DEPARTMENT OF DEFENSE

AUDIT REPORT

ARCHITECT-ENGINEER CONTRACTING AT
DETACHMENT 1, SPACE COMBAT OPERATIONS STAFF
COPENHAGEN, DENMARK

No. 91-001

October 4, 1990

Office of the Inspector General

INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
400 ARMY NAVY DRIVE
ARLINGTON, VIRGINIA 22202-2884

OCTOBER 4, 1990

MEMORANDUM FOR ASSISTANT SECRETARY OF THE AIR FORCE (FINANCIAL MANAGEMENT AND COMPTROLLER)

SUBJECT: Report on the Audit of Architect-Engineer Contracting at Detachment 1, Space Combat Operations Staff, Copenhagen, Denmark, (Report No. 91-001)

This is our final report on the Audit of Architect-Engineer Contracting at Detachment 1, Space Combat Operations Staff, Copenhagen, Denmark, for your review and comments. This is the third in a series of reports issued as part of our ongoing audit of architect-engineer contracting in Europe. The Contract Management Directorate made the audit from March 1989 through April 1990. The audit covered architect-engineer actions reported during fiscal years 1987 and 1988. The audit objectives were to evaluate the system for awarding architect-engineer contracts, to determine if statements of work were appropriately definitive to identify specific work to be performed, and to determine if the contractor satisfactorily performed the work specified. We also followed up on the use of advisory audits, the acquisition of certificates of current cost or pricing data and related statements of reliance, and the use of postaward audits of architect-engineer contracts, as discussed in Finding B. of our Audit Report No. 87-219, "Military Specifications for Commercial Type Construction Items," August 12, 1987. In fiscal years 1987 and 1988, 368 DoD locations reported 21,770architect-engineer contracts (valued at over $25,000 each) totaling $4.8 billion. Detachment 1 reported 15 contracts (valued at over $25,000 each) totaling $1.0 million.

Prior to the audit, the process used in awarding and administering architect-engineer contracts at Detachment 1 was conducive to potentially illegal acts. During the audit, we made informal recommendations to Detachment 1 management for improving internal controls governing the architect-engineer contract award and administration process. Subsequently, we reviewed all Detachment 1 architect-engineer contracts awarded in fiscal years 1989 and 1990. Detachment 1 had made substantial changes to improve its architect-engineer operating practices by fully implementing our recommendations to improve internal controls. At Detachment 1, we did not determine the appropriateness of the statements of work or if the contractor satisfactorily performed the work, because the audit had identified significant internal control problems. We concentrated our efforts on evaluating those deficiencies. We also did not evaluate the use of advisory audits, the acquisition of and statement of reliance on cost or

pricing data, and postaward audits because none of the contracts met the $500,000 threshold. The results of the audit are summarized in the following paragraphs, and the details of audit are in Part II of this report.

Contracting Officers at Detachment 1, awarded architect-engineer contracts to Danish firms based on inadequate or incomplete documentation provided by base civil engineer contract employees working for the U.S. Government in Greenland. Existing internal controls were either inadequate or circumvented. As a result, the contracting officers could not ensure fair and reasonable pricing. Also, the integrity of the entire procedure for awarding architect-engineer contracts at Detachment 1 may have been severely compromised. During the audit, we informally recommended that Detachment 1, Space Combat Operations Staff, Copenhagen Denmark, establish additional internal controls and comply with provisions already established in the Federal Acquisition Regulation, Defense Federal Acquisition Regulation Supplement, and Air Force Regulation 88-31. Prior to the completion of our audit, management at Detachment 1 established and implemented all of the actions we determined to be necessary. Accordingly, recommendations are not provided in this report (Page 7).

The audit identified internal control weaknesses as defined by Public Law 97-255, Office of Management and Budget Circular A-123, and DoD Directive 5010.38. Implementation of our informal recommendations during the course of the audit has corrected the weaknesses identified. The senior officials responsible for internal controls within the U.S. Air Force and the U.S. Air Force, Space Command will be provided a copy of the final report. We could not determine the monetary benefits to be realized by taking these actions because architect-engineer contracts are not awarded on a price competition basis.

On July 26, 1990, a draft of this report was provided to the Assistant Secretary of the Air Force (Financial Management and Comptroller). Written comments to the draft report were not required and no comments were received.

The cooperation and courtesies extended to the audit staff are appreciated. If you have any questions on this audit, please contact Mr. Paul Granetto, Program Director, on (703) 693-0573 (AUTOVON 223-0573) or Mr. Wayne Million, Project Manager, on

(703) 693-0593 (AUTOVON 223-0593). A list of the audit team members is in Appendix E. Copies of this final report will be distributed as shown in Appendix F.

Edward R. Jones
Deputy Assistant Inspector General
for Auditing

Enclosure

cc: Secretary of the Air Force
Assistant Secretary of the
Air Force (Acquisition)
Deputy Assistant Secretary of the
Air Force (Installations)

REPORT ON THE AUDIT OF ARCHITECT-ENGINEER CONTRACTING AT DETACHMENT 1, SPACE COMBAT OPERATIONS STAFF

TABLE OF CONTENTS

	Page
TRANSMITTAL MEMORANDUM/EXECUTIVE SUMMARY	i
PART I - INTRODUCTION	1
Background	1
Objectives and Scope	3
Internal Controls	5
Prior Audit Coverage	5
PART II - FINDING AND RECOMMENDATIONS	7
Internal Controls for Architect-Engineer Contracts	7
APPENDIX A - Sample Contracts Reviewed at Detachment 1, Copenhagen, Denmark	21
APPENDIX B - Contracts Reviewed at Detachment 1, Copenhagen, Denmark, Fiscal Years 1989 and 1990	23
APPENDIX C - Summary of Potential Monetary and Other Benefits Resulting From Audit	25
APPENDIX D - Activities Visited or Contacted	27
APPENDIX E - Audit Team Members	29
APPENDIX F - Final Report Distribution	31

Prepared by:
Contract Management Directorate
Project No. 9CD-0032.02

REPORT ON THE AUDIT OF ARCHITECT-ENGINEER CONTRACTING AT DETACHMENT 1, SPACE COMBAT OPERATIONS STAFF

PART I - INTRODUCTION

Background

"The Brooks Architect-Engineers Act" Public Law 92-582, dated October 27, 1972, sets forth the basic statutory framework for Federal Agencies to use when contracting for architectural and engineering services. The Act requires that the agency head determine an order of preference when selecting the best qualified firms and negotiate a fair and reasonable price with the top ranked firm.

The Act defines architectural and engineering services as including ". . . those professional services of an architectural or engineering nature as well as incidental services that members of these professions and those in their employ may logically or justifiably perform." Federal Acquisition Regulation (FAR), section 36.102 (as amended by Federal Acquisition Circular 84-23), further defines architect-engineer (A-E) services as:

> (a) Professional services of an architectural or engineering nature associated with research, development, design, construction, alteration, or repair of real property that are required by virtue of law to be performed by a registered or licensed architect or engineer; or
> (b) Such other professional services as determined by the contracting officer, which uniquely or to a substantial or dominant extent logically require performance by a registered or licensed architect or engineer; and
> (c) Incidental services that members of the architect or engineer professions or those in their employ may logically or justifiably perform in conjunction with professional architect-engineer services acquired by Pub. L[aw] 92-582 procedures.

The FAR establishes the primary policies and procedures for all acquisitions by executive agencies. The Defense Federal Acquisition Regulation Supplement (DFARS) contains the guidance that DoD contracting personnel should use when they award and administer DoD contracts.

The DFARS implements the FAR and provides supplementary policies and procedures that are unique to DoD. The Military Departments, the Army Corps of Engineers, and the Naval Facilities Engineering Command further supplement the FAR and DFARS with their own acquisition regulations. Noncompliance with these policies and procedures constitutes a circumvention of established internal controls.

The process used in selecting an A-E firm for a Government contract differs materially from that of other Government contracts in which price or cost is a determining factor. To qualify for selection, an A-E firm must submit its qualifications using Standard Form 254 (SF 254), "Architect-Engineer and Related Services Questionnaire," and Standard Form 255 (SF 255), "Architect-Engineer and Related Services Questionnaire for Specific Project." These qualifications are then evaluated against the established selection criteria and compared with the qualifications of other A-E firms. This process is designed to result in the selection of the firms best qualified to perform the required services. Following is an outline of the steps to be used in the A-E selection process for contracts expected to exceed $10,000.

- Proposed projects, including the selection criteria to be used in the evaluation, are publicly announced.

- Interested A-E firms submit an SF 254 (unless one has been submitted within the last year) and an SF 255.

- Using the selection criteria stated in the public announcement, an evaluation board reviews the forms from all A-E firms and recommends at least three firms for further consideration.

- Recommended firms are given additional information and invited to make presentations and attend interviews.

- Based on the interviews and other information, a second evaluation board ranks at least the top three firms on the basis of their capabilities.

- An A-E Selection Official reviews the evaluation board's recommendations and, upon approval, invites the top ranked firm to submit a proposal to be used as a basis for negotiations.

- A contract is awarded after successful negotiations. If negotiations with the top ranked firm are not successful, the next firm in preference order is invited to submit a proposal, until the contract is awarded. If negotiations are unsuccessful with all firms in succession, additional firms may be added by the selection board.

These procedures preclude the Government from engaging in competitive negotiations for the procurement of A-E services and relieve architects and engineers from the burden of competing on a price or cost basis. The Competition in Contracting Act of 1984 (CICA) requires contracting officers to use competitive procedures to the maximum extent possible when awarding Government contracts. The CICA states that the selection of sources for A-E contracts in accordance with the provisions of Public Law 92-582 is automatically considered a competitive procedure.

Objectives and Scope

Our announced audit objectives were to evaluate the system for awarding architect-engineer contracts, to determine if statements of work were appropriately definitive to identify specific work to be performed, and to determine if the contractor satisfactorily performed the work specified. We also announced that we would follow up on the use of advisory audits, the acquisition of certificates of current cost or pricing data and the related statements of reliance, and utilization of postaward audits of A-E contracts, as discussed in Finding B. of our Audit Report No. 87-219, "Military Specifications for Commercial Type Construction Items," August 12, 1987.

Our initial objectives included a requirement to evaluate the work performed by the contractor to determine if the work was satisfactorily performed. During the audit, we disclosed significant internal control deficiencies and concentrated our efforts on the more obvious, and in our opinion, the more significant problems involving internal controls. As a result, we did not evaluate whether the contractor performed the work satisfactorily.

DoD contracting actions over $25,000 are reported on an Individual Contract Action Report, DD Form 350, and are accumulated in a data base by the Washington Headquarters Services, Directorate for Information Operations and Reports. A Federal Supply Class (FSC) code identifies the type of service. For the purposes of our audit, we considered all FSC codes beginning with R1 (Architect & Engineer Construction) or R2 (Architects & Engineers Services - General). For fiscal years 1987 and 1988, this data base contained 21,770 A-E contracts [1/] amounting to $4.8 billion reported by 368 locations. We selected audit sites by grouping locations into 187 geographic clusters

1/ "Contracts" in this report (unless otherwise identified) will have the same meaning as prescribed in FAR 2.101: "[Any] mutually binding legal relationship obligating the seller to furnish the supplies or services (including construction) and the buyer to pay for them."

and selecting a random stratified sample by cluster. Our sample consisted of three cluster sites from the large stratum (combined dollar value $100 million and over), six cluster sites from the medium stratum (combined dollar value $10 million to $99 million), and six cluster sites from the small stratum (combined dollar value $1 million to $9 million). For each site, a random sample of contracts was selected from the combined fiscal years being reviewed. The European cluster (including the European portion of Atlantic Division, Naval Facilities Engineering Command) consisted of the following four sites.

- Detachment 1, Space Combat Operations Staff, Copenhagen, Denmark;

- Ramstein Air Base, Federal Republic of Germany;

- U.S. Army Engineer Division Europe, Frankfurt, Federal Republic of Germany; and

- Officer In Charge of Construction - Mediterranean, Madrid, Spain.

We have issued reports for the Ramstein Air Base and the U.S. Army Engineer Division Europe portions of the audit, and are currently planning to issue a separate report for the remaining site plus a summary report.

At Detachment 1, Space Combat Operations Staff (DET 1), we did not follow up on our previous audit report because none of the contracts met the field pricing support threshold of $500,000. During fiscal years 1987 and 1988, DET 1 awarded four basic contracts, five indefinite delivery type (IDT) awards, and eight related contracts (consisting of basic awards, modifications, and delivery orders). These 17 contracts for A-E services totaled $1,886,000. Our audit included three of the basic contracts, two of the IDT awards, and five of the related contracts. In addition, we reviewed five related contracts valued at under $25,000. The 15 contracts in our sample totaled $1,024,000. See Appendix A for the list of contracts in our sample.

For this audit, we reviewed A-E contract files located at Detachment 1, Space Combat Operations Staff (DET 1), Copenhagen, Denmark; 12th Missile Warning Group, Thule Air Base, Greenland; 1012th Air Base Squadron, Thule Air Base, Greenland; and Headquarters, Air Force Space Command, Peterson Air Force Base, Colorado Springs, Colorado. We also reviewed data in the Architect-Engineer Contract Administration Support System and requirements in the FAR, DFARS, Air Force Federal Acquisition Supplement, and Air Force Regulation 88-31. In addition, we interviewed contract, engineer, and investigative personnel to further evaluate internal controls. We used the guidance stated in the FAR, DoD, and Service regulations to determine if the

award and administration of A-E contracts was implemented in accordance with the intent of the Public Law 92-582.

This economy and efficiency audit was made at DET 1 between March 1989 and April 1990 and was conducted in accordance with auditing standards issued by the Comptroller General of the United States as implemented by the Inspector General, DoD. Accordingly, we included such tests of the internal controls as were considered necessary. A list of activities visited or contacted during the audit is in Appendix D.

Internal Controls

Additional internal controls needed to be implemented, and existing internal controls were not being followed in the award and administration of architect-engineer contracts. We found internal control weaknesses involving supervision, execution of transactions and events, and documentation. Therefore, the contracting officers could not ensure fair and reasonable pricing, and the integrity of the entire procedure for awarding architect-engineer contracts could have been severely compromised. During the audit, recommendations were implemented to improve the internal controls. The internal control weaknesses are discussed in detail in Part II of this report.

Prior Audit Coverage

The Inspector General, DoD, issued a draft report entitled "Architect-Engineer Contracting at U.S. Army Engineer Division, Europe" dated July 12, 1990. The audit showed that engineers at local engineering activities did not have proper separation of duties, supervision, or documentation for the preaward and administration of architect-engineer contracts for which they were responsible. Contractors were selected based on engineer recommendations and not in accordance with established procedures. Additionally, the U.S. Army Engineer Division, Europe was not utilizing the Architect-Engineer Contract Administration Support System for the award of architect-engineer contracts. Prior to concluding our audit, the U.S. Army Engineer Division, Europe implemented or initiated several actions to improve internal controls and reduce the possibility for illegal acts to occur.

We recommended establishing additional internal controls to ensure separation of duties, provide for supervisory control, and improve documentation. We also recommended compliance with existing requirements of the FAR, DFARS, and local Service regulations and instructions. The use of the the Architect-Engineer Contract Administration Services System was recommended to ensure proper selection of architect-engineer contractors.

The Inspector General, DoD, Report No. 90-084, "Architect-Engineer Contracting at Ramstein Air Base," June 14, 1990, showed that the process for awarding architect-engineer contracts at Ramstein Air Base was conducive to potentially illegal acts. The audit identified internal control weaknesses as defined by Public Law 97-255, Office of Management and Budget Circular A-123, and DoD Directive 5010.38. The report recommended that additional internal controls be established and that existing internal controls be complied with. The Air Force generally concurred with the recommendations in the draft report. For three recommendations, the Air Force nonconcurred but offered alternatives to the specific recommendations. These alternatives were considered adequate and the recommendations were reworded in the final report. The Air Force also nonconcurred in a recommendation that the contracting officers' representatives be officially appointed for specific projects. Since this was the topic of another audit in process by the DoD Inspector General (Audit of the Justification of Time and Materials Contracts, Project No. 8CE-0037) the recommendation was withdrawn in the final report in favor of the more inclusive audit coverage.

On August 12, 1987, the Inspector General, DoD, issued Report No. 87-219, "Military Specifications for Commercial Type Construction Items." Finding B. of that report identified problems in the use of advisory audits, the acquisition of certified cost or pricing data, and the inclusion of statements of reliance on certified cost or pricing data in negotiations. The Inspector General recommended that the FAR be fully implemented and that a greater number of A-E contracts be incorporated into annual postaward auditing plans. Management concurred with the recommendation and action was considered responsive. The Defense Contract Audit Agency (DCAA) performed additional defective pricing reviews to determine the risk involved. As a result of these reviews, DCAA stated that the risk on A-E contracts was no greater than the risk on other DoD contracts and elected not to include any additional audits beyond their normal scheduled reviews.

PART II - FINDING AND RECOMMENDATIONS

Internal Controls for Architect-Engineer Contracts

FINDING

Contracting Officers at Detachment 1, Space Combat Operations Staff, Copenhagen, Denmark, awarded architect-engineer contracts to Danish firms based on inadequate or incomplete documentation provided by base civil engineer contract employees working for the U.S. Government in Greenland. This condition occurred because existing internal controls were either inadequate or circumvented. As a result, the contracting officers could not ensure fair and reasonable pricing. Also, there was a high potential that the integrity of the entire procedure for awarding architect-engineer contracts at Detachment 1, Space Combat Operations Staff could have been severely compromised.

DISCUSSION OF DETAILS

Background. At Detachment 1, Space Combat Operations Staff (DET 1), Copenhagen, Denmark, various groups of employees managed the overall architect-engineer (A-E) contract award and administration process. DET 1 is assigned contracting responsibilities, while the 12th Missile Warning Group and the 1012th Air Base Squadron at Thule Air Base, Greenland, in addition to the 1015th Air Base Squadron, at Sondrestrom Air Base, Greenland, provide engineering technical support for the Greenland A-E contracts. Headquarters, Air Force Space Command at Peterson Air Force Base, Colorado Springs, Colorado, provides project management and additional engineering technical support. The Defense Contract Audit Agency (DCAA) was not requested to perform either preaward or postaward audits of these contracts.

The contracting office at DET 1 issues contracts for renovation, repair, and minor construction of U.S. facilities in Greenland. (Major construction projects are awarded and administered by the Corps of Engineers, New York District.) Between fiscal years 1987 and 1988, DET 1 awarded four basic contracts and five indefinite delivery type (IDT) basic awards for A-E services.

International agreements and host country laws and policies may supersede or supplement U.S. regulations, laws, and policies. These agreements require the use of local nationals working as U.S. Government employees. These local nationals have different employee benefits, work schedules, holidays, and pay structures.

DET 1 is tasked to acquire supplies, services, and subsistence in support of Air Force activities in Greenland. In accordance with international agreements, DET 1 will maximize the use of Danish

contractors and be the primary Air Force disbursing office in Denmark.

Award and Administration of A-E Contracts. The audit included three basic contracts, two IDT basic contracts, five related contracts over $25,000 (all of which were delivery orders placed against the two IDT awards), and five related contracts under $25,000 consisting of modifications to the above contracts. These 15 contracts totaled $1,024,000.

Our analysis of the award and administration of A-E contracts disclosed that U.S. Government resources were not adequately protected. One major factor contributing to these conditions was the contracting officer's failure to provide effective management oversight of technical personnel involved in the A-E contract award and administration process. Additionally, the contracting officer did not ensure that documentation received from the technical personnel was complete, adequate, or otherwise acceptable. Further, the engineering personnel performed most of the A-E contract award and administration functions, while the contracting officer assumed overall responsibility for the contracts and provided technical contracting advice.

Air Force Regulation 88-31 (AFR 88-31), "Selecting Architect-Engineer (A-E) Firms for Professional Services by Negotiated Contracts," assigns many of the A-E contract award and administration functions to the civil engineering official; however, the Federal Acquisition Regulation (FAR) and appropriate DoD regulations assign overall responsibility for contracts to the contracting officer. To make proper contract award and administration decisions, the contracting officer must be actively involved in the various functions. Alternatively, the contracting officer must ensure that documentation representing specific A-E contract award and administration functions is sufficient to make proper decisions. Unauthorized activity can occur when existing internal controls are inadequate or circumvented. Also, integrity is compromised when contracting officers rely on inadequate, incomplete, or nonexistent documentation that contractor base civil engineering personnel provide.

Establishing Internal Controls. Internal controls are those integral parts of an overall management system that ensure the compliance of the operation of programs and functions performed by an organization. Internal controls should provide reasonable assurance that the resources and functions of an activity are adequately protected against fraud, waste, or mismanagement. To obtain this assurance, an activity must comply with certain internal control standards. DoD Directive 5010.38, "Internal Management Control Program," identifies six specific standards that should be included in internal control programs. These

standards include, but are not limited to supervision, execution of transactions and events, and documentation.

Supervision. Internal controls generally require that adequate supervision, which includes qualified and continuous oversight, be provided to ensure that internal control objectives are achieved. Furthermore, operating level staff must be given necessary guidance, training, and review. Duties, responsibilities, and accountabilities must be clearly delineated and communicated for each functional process. Work must be reviewed and approved as necessary, by persons with designated authority, to ensure that critical objectives are accomplished to minimize errors, waste, and wrongful acts.

At DET 1, the contracting officer relied heavily on the base civil engineering personnel as technical advisors. These civil engineers, located in Greenland, consisted entirely of local nationals who work for the U.S. Government under base operations' maintenance contracts for Thule and Sondrestrom Air Bases. These contracted civil engineers are not supervised by U.S. military or civilian personnel. Because the contractor employees are not supervised by U.S. personnel, the only control over the contracted civil engineers is an overall evaluation of the contractor's performance on the base operations' contract. Controls over contractor performance, relative to the A-E contract award and administration process, are weakened further because there is high turnover among the contracted civil engineers. Because reliance is placed on contract and U.S. military personnel at a remote location, it is imperative that DET 1 contracting personnel disseminate applicable A-E guidance, provide comprehensive training, and review documentation provided through the A-E contracting process. Although, DET 1 could not provide documentation to indicate that necessary guidance, training, or supervisory review were supplied to technical support personnel, DET 1 management stated that the contracting officer was in constant telephone contact with respect to the A-E actions.

Supervisory review and approval is essential. Documents such as the statements of work, the selection board reports, and the independent Government estimates are vital tools for identifying the Government's requirements, selecting the best contractor, and obtaining a fair and reasonable price for A-E contracts. The role of the supervisor is a control that helps eliminate errors, misunderstandings, and improper practices. Supervisory control also helps detect and eliminate illegal acts.

The contract base civil engineers prepared statements of work for four of the five basic contracts and two of the five related contracts in our sample requiring statements of work. The four remaining statements of work were acquired through an A-E contract. Only one of the six statements of work prepared by the

contract base civil engineers indicated supervisory review by DoD personnel. The four statements of work acquired by an A-E contract were reviewed by the contract base civil engineers as part of the A-E contract submittal review and acceptance procedures.

For the five basic contracts requiring selection board reports, seven reports were prepared. Supervisory review was indicated on only two of these seven selection board reports.

Three original and three revised independent Government estimates (IGE's) were prepared for the five basic contracts. Additionally, four original and three revised IGE's were prepared for five related contracts requiring IGE's. None of the 13 originals or revised IGE's indicated supervisory review.

Execution of Transactions and Events. DoD Directive 5010.38, Enclosure 3, requires that "transactions and other significant events shall be authorized and executed only by persons acting within the scope of their authority." This standard is the primary control that ensures that only valid and authorized transactions or events are accomplished. The standard also requires that authorization is clearly communicated to each employee and includes the specific conditions and terms of the authorization. Conformance with the authorization means that the employee is complying with the directives established by management.

Contracting officers have the authority to appoint representatives to act in their behalf to assist in the administration of contracts. However, these representatives are subject to limitations established by the contracting officer and regulations. For A-E contracts, a contracting officer's representative (COR) is the technical expert who primarily monitors the A-E contractor's performance; evaluates the A-E work as it progresses; and recommends acceptance of the work when it is delivered. To provide appropriate control, appointments of COR's should be in writing and should clearly define the COR's scope and limitations of authority. When a COR is appointed for more than one contract, the appointments should be made separately, clearly defining the scope and limitations applicable to each contract. In all cases, the appointment documents should be maintained in the contract files.

At DET 1, contract base civil engineer personnel (physically located in Greenland) performed many of the A-E contract award and administration functions with no documentation from DET 1 supporting their authority or indicating the scope or limitations of their responsibility. However, the base operation maintenance contract that DET 1 and Air Force Space Command negotiated did outline duties and responsibilities of the contractor regarding A-E contracting. While the base operation maintenance contract

outlined these duties and responsibilities, it did not identify any specific contracts nor did it designate any individuals to act as COR's. The appointment of COR's and the specific authority and limitations of their responsibility are being addressed by the Inspector General, DoD in more detail in the Audit of the Justification for Use of Time and Material Contracts (Project No. 8CE-0037).

Documentation. This internal control standard generally requires that all transactions and all significant events be clearly documented and made available for examination. Documentation must be complete and accurate to facilitate tracking the transaction or event from inception to completion. In our opinion, the standard requires that documentation be purposeful and useful to managers to facilitate control of the operations. Additionally, the documentation must be organized in a manner that allows auditors and others reviewing the file to reconstruct clearly the complete series of events.

A key element of documentation is the ability to identify the source of the documentation. If unclear or inaccurate documentation results in problems, it is essential to know who to contact for clarification. The statement of work, for example, is the basic building block for the entire A-E contracting process. Similarly, the IGE, which establishes the Government's cost position, is another key document in the A-E contract award process. When clarification or correction of either document is needed, the preparer must be identifiable.

Review of the contract files at DET 1 disclosed that only one of the six statements of work prepared by contract base civil engineers identified the preparer. In addition, of the 13 IGE's, only 4 identified the preparer.

Another important internal control over documentation is the ability to establish when the documentation was created, which is significant when determining whether actions were accomplished in the required sequence or when determining the latest revision to the document. The date prepared was indicated on the statements of work for each of the four basic awards; however, only one of the two other contracts for which statements of work were prepared included a preparation date.

The contracting office is ultimately responsible for the A-E contract, even though AFR 88-31 assigns various A-E contract award and administration functions to the civil engineering office. The contracting officer reviews the documentation upon receipt to ensure that it is complete and adequate. Additionally, the engineering office must maintain backup support for the documentation provided to the contracting office. The civil engineering offices, located at the bases in Greenland and

at the Air Force Space Command in Colorado, maintained official supporting files by project number rather than by contract number. The required documentation was missing or incomplete in several of these files, as discussed later in this report.

Following Established Internal Controls. The FAR, DFARS, Service regulations and directives, and installation instructions provide policies and procedures that establish controls protecting resources against abuse, waste or mismanagement. Circumvention of these controls creates risk and provides an opportunity for illegal acts to occur. We reviewed contract files and related data to determine whether these policies and procedures were being followed and properly implemented. We concluded that the A-E contract award and administration process was not effectively implemented at DET 1.

FAR 1.602, "Contracting officers," requires that:

> Contracting officers are responsible for ensuring performance of all necessary actions for effective contracting, ensuring compliance with the terms of the contract, and safeguarding the interests of the United States in its contractual relationships.

Based on the above requirement, contracting officers must ensure that all necessary actions are accomplished. If these actions are performed in other functional areas, the contracting officer must receive adequate documentation to support the accomplishment of the action. The documentation must be complete and organized in such a manner that the contracting officer can reconstruct the events, ensure that established requirements are accomplished, and ensure that internal controls are not circumvented. The following sections discuss controls that were circumvented.

Public Announcement of Requirements. FAR 36.6, "ARCHITECT-ENGINEER SERVICES," subpart 36.601(a) requires that "The Government shall publicly announce all requirements for architect-engineer services." FAR 5.205(c), "General notices and announcements," further requires that "Contracting officers shall publish [in the Commerce Business Daily (CBD)] notices of intent to contract for architect-engineer services . . . [when] the total fee . . . is expected to exceed $25,000." FAR 5.202, "Exceptions," provides an exception from publishing in the CBD when the contract will be performed outside the United States and only local sources will be solicited; an exception is not provided for public announcements in the local area from which the sources will be solicited. Such announcements are the only means by which all firms can be made aware of a Government requirement. They provide a control ensuring that all available sources are allowed to compete for the award.

At DET 1, of the five contracts in our sample that were required to be publicly announced, four included some type of public announcement. For three of the four contracts, solicitation was accomplished by requesting a source list of contractors from the Danish Council of Consulting Architects and Engineers. Announcements were sent only to those firms on the list. DET 1 management maintained that to their knowledge all Danish A-E firms belong to this council. The fourth announcement was sent to firms on a source list in the contract file for which the origin could not be determined. However, the current contracting officer, at DET 1, indicated that the previous contracting officer most likely compiled the source list. The other file, contract F61101-87-C-0043, was awarded on a sole source basis and contained no announcement. Therefore, there is no assurance that any other interested firms were aware of the Government's requirement, or that effective competition was obtained.

Independent Government Estimates. FAR 36.605, "Government cost estimate for architect-engineer work," requires the preparation of an IGE and its submission to the contracting officer before any negotiations. Preparation of the IGE prior to the receipt of the contractor's proposal ensures that the original estimate is not influenced by the proposal. Therefore, the date of the IGE is an important part of the internal control function and is the only evidence to support compliance with the FAR requirement of preparation before negotiations.

At DET 1, only two of the eight contract actions that required negotiations had IGE's that were prepared and dated before the negotiations took place. Because the six other contract files did not have complete documentation, we could not determine when the undated IGE's were prepared or if they were available to the contracting office before negotiations, as required.

Maintenance of Engineer and Related Services Questionnaires. Standard Form 254 (SF 254), "Architect-Engineer and Related Services Questionnaire," is required by the Federal Government from any firm interested in providing architect-engineer or related services. In addition, FAR 36.702, "Forms for use in contracting for architect-engineer services," subparagraph (b)(2) requires the submission of a Standard Form 255 (SF 255), "Architect-Engineer and Related Services Questionnaire for Specific Project," when the award is expected to exceed the small purchase limitation ($25,000 during the period of the audit). The SF 255 is used to detail specific qualifications and to identify key outside consultants and associates for the specific project under consideration. These forms are used as a basis for screening firms before requesting additional data or selecting firms for discussions. Because the data contained on these forms are used for making decisions that result in the final contractor selection, the forms for the firms

recommended by the final selection board become an integral part of the contract history and must be maintained in the contract file. At DET 1, two of the five contract files contained the SF 254's and the SF 255's for the successful contractor.

In addition, FAR 36.603, "Collecting data on and appraising firms' qualifications," requires that SF 254's and SF 255's be maintained in a centralized architect-engineer qualifications data file. When the selection boards perform their evaluation, a review of the central file can provide a cross-check to ensure that all firms were considered in the evaluation process. Additionally, a central file eliminates duplication of files that engineering support personnel maintain at different areas. FAR 36.603(d), "Currency of files," requires that the SF 254's and SF 255's files be maintained and that they be reviewed and updated annually. According to the contracting officer at DET 1, the contracting office did not maintain a central file of SF 254's and SF 255's because AFR 88-31, currently in effect, assigns that responsibility to the civil engineer office. We visited the civil engineer personnel, who performed the selection functions at Thule Air Base, and requested copies of the forms. We found that this group did not maintain a centralized file and was unable to provide or locate the SF 254's or the SF 255's. A review of AFR 88-31, Attachment 1, paragraph A1-9, also disclosed the statement that "the SF 254 is the only form which an Air Force office is required to keep on file." This requirement is not in accordance with the FAR and will be addressed in our overall A-E contracting summary report.

Selection Boards. FAR 36.602-2, "Evaluation boards," requires that evaluation boards (commonly called selection boards by the Air Force) be "composed of members who, collectively, have experience in architecture, engineering, construction, and Government and related acquisition matters." FAR 1.602, "Contracting officers," states that contracting officers may request and consider the advice of various specialists. The contracting officer must ensure that all relevant acquisition matters are properly covered and that actions taken during the evaluation process do not compromise subsequent procurement actions. At DET 1, contracting office personnel were not included on the selection boards, and the engineers on the selection boards had no acquisition training. Although this procedure was contrary to FAR 36.602-2, it complied with AFR 88-31, which requires that preselection and final selection boards be composed of technical members of the responsible Air Force civil engineering official's staff. This point will also be addressed in our overall A-E contracting summary report.

FAR 36.602-2 also requires that members of the selection boards include highly qualified professional employees of the agency, other agencies, or private practitioners of architect, engineer, or related professions. Members appointed from another agency,

another engineering activity within the same agency, or an outside source also enhance internal controls. A professional noninterested party can be totally objective, eliminating any bias (or appearance of bias) in the selection process. At DET 1, two of the four contract files contained appointment letters that identified members of the selection boards. Although the remaining two files did not have appointment letters, we were able to identify the members of two of the three selection boards through documentation found in the contract file. Members for three of the final selection boards were appointed from outside the user activity. However, the members appointed to the three preselection boards consisted solely of individuals assigned to the Air Bases in Greenland. By complying with the AFR 88-31, which conflicts with the FAR provisions, there is no reasonable assurance that the selection procedures were properly accomplished and the Government's interest protected.

FAR 36.602-2 also requires that one Government member of each board be designated as the chairperson to preside over the board. However, at DET 1, we found one instance where the designated board members, including the chairperson, consisted entirely of contract base civil engineering personnel. We believe that in this particular situation the integrity of the A-E process is questionable.

Evaluation of Past Performance. A review of past performance is essential because it provides insight into the firm's ability to accomplish requirements. FAR 36.602-1, "Selection criteria," requires that "Agencies shall evaluate each potential contractor in terms of its . . . . Past performance on contracts with Government agencies." AFR 88-31, A1-5b(2) further states that " . . . each firm under consideration will be evaluated on the basis of the information contained in the SFs 254, 255, and 1421 [Performance evaluation (Architect-Engineer)] and other data requested." Past performance data are available from SF 1421's on file, as well as from other sources. The DFARS 236.604, "Performance evaluation," directs that all performance data be sent to the U.S. Army Engineer Division, North Pacific, Portland, Oregon. In accordance with DFARS 236.201, "Evaluation of Contractor Performance," these data are then made available, via a central data base, to all DoD Components for any subsequent A-E selection evaluations. At DET 1, none of the selection board reports, or documentation in the contract files, indicated that the selection boards attempted to review the past performance of any of the contractors considered or selected, either from prior SF 1421's or from the central data base.

Selection Interviews. Interviews are required of the top firms being considered in order to select the best qualified firm. FAR 36.602-3, "Evaluation board functions," states that:

> . . . an evaluation board shall . . . . Hold discussions with at least three of the most highly qualified firms regarding concepts and the relative utility of alternative methods of furnishing the required services, when the prospective architect-engineer contract is estimated to exceed $10,000.

These discussions provide the selection boards additional assurance that the firm's application is completely understood and provide the A-E firm the assurance that it completely understands the requirements. At DET 1, there were five basic contract awards; one of which was awarded sole source. We found documentation in three of the four remaining contract files, which established that selection interviews were conducted with the top three firms; however, there were no narrative summaries of these discussions.

Selection Reports. Upon completion of the selection process, each selection board must summarize its proceedings. FAR 36.602-3 subparagraph (d) requires that selection boards:

> Prepare a selection report . . . recommending, in order of preference, at least three firms that are considered to be the most highly qualified to perform the required services. The report shall include a description of the discussions and evaluation conducted by the board to allow the selection authority to review the considerations upon which the recommendations are based.

In addition, AFR 88-31 requires that a summation of the selection board's actions be prepared.

> The summary includes a listing of the A-Es considered for selection by the board, the basis for the evaluation method used, the results of discussions, interviews if conducted, and a prioritized list, or final slate, in order of preference, of a minimum of three A-E firms considered to be the best qualified, for approval. Brief statements of the factors influencing the selection may be included. The summary is annotated FOR OFFICIAL USE ONLY, and becomes part of the official files.

For the three basic contract awards that indicated that the prospective contractors were interviewed, there was no summary of the discussions held. For five of the seven board reports, the evaluation factors used were not included in the contract files. In addition, none of the board reports contained any narrative summation explaining why one firm was ranked higher than another.

Certified Cost or Pricing Data. FAR 15.804-2, "Requiring certified cost or pricing data," requires that certified cost or pricing data be obtained for any contract action expected to exceed $100,000. (Exceptions include adequate price competition, established catalog or market prices, or prices established by law or regulation.) Certified cost or pricing data, submitted by an offeror, enable the Government to perform cost or price analyses and ultimately provides a basis for the Government and the contractor to negotiate fair and reasonable prices. When cost or pricing data are used to support negotiations, additional contract clauses should be included to ensure the Government's right to adjustments if the cost or pricing data are found to be inaccurate, incomplete, or noncurrent as of the date of final agreement. If the contracting officer learns of, or suspects invalid cost or pricing data after the award, and the appropriate clauses have been included, the contracting officer can then request an audit of such data. If the audit reveals defective data and the appropriate clauses are in the contract (FAR 52.215-22, "Price Reduction for Defective Cost or Pricing Data," and FAR 52.215-23, "Price Reduction for Defective Cost or Pricing Data - Modifications"), appropriate costs can be recovered.

At DET 1, five basic contract awards, which included two IDT awards, were processed during the period of our review. The two IDT awards contained an annual limitation of $250,000, and at least $120,000 of A-E services was ordered under each IDT award. Neither award included the requirement for cost or pricing data or the defective pricing clauses. However, two of the three remaining basic contracts, all of which had an initial value greater than $100,000, contained a certificate of current cost or pricing data. These two contracts, however, did not include the defective pricing clauses. The remaining contract did not contain either the certificate of current cost or pricing data or the defective pricing clauses.

Price Negotiation Memorandum. FAR 15.808, "Price negotiation memorandum," requires that the contracting officer prepare a PNM that contains, among other things a description of the extent to which the contracting officer relied on submitted cost or pricing data (if any); the reasons for any pertinent variances between the contractor's proposal and field pricing report recommendations; and a detailed explanation of any differences between cost elements in the IGE and the contractor's

proposal. This control documents the history of the negotiations and records the rationale on which the decisions were made. The awards in our sample contained a PNM for three of the five basic contract awards. Of the five related contracts reviewed, which required a PNM, none included the required memorandum.

Notification of Nonavailability of Subsequent Construction Contract. FAR 36.606, "Negotiations," subparagraph (c) requires that the contracting officer inform the A-E firm that no construction contract may be awarded to the firm that designed the project, except as provided in FAR 36.209, "Construction contracts with architect-engineer firms." At DET 1, we found no indication in the contract files that this clause was discussed with the A-E contractors.

Performance Evaluations. FAR 36.604, "Performance evaluations," requires that a Performance Evaluation (Architect-Engineer), SF 1421, be prepared for each A-E contract of more than $25,000. Further, AFR 88-31 requires that the responsible design or construction activity prepare a performance evaluation report for all contracts over $10,000. The performance reports shall be prepared after final acceptance of the work or after contract termination, as appropriate. These reports provide a control to ensure that the contractor is notified regarding the acceptability of his work. Additionally, the performance reports can be used as a means to evaluate the contractor's past performance during the selection process by DoD contracting offices. FAR 36.604 subparagraph (c) requires that the performance "report shall be included in the contract file." In addition to maintaining a copy of the performance report in the contract file, DFARS 236.604(c) currently requires that a copy of the performance report be forwarded to a central data base maintained at the U.S. Army Engineer Division, North Pacific, Portland, Oregon. At the time of our review, four of the five basic contract awards were complete; however, none of the awards had a performance evaluation. Four of the five related contracts reviewed that were over $25,000, were complete. One of those four contracts contained a performance evaluation in the contract file.

Release of Claims. FAR 32.111, "Contract clauses," subparagraph (d) requires contracting officers to include clause 52.232-10, "Payments under Fixed-Price Architect-Engineer Contracts," in fixed-price architect-engineer contracts. This clause prescribes that:

> Before final payment under the contract, . . . and as a condition thereto, the Contractor shall execute and deliver to the Contracting Officer a release of all claims against the Government arising under or by virtue of this contract.

This clause provides a control that precludes subsequent unforeseen claims, so that the contract can be properly closed. The release of claims had not been processed for any of the eight completed contracts in our sample, even though final payment was made on all eight.

MANAGEMENT ACTIONS

We were informed by DET 1 that internal control reviews were not performed during the period covered by our audit. During the audit, we made several verbal recommendations to DET 1 for improving internal controls governing the A-E contract award and administration process. The recommendations were based on internal control weaknesses identified during the evaluation of DET 1's A-E contract operating practices. Before the completion of the audit, management at DET 1 informed us that it had incorporated our verbal recommendations. Therefore, we performed a review of all A-E contracts awarded in fiscal years 1989 and 1990. The objective of the review was to determine whether DET 1 had incorporated the recommended changes to its A-E contracting practices. The review consisted of one basic contract awarded during fiscal year 1989 valued at $156,000 and one IDT contract awarded in fiscal year 1990. Because the fiscal year 1990 IDT award was in process, we reviewed only the preaward information. See Appendix B for the list of additional contracts reviewed. We found that DET 1 made substantial changes to improve the A-E operating practices by fully implementing our verbal internal control recommendations and complying with the procedures already established.

RECOMMENDATIONS FOR CORRECTIVE ACTION

We are making no further recommendations on this finding. The actions already taken by Detachment 1, Space Combat Operations Staff on the internal control deficiencies identified in this finding have corrected the internal control deficiencies observed during the initial phase of our audit.

SAMPLE CONTRACTS REVIEWED AT DETACHMENT 1, COPENHAGEN, DENMARK

Contract Number	Order/ Mod [1]	Contractor	Dollar Amount (000)
F61101-86-D-0018	(Basic)[2]	Arctic Consultant Group	N/A[3]
F61101-86-D-0018	01	Arctic Consultant Group	0
F61101-86-D-0018	5000	Arctic Consultant Group	$65
F61101-86-D-0018	5001	Arctic Consultant Group	$64
F61101-86-D-0024	(Basic)[2]	Arctic Consultant Group	N/A[3]
F61101-86-D-0024	01	Arctic Consultant Group	0
F61101-86-D-0024	5000	Arctic Consultant Group	$66
F61101-86-D-0024	500001	Arctic Consultant Group	$1
F61101-86-D-0024	500002	Arctic Consultant Group	$1
F61101-86-D-0024	5001	Arctic Consultant Group	$91
F61101-86-D-0024	5002	Arctic Consultant Group	$37
F61101-86-D-0024	500201	Arctic Consultant Group	0
F61101-87-C-0030	(Basic)	COWIconsult	$284
F61101-87-C-0043	(Basic)	COWIconsult	$190
F61101-88-C-0014	(Basic)	COWIconsult	$225

Footnotes:

1/ Order and modification numbers
2/ Indefinite delivery type - basic awards
3/ Not Applicable

CONTRACTS REVIEWED AT DETACHMENT 1, COPENHAGEN, DENMARK, FISCAL YEARS 1989 AND 1990

Contract Number	Order/ Mod [1]	Contractor	Dollar Amount (000)
F61101-89-C-0022	(Basic)	COWIconsult	$156
F61101-90-D-0002[2]	(Basic)[3]	Arctic Consultant Group	N/A[4]

Footnotes:

1/ Order and modification numbers
2/ Award was in process - reviewed only the preaward data
3/ Indefinite delivery type - basic awards
4/ Not Applicable

SUMMARY OF POTENTIAL MONETARY AND OTHER BENEFITS RESULTING FROM AUDIT

Recommendation Reference	Description of Benefit	Amount and/or Type of Benefit

Recommendations were discussed and implemented during the audit; accordingly, recommendations were not formally stated in the report. The amount of lost monetary benefits cannot be determined since architect-engineer contracts are not awarded on a price competition basis.

ACTIVITIES VISITED OR CONTACTED

Department of the Air Force

Headquarters, Air Force Space Command, Peterson Air Force Base, Colorado Springs, Colorado
Detachment 1, Space Combat Operations Staff, Copenhagen, Denmark
12th Missile Warning Group, Thule Air Base, Greenland
1012th Air Base Squadron, Thule Air Base, Greenland

AUDIT TEAM MEMBERS

David K. Steensma, Director, Contract Management Directorate
Paul J. Granetto, Program Director
Wayne K. Million, Project Manager
Ralph W. Swartz, Team Leader
Andrew O. Nickle, Team Leader
Donald Stockton, Auditor
Catherine M. Schneiter, Auditor