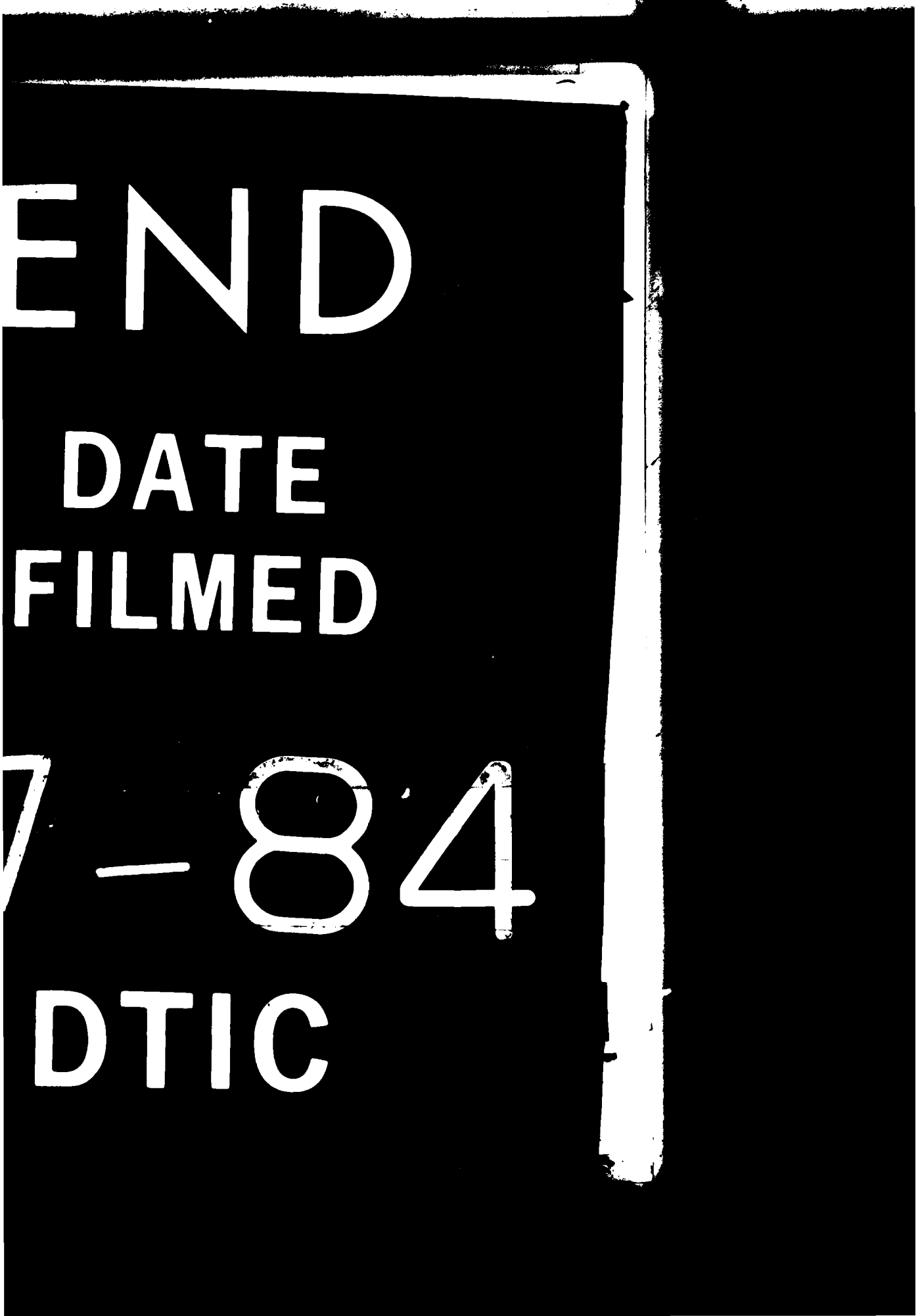
AS OF JANUARY 21, 1983

Project	Original	Revised	Change[a]
Air cargo terminal	8-31-82	4-30-83	+8 months
Air passenger terminal	1-31-83	4-30-83	+3 months
Deep draft wharf	8-31-83	8-31-83	0
Small craft berthing	1-31-84	1-31-84	0
North power plant	2-28-83	5-31-83	+3 months
Utilities: electrical	2-28-83	5-15-83	+2½ months
Utilities: water	12-31-82	7-15-83	+7½ months
Utilities: telephone	10-31-82	3-31-83	+5 months
Utilities: sewer	10-31-82	4-15-83	+5½ months
Ground support equipment shop	9-30-82	3-31-83	+6 months
Dining facility	4-30-83	7-31-83	+3 months
Vehicle maintenance shop	10-31-82	2-28-83	+4 months
Boat shops 1 & 2	7-31-83	7-31-83	0
Flammable/hazardous storage	9-30-82	3-15-83	+5½ months
P-3 aircraft washrack	1-31-83	3-31-83	+2 months
Enlisted housing (2 buildings)	3-31-83	5-31-83	+2 months
Approach lighting	8-31-83	8-31-83	0
Visual approach system	10-31-83	2-28-83	-8 months
Petroleum, oils, and lubricants[b]	7-31-83	8-31-83	+1 months
Aircraft parking apron[c]	1-31-84	2-29-84	+1 month
Aircraft taxiway[c]	7-31-84	10-31-83	-9 months
Wharf extension	9-30-84	9-30-84	0
Waterfront transist shed	3-31-84	3-31-84	0
Warehouse addition	11-30-82	7-31-83	+8 months
Cold storage warehouse	4-30-83	7-31-83	+3 months
High explosive magazine	1-31-84	12-31-84	-1 month
Open storage	1-31-83	4-15-83	+2½ months
Roads and paving	2-29-84	2-29-84	0
Fleet landing	6-30-83	6-30-83	0
Medical facility	9-30-83	9-30-83	0
Boat ramp	6-30-83	6-30-83	0
Enlisted housing (3 buildings)	2-29-84	2-29-84	0
Officer housing	12-31-83	12-31-83	0

Project	Original	Revised	Change[a]
Detention facility	9-30-83	12-31-83	+3 months
Internal security/dog kennel	6-30-83	[d]	N/A
Satellite eating facility	4-30-84	[d]	N/A
Tracked vehicle maintenance shop		Canceled	N/A
Utilities: procurement	7-31-83	7-31-83	0
Solid waste disposal	3-31-83	6-30-83-	+3 months
Telephone exchange addition: procurement	7-31-83	7-31-83	0
Vertical replenishment pad	2-29-84	2-29-84	0
Aircraft refueling facility[b]	4-30-83	8-31-83	+4
Cargo storage area	5-31-83	5-31-83	0
Hazardous cargo pad[b]	10-31-83	9-30-83	-1 month
Water plant: demineralized[b]	7-31-83	1-31-84	+6 months
Operations/administration facility[b]	3-31-84	3-31-84	0
Airfield lighting[b]	8-31-84	9-30-84	+1 month
Cable and wireless facility	11-01-82	3-31-83	+5 months

[a]+ = behind schedule.
- = ahead of schedule.
[b]Project funded by Air Force; all others funded by the Navy.
[c]Project funded jointly by Air Force and the Navy.
[c]Naval Construction Force is primarily responsible for building the facility.
N/A - Not applicable.

Source: Raymond, Brown & Root, Mowlem.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