Office of Inspector General

Audit Report

Facilities Design and Construction Centers

U.S. Coast Guard

Report Number R2-CG-7-015
Date Issued: July 25, 1997

Memorandum

U.S. Department of Transportation
Office of the Secretary of Transportation
Office of Inspector General

Subject: ACTION: Report on Facilities Design and Construction Centers, USCG
Report No. R2-CG-7-015

Date: July 25, 1997

Reply to Attn of: JA-1

From: Lawrence H. Weintrob
Assistant Inspector General for Auditing

To: Chief of Staff
U.S. Coast Guard

We are providing this report for your information and use. Your April 7, 1997, comments to our January 30, 1997, draft report were considered in preparing this report. A synopsis of the report follows this memorandum.

You concurred with the overall content of the report. The actions taken and planned are responsive to the intent of our recommendation. However, to consider the recommendation resolved, we request that you provide us with target dates for completion of the proposed corrective actions. In accordance with Department of Transportation Order 8000.1C, please provide the target dates within 60 days.

We appreciate the courtesies and assistance extended to our staff during the audit. If you have any questions, or require additional information, please contact me at (202) 366-1992, or Michael E. Goldstein, Regional Manager, Region II, at (212) 264-8701.

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Facilities Design and Construction Centers

U.S. Coast Guard

Report Number: R2-CG-7-015 ***July 25, 1997***

Objectives

The objectives of this audit were to evaluate the effectiveness of the Facilities Design and Construction Center (FDCC) operations, identify value added by U.S. Coast Guard (Coast Guard) personnel, and determine whether Coast Guard design and construction requirements could be met in a more cost-effective manner, either elsewhere in the Federal Government or by increased contracting out.

Results in Brief

FDCCs provide technical details and input to shore facility planning projects and documents, and oversee construction and major maintenance of shore facilities. Coast Guard's two FDCCs have a combined staff of 133 military and civilian engineers, architects, procurement, and administrative personnel. About 80 percent of project design, and all construction, is performed by contractors. We concluded that FDCC operations added value to the design and construction process by evaluating engineering alternatives, preparing detailed designs, obtaining required permits, and by performing site inspections. However, the FDCC staffing and organizational structure did not make the most cost-effective use of Coast Guard civil engineering resources. Despite decreased workload requirements, an internal study which proposed eliminating one of the FDCCs, and the fact that about 75 percent of construction and major maintenance projects are located within the area of responsibility of one FDCC, the Coast Guard did not close either FDCC. Consequently, the Coast Guard missed an opportunity to realign FDCC resources to more closely match the geographical workload, make increased use of civil engineering capabilities within the Coast Guard, and take advantage of the economies associated with contracting out.

Recommendation

We recommended the Coast Guard reduce and realign FDCC resources to more closely match the amount and location of FDCC workload.

Management Position

The Coast Guard concurred with our finding that FDCC operations added value to the design and construction process. However, the Coast Guard disagreed with our conclusion that the FDCC staffing and organizational structure did not make the most cost-effective use of Coast Guard civil engineering resources. The Coast Guard noted that it had made a conscious decision to retain enough personnel resources to execute streamlining requirements before reducing or realigning FDCC resources, and had made significant personnel reductions in the civil engineering program since the 1994 study. With most of the facilities streamlining underway or completed, the Coast Guard concluded that now is the time to right size the major shore support delivery system, including the FDCCs. In May 1997, the Office of Civil Engineering submitted a draft revalidation to the Chief of Staff for review. Once the review is completed, the Chief of Staff will inform the Commandant of the results of the revalidation.

Office of Inspector General Comments

The Office of Inspector General (OIG) acknowledges that the Coast Guard made a conscious decision not to reduce FDCC resources until Coast Guard streamlining was completed. However, the OIG continues to conclude the Coast Guard had sufficient information regarding future FDCC workload, and available cost effective alternatives to in-house FDCC efforts, to implement the proposal in the 1994 study to eliminate one FDCC, and still execute its overall streamlining plan as effectively as it has.

Notwithstanding the disagreement regarding past decisions relative to restructuring of the FDCCs, the actions taken and planned by the Coast Guard are responsive to the intent of our recommendation. However, to consider the recommendation resolved, we request the Coast Guard provide us with target dates for completing the proposed corrective actions.

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I. INTRODUCTION

Background

The design, contracting, and construction of shore facility projects; U.S. Coast Guard (Coast Guard) Acquisition, Construction, and Improvement (AC&I) Projects; and major maintenance of shore facilities are assigned to the Facilities Design and Construction Centers (FDCC). These projects range in value from $200,000 to several million dollars and constitute about 90 percent of the FDCC workload. Typical projects include construction of buildings and family housing, or renovation of facilities at Coast Guard air stations, bases, and centers. FDCCs are usually involved with Environmental Compliance and Restoration (EC&R) and operating expense (OE) projects only when remedial work is required incidental to an AC&I construction project.

An AC&I shore facility project usually requires about 3 years to plan, 2 years to obtain funding and complete design, plus another 1 to 2 years to construct. Accordingly, FDCCs have a composite workload of projects funded in different years. When a project is under development, it is assigned to full-service project teams. However, about 80 percent of FDCC project design and all construction is contracted to private architect-engineer (A/E) firms and construction contractors. The contract workload also includes planning studies, engineering investigations, and feasibility studies.

The Coast Guard operates two FDCCs, which are organized under the two Maintenance and Logistics Commands (MLC) with corresponding jurisdictions. The FDCCs have a total authorized personnel allowance of 133 military and civilian engineers, architects, procurement, and administrative personnel. The personnel costs for the FDCCs total approximately $6.1 million annually, and include resources from AC&I, EC&R, and OE funding.

FDCC Atlantic (LANT) has jurisdiction for AC&I Projects in the 40 states east of the Rocky Mountains, plus Puerto Rico. FDCC Pacific (PAC) has jurisdiction for geographic locations west of the Rocky Mountains, including Hawaii and Alaska. About 75 percent of the major AC&I projects are located in LANT's area of responsibility. Consequently, PAC is frequently assigned work far outside its area of responsibility. In Fiscal Year (FY) 1996, Congress authorized $31 million for eight major AC&I shore facility projects.

Civil Engineering Units (CEU) are also assigned to each MLC to provide professional engineering services for projects usually with estimated costs below $200,000. CEU personnel contract for, or provide design and inspection services for, Operating and Maintenance Projects, and investigation, inspection, feasibility study and design services under the EC&R Program.

At Coast Guard Headquarters, the Assistant Commandant for Systems, Office of Civil Engineering, has responsibility for coordinating civil engineering support for Coast Guard units and assigning projects to the FDCCs.

Objectives, Scope, and Methodology

The objectives of this audit were to evaluate the effectiveness of the FDCC operations, identify value added by Coast Guard personnel, and determine whether Coast Guard design and construction requirements could be met in a more cost-effective manner, either elsewhere in the Federal Government or by increased contracting out.

Our audit focused on the overall FDCC program, rather than individual projects. We evaluated FDCC functions, organizational structure, workload, management controls, and resources. We reviewed FDCC reports, budget documents, customer satisfaction questionnaires, and previous Coast Guard studies of the civil engineering program. In addition, we discussed FDCC operations, value added, and management controls with Coast Guard officials at the locations visited. We also interviewed representatives from the Army Corps of Engineers (Corps), to obtain information on what services could be provided for Coast Guard design and construction requirements. The audit was conducted from April through September 1996, and was performed in accordance with the Government Auditing Standards prescribed by the Comptroller General of the United States. Our audit included a review of the FDCC program for FYs 1994 through 1996, and other periods, as necessary, to meet our objectives.

Our audit included a review of FDCC policies, procedures, and practices implemented by the Coast Guard. Our review of management controls disclosed opportunities for improvement in FDCC staffing and organizational structure as discussed in Part II of this report.

The audit was conducted at the Civil Engineering Division, Coast Guard Headquarters, Washington, D.C.; FDCC LANT, Norfolk, Virginia; FDCC PAC, Seattle, Washington; MLC LANT, Norfolk, Virginia; CEU,

Providence, Rhode Island; and the Corps, North Atlantic Division, New York, New York.

Prior Audit Coverage

The Office of Inspector General (OIG) has not performed prior audits specifically focusing on the effectiveness of FDCC operations.

II. FINDING AND RECOMMENDATION

Finding: FDCC Staffing and Organizational Structure

FDCC operations added value to the design and construction process. However, the FDCC staffing and organizational structure did not make the most cost-effective use of Coast Guard civil engineering resources. This occurred because the Coast Guard did not revise the existing FDCC organization despite decreased workload requirements and an internal study which proposed eliminating one of the FDCCs. As a result, the Coast Guard missed an opportunity to realign FDCC resources to more closely match the geographical workload, make increased use of civil engineering capabilities within the Coast Guard, and take advantage of the economies associated with contracting out.

Discussion

The FDCC mission is established in the Civil Engineering Manual, COMDTINST M11000.11A. FDCCs are assigned to provide technical input to shore facility planning documents, and execute the AC&I shore construction program and Allotment Fund Code 43, major shore maintenance projects. In addition, FDCC LANT Instruction M5000.1B, Organizational Manual, establishes the authority, responsibility, and fundamental organization of FDCC LANT.

Value Added

FDCC operations added value at all steps of the Coast Guard design and construction process. FDCCs planned and executed assigned shore construction projects from the proposal stage through construction completion and acceptance of the facility. Furthermore, FDCCs added value by evaluating engineering alternatives, performing site investigations, obtaining required permits, and performing project design (either in-house or by A/E contracts).

In addition, FDCCs solicited invitations for bids, awarded contracts, and procured furnishings for outfitting the facilities. FDCC personnel performed inspection of construction, accepted new facilities, and conducted warranty inspections. FDCCs also conducted value engineering studies and post-construction reviews of new facilities. The multiple functions performed by FDCCs were part of Coast Guard efforts to enhance service by providing customers “one stop shopping” for FDCC projects.

However, the current staffing and organizational structure comprised of two FDCCs did not make the most cost-effective use of Coast Guard civil engineering resources. Opportunities for economies and efficiencies existed in the alignment of resources between the two FDCCs, use of civil engineering capabilities within the Coast Guard, and amount of FDCC work contracted out.

FDCC PAC

Although about three quarters of the major AC&I Projects are located within the geographical jurisdiction assigned to FDCC LANT, FDCC PAC has a military and civilian authorized personnel allowance which equates to about 42 percent of the total FDCC personnel. The personnel cost for FDCC PAC's 57 engineers, architects, and procurement and administrative personnel is approximately $2.6 million annually. During FYs 1994 through 1996, FDCC PAC received appropriations for a total of only 10 new major AC&I shore facility projects within its assigned jurisdiction.

Consequently, FDCC PAC was assigned projects outside its geographical boundaries. FDCC PAC personnel were assigned projects 2,800 miles away, on the East Coast, beginning as early as 1990. Since that time, FDCC PAC has been assigned 18 projects in New York, New Jersey, and South Carolina.

In the most recent examples, FDCC PAC was assigned to manage five major construction contracts for "streamlining" projects to relocate MLC LANT units from Governors Island in New York City. The contracts total approximately $25.4 million and would typically have been administered by FDCC LANT, which is located on the East Coast, only 300 miles away at Norfolk, Virginia. However, under a "workload sharing" program, FDCC LANT projects were shifted to FDCC PAC, based on the Coast Guard's determination that FDCC PAC had the available resources to complete the work within the short time frame assigned.

Three of the five contracts were awarded in spring 1996. They involved the relocation of the Cutters "Dallas" and "Gallatin" to Charleston, South Carolina; construction of a new maintenance building at Group Sandy Hook; the new Activities New York administration building at Fort Wadsworth; and the new Station New York facilities at Rosebank, Staten Island. The fourth contract, for a project still under design, will construct a new building for the Aids to Navigation Team New York and provide mooring facilities at the Military Ocean Terminal in Bayonne, New Jersey. The fifth contract, for

another project still under design, will provide an interim upgrade to the Battery Building and complete other modifications to accommodate 1st District offices, Activities New York Marine Inspections and Response staff, and the Regional Examination Center.

1994 Civil Engineering Study

In July 1994, the Chief, Office of Engineering, Logistics and Development, issued a memorandum to the Chief of Staff conveying the results of a study on re-engineering civil engineering support within the Coast Guard. A major portion of the study focused on a proposal to eliminate FDCC PAC, realign civil engineering staff, and consolidate FDCC operations to FDCC LANT.

The Civil Engineering Division conducted the study to identify streamlining opportunities and develop alternatives for saving resources. The study was based on assumptions of a steady shore AC&I workload of $100 million ($85 million of project work) per year, and contracting out 80 percent of design workload to A/E firms. If the long-term direction of the Coast Guard were to fund the shore program at a recurring level of less than $85 million dollars annually, a reduction in FDCC personnel could be achieved. The study concluded,

> The recommendations of the National Performance Review and the Administration's streamlining initiatives clearly indicate a decremental budget environment over the next several years. Additionally, budget target pressures will require significant re-evaluation of current business practices and corresponding resources.

The study also indicated that realignment and elimination of one FDCC could result in a reduction of 49 staff positions. The study, however, did not attribute a monetary impact to the personnel savings or quantify additional nonpersonnel savings related to the reduction in staff and elimination of an FDCC.

FDCC Workload Requirements

The Coast Guard deferred restructuring the FDCCs despite decreases in FDCC workload requirements. Our review of the Shore Facilities Requirements List (SFRL) disclosed that a steady shore AC&I level of $85 million has not materialized since completion of the study, nor is it likely to occur during the next 5 years, due to the decremental budget environment. The shore program has been substantially below $85 million dollars annually

since 1994, and is likely to remain so through the year 1999. The Coast Guard's FY 1998 AC&I Shore Facility Budget Request is $69 million, including $6 million for Survey and Design. A "Coast Guard-wide AC&I Trend" analysis prepared by the Office of Civil Engineering indicated that by FY 1999, the shore program budget request will drop to about $60 million.

Coast Guard "streamlining" initiatives provided a one-time surge in FDCC workload during FYs 1995 and 1996, largely due to the closure of Coast Guard facilities at Governors Island. However, the FDCCs expect to have completed their role in this effort by 1997.

In addition, the SFRL shows that about three quarters of the major AC&I shore facility projects requested for the period FYs 1996 through 1999 will be located in FDCC LANT jurisdiction. During this period, FDCC PAC will administer only 15 major AC&I Projects within its geographical jurisdiction.

The Coast Guard maintained that, although the AC&I workload may dip below the $85 million project work level in a particular year, a $127.5 million project work level ($150 million program level) was needed over the long-term to recapitalize the shore plant. In addition to wanting to retain civil engineering capability for the higher level of activity, the Coast Guard had concerns about surges of work and the personnel disruption of eliminating a command.

Our audit disclosed that a $127.5 million project work level is not envisioned, and the flexibility for workload leveling and surge capability is already provided through two mechanisms within the civil engineering program. Increased use could be made of non-FDCC civil engineering capabilities within the Coast Guard, and additional FDCC work could be contracted out.

Civil Engineering Capabilities

Increased use could be made of civil engineering capabilities within the Coast Guard as a mechanism for workload leveling. The professional engineers at the CEUs can perform AC&I shore facility project design and execution, but are usually not assigned these functions because work exceeding the $200,000 criteria is assigned to FDCCs. FDCC LANT's booklet on "The AC&I Shore Construction Process" notes, however, that "As always there are exceptions to the rules and occasionally an AC&I Project will be accomplished by a CEU to balance workloads." Furthermore, besides their engineering capabilities, the CEUs have their own procurement support, as do the FDCCs. Accordingly, when assigning civil engineering resources, the

Coast Guard should consider the appropriate balance between CEU and FDCC staffing and workload. Examples of AC&I work performed by a CEU occurred in FY 1994, when CEU Juneau was assigned a $1.2 million family housing project in Petersburg, Alaska, and a $400,000 sewer replacement project at Base Ketchikan, also in Alaska.

Contracting Out

The 1994 study also recognized that additional civil engineering work could be contracted out. According to the study, by contracting out a higher percentage of design than 80 percent, civil engineering organizations (which would include both FDCCs and CEUs) should be capable of executing an increased program with the same staff. We agree that additional contracting out could accomplish this result and serve as another useful mechanism for workload leveling. However, we found that the Coast Guard would not benefit significantly by entering into agreements with other agencies to perform its design and engineering work.

For example, the Coast Guard has tested the use of agreements with the Corps to perform work on FDCC projects, but the results have not supported this approach. For example, in 1992, the Coast Guard paid the Corps $950,130 to construct a pier at the Group Port Angeles at Port Angeles, Washington. When the pier subsequently failed due to defects in the Corps' original design, the Coast Guard was unsuccessful in having the Corps pay to correct the defects. The Coast Guard eventually had to pay $623,000 to redesign and repair the pier.

Furthermore, the Corps contracts out most of its engineering work, and could hire the same A/E firms the Coast Guard might have hired itself. Accordingly, when the Coast Guard does contract out work, it would be preferable to do so directly to avoid the additional costs, problems, and delays associated with using a "middleman."

Advantages of Consolidating FDCCs

The 1994 study outlined four significant advantages of consolidating FDCC operations at FDCC LANT: (i) transfer costs will initially be zero, with little impact on FDCC LANT staff, (ii) the majority of shore AC&I work is (and should continue to be) located on the east coast, (iii) Norfolk is a desirable low-cost area, and (iv) A/Es can be hired in proximity to project sites, thereby keeping FDCC travel costs at a reasonable level. In addition, the study acknowledged that,

> Centralized AC&I execution will facilitate AC&I funds management, development of shore construction standards, and implementation of innovative delivery systems, such as design-build. . . . One FDCC will facilitate appropriation purity, by management of a flexible workforce, with central control of shore AC&I dollars and shore core personnel resources.

A single FDCC would result in savings in management staff, and the FDCC could deploy its personnel to wherever needed to support the shore AC&I Program. Given the preponderance of AC&I workload in the eastern part of the nation, FDCC LANT is the logical site for a single FDCC, and consolidation to that location would provide an improved realignment of FDCC resources.

Although the study contained a thorough analysis of the feasibility of consolidating the two FDCCs, as well as eliminating the FDCCs completely, the Coast Guard decided to retain both FDCCs. In February 1995, less than a year later, the Coast Guard performed a second study to examine the civil engineering support structure to reduce the overall civil engineering staffing and standardize the Coast Guard's delivery of civil engineering services to its customers. The second study was completed in March 1995, and included recommendations for realignment of the civil engineering program, but again no action was taken to restructure the FDCCs.

During our discussion with the Assistant Commandant for Systems, he agreed with the majority of our audit conclusions and acknowledged that FDCC operations would need to be reduced in the future, due to budgetary constraints. He advised, therefore, the Coast Guard has initiated a revalidation of its previous civil engineering studies, which will also take into consideration the concerns expressed in this report. In addition, he stated the Coast Guard will require approximately 3 months to complete this process, develop proposals for revising FDCC operations, and present the results to the Commandant. However, as of June 28, 1997, the Chief, Management Effectiveness Staff, advised the OIG that the revalidation had not been completed.

Conclusion

As demonstrated by the 1994 and 1995 studies, the Coast Guard has long recognized ". . . that right sizing the AC&I shore program may be appropriate in light of future AC&I funding levels." The advantages of consolidating

FDCC operations to FDCC LANT warrant reconsideration in any plans for such action. Consolidation would be in line with Coast Guard efforts to streamline operations, and would still provide civil engineering customers "one stop shopping" for FDCC projects. In addition, consolidation would be an appropriate response to the continued reduction in AC&I workload and the need to make more cost effective use of Coast Guard civil engineering resources.

Recommendation

We recommend the Commandant reduce and realign FDCC resources to more closely match the amount and location of FDCC workload.

Management Response

The Coast Guard concurred with our finding that FDCC operations added value to the design and construction process. However, the Coast Guard disagreed with our conclusion that the FDCC staffing and organizational structure did not make the most cost-effective use of Coast Guard civil engineering resources. The Coast Guard noted that it had made a conscious decision to retain enough personnel resources to execute streamlining requirements before reducing or realigning FDCC resources, and had made significant personnel reductions in the civil engineering program since the 1994 study. With most of the facilities streamlining underway or completed, the Coast Guard concluded that now is the time to right size the major shore support delivery system, including the FDCCs. In May 1997, the Office of Civil Engineering submitted a draft revalidation to the Chief of Staff for review. Once the review is completed, the Chief of Staff will inform the Commandant of the results of the revalidation.

In its response, the Coast Guard also provided information to clarify and amplify matters discussed in the finding. We carefully considered Coast Guard comments. We concluded the sources of our information were well supported and, wherever possible, reflected actual budgetary data, rather than estimates. Accordingly, we did not consider it necessary to make factual changes to our finding. A complete copy of the Coast Guard's response is included as an appendix to this report.

Audit Comments

The OIG acknowledges that the Coast Guard made a conscious decision not to reduce FDCC resources until Coast Guard streamlining was completed.

However, the OIG continues to conclude the Coast Guard had sufficient information regarding future FDCC workload, and available cost effective alternatives to in-house FDCC efforts, to implement the proposal in the 1994 study to eliminate one FDCC, and still execute its overall streamlining plan as effectively as it has.

Notwithstanding the disagreement regarding past decisions relative to restructuring of the FDCCs, the actions taken and planned by the Coast Guard are responsive to the intent of our recommendation. However, to consider the recommendation resolved, we request the Coast Guard provide us with target dates for completing the proposed corrective actions.

We note that our draft report included a recommendation to expedite the revalidation of prior studies and present the results to the Commandant as soon as possible. As of the end of June 1997, a draft revalidation had not been completed. Although we deleted the recommendation in the final report, we request the Coast Guard provide us a copy of the results of the revalidation efforts when completed.

Exhibit

AUDIT TEAM MEMBERS

The following is a listing of audit team members who participated in the audit of Facilities Design and Construction Centers, U.S. Coast Guard.

Michael E. Goldstein	Regional Manager
Jeffrey Ong	Project Manager
Edward Angeli Jr.	Auditor-in-Charge
Oleg Michalowskij	Auditor

MANAGEMENT RESPONSE

Appendix
(3 pages)