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Report to the Honorable Alfred A. McCandless, House of Representatives

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CORPS OF ENGINEERS

Weak Contracting Practices

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National Security and
International Affairs Division

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September 7, 1990

The Honorable Alfred A. McCandless
House of Representatives

Dear Mr. McCandless:

As you requested, we reviewed the U.S. Army Corps of Engineers' contract for upgrading electrical systems at Clear Air Force Station (AFS), Alaska, to determine whether the Corps acted properly in restricting the purchase of certain electrical equipment to items manufactured by the General Electric Company (GE).

Results in Brief

The Corps' restriction of electrical equipment to items manufactured by GE was not properly justified. Contrary to Federal Acquisition Regulations (FAR), the Corps' Alaska District specified GE equipment without ensuring that it was the only equipment that would meet the government's needs. At least one other manufacturer's electrical equipment may have met the government's needs, and at an estimated savings of $600,000.

FAR requirements were not met primarily because three key management controls did not function properly:

- The District contracting officer, although responsible for doing so, did not ensure that FAR requirements were followed during the presolicitation phase, when major decisions were made.
- The North Pacific Division's subsequent review of the justification for restrictive specifications did not include a verification that the District complied with FAR.
- The District competition advocate did not challenge decisions to restrict specifications to a single manufacturer's equipment on competitive construction contracts.

The wording of a Corps regulation controlling the use of restrictive specifications may have contributed to the noncompliance. The regulation did not identify specific FAR requirements that must be met. However, District and Division officials relied on this regulation to justify using restrictive specifications.

According to Corps officials, the three management control weaknesses reflected common practices at the Alaska District and the North Pacific

Division. Therefore, the possibility of similar problems extends to other competitively awarded contracts with restrictive specifications. We discussed with Corps officials three other contracts of this type administered by the Alaska District and determined that the management control weaknesses identified in the Clear AFS contract were present in these as well. To ensure that restrictive specifications are properly justified, the Corps needs to correct these management control weaknesses.

After we completed our audit work, the District Commander established an internal policy addressing these management control weaknesses. We believe that the District's contracting practices will be strengthened if the policy is fully implemented.

Background

Clear AFS is one of three sites that together constitute the nation's ballistic missile early warning system. The system's mission is to warn of a missile attack on North America and to provide accurate satellite detection and tracking data. Operation of Clear AFS is the responsibility of the Air Force Space Command (SPACECOM).

Clear AFS receives its electrical power from an on-site power plant, and SPACECOM considers a reliable power supply to be critical. When the plant was built in the early 1960s, GE electrical equipment was used almost exclusively. Since the initial construction, GE has performed equipment overhauls on Clear AFS electrical equipment.

U.S. Army Facilities Engineering Support Agency surveys identified deficiencies in power reliability at the Clear AFS power plant and recommended additions and alterations to electrical systems. The Corps' Alaska District is responsible for managing the contract for the improvements at Clear AFS. The Alaska District, part of the North Pacific Division, provided the contracting officer and technical contract support.[1] Because of its historic use of GE equipment at the power plant and its reliance on GE for maintenance, SPACECOM requested that selected electrical equipment needed for upgrading the power plant be manufactured only by GE.

[1]From fiscal years 1987 to 1989, the Alaska District awarded an average of about 70 contracts per year.

The GE electrical equipment needed to upgrade the power plant included four static exciters and three electro-hydraulic control systems.[2] The Alaska District issued an invitation for bid for a construction contract, received eight bids, and awarded a contract to the qualified low bidder in September 1989. The contractor was to obtain GE static exciters, install the equipment, and make other related improvements at the power plant. The final contract, totaling $3.3 million, excludes the electro-hydraulic control systems due to funding constraints, according to the project manager. The cost of the GE static exciters—about $1.4 million—represented 41 percent of the total contract cost.

Alaska District Improperly Restricted Electrical Equipment to a Single Manufacturer

The District's actions to require the purchase of GE equipment were not in accordance with FAR requirements. Contrary to FAR, the District did not determine if other manufacturers' equipment would meet the government's minimum needs.

FAR 10.004(b)(2) requires that contract specifications not be restricted to one manufacturer unless (1) the features unique to this manufacturer's products are considered essential and (2) other manufacturers' similar products would not satisfy agency needs. To identify products that could meet the minimum requirements and to ensure that the government's needs are met in a cost-effective manner, FAR 11.004(b) requires federal agencies to conduct market research and analysis. According to FAR 11.004(c), market research and analysis involves developing information on the availability of suitable products and the support capabilities of potential suppliers.

The District issued specifications restricted to GE equipment without performing market research and analysis to evaluate other manufacturers' products. The District did not question SPACECOM's preference for GE equipment, but accepted its view that GE electrical equipment was needed to be compatible with existing equipment and thus to assure reliability of the Clear AFS power plant.

If the District had conducted market research, as required by FAR 11.004, it would have identified various brands of exciters operating with a variety of generators. For example, the contractor obtained information from another manufacturer of static exciters that identified

[2]According to the Division's supervisory electrical engineer, the static exciters, electronic units that provide field current and voltage regulation to generators, were needed to replace less efficient rotary exciters. The new control systems, designed to adjust the amount of steam to maintain a constant turbine speed, were to replace the old control systems.

12 domestic federal and nonfederal power plants where non-GE static exciters were being used. We identified two other federal power plants in Alaska using non-GE exciters. At least four of these plants used non-GE exciters with GE generators and were operational before the Clear AFS contract was awarded.

Even without market research and analysis, District and SPACECOM officials were aware that other manufacturers existed for the static exciters. The District's electrical design section chief told us that the existence of non-GE static exciters was well known to District design engineers. SPACECOM project managers confirmed they were aware of other manufacturers of static exciters. In addition, a SPACECOM official at Clear AFS knew that non-GE exciters had been installed in a power plant at Fort Richardson, Alaska. According to the Fort Richardson power plant manager, these exciters were operational in 1987, or nearly 3 years before the Clear AFS contract was awarded.

Alternative Equipment Might Have Saved Over $600,000

If the District had allowed for competition among static exciter manufacturers, it might have saved over $600,000—about 18 percent of the contract's total cost of $3.3 million. Initially the contractor proposed non-GE exciters, noting that the language in the invitation for bid established GE as the standard of quality but did not prevent the use of non-GE exciters. Although District engineers determined that the proposed exciters met or exceeded contract technical requirements, SPACECOM informed the District that non-GE exciters were unacceptable because GE equipment was needed for continued reliability.

Subsequently, the contractor submitted a value engineering change proposal[3] to use non-GE exciters, as provided by FAR 48.1. The savings estimate in the proposal was over $600,000. After District engineers and project management officials reviewed the proposal, the District denied it on the basis that SPACECOM required GE exciters.

[3]Value engineering is a method by which a contractor is encouraged to suggest methods for performing more economically. It attempts to eliminate, without impairing essential functions, anything that increases acquisition, operation, or support costs. If a value engineering change proposal is accepted, the contractor and the government share in any resulting savings.

Corps Management Controls Did Not Ensure Compliance With FAR

The District's noncompliance with FAR occurred primarily because three key management controls did not work properly. First, the contracting officer did not ensure that FAR requirements were followed during the presolicitation phase of the contract, when major decisions were made. Second, North Pacific Division officials who reviewed the District's request to restrict specifications to one manufacturer did not determine if the District had met relevant FAR requirements. Third, the District competition advocate did not challenge decisions to restrict specifications to equipment produced by one manufacturer on a competitive construction contract. The wording of the Corps' regulation controlling the use of restrictive specifications may have contributed to the noncompliance because the regulation did not identify specific FAR requirements that must be met.

Contracting Officer Did Not Ensure Compliance With FAR

The contracting officer did not ensure that the decision to use restrictive specifications complied with FAR. Contracting officers, who have authority to obligate government funds, are responsible for ensuring that federal laws and regulations are followed in the procurement process. Army procedures call for close cooperation between the contracting officer and others involved in procurement.

Army procedures specifically require contracting officers to advise project managers on how to promote competition. The project manager normally manages technical and business aspects of a procurement, including presolicitation activities such as identifying requirements and developing specifications. The contracting officer must advise the project manager on rules, regulations, and acquisition strategy to help ensure that decisions affecting the contract are proper.

On the Clear AFS contract, the Alaska District contracting officer said he relied on the project manager, an engineering division official, to manage the contract's presolicitation phase and coordinate with the contracting staff. The project manager said he made the decision to use restrictive specifications without consulting or receiving advice from the contracting staff. The project manager believed he had to specify GE equipment because SPACECOM wanted GE equipment, and the Corps placed significant emphasis on providing customers what they wanted. In addition, the project manager said that neither the contracting officer nor contracting staff advised him on FAR requirements related to full and open competition and the steps necessary to justify the use of restrictive specifications. We confirmed that the District contracting staff were not

involved in the decision to issue specifications that restricted equipment to GE.

A Corps regulation may have contributed to the District's noncompliance with FAR. The project manager and other District officials believed they had met all relevant requirements to justify using GE equipment by complying with Corps Engineering Regulation 1110-345-100. This regulation required the District to obtain authorization from the Division to restrict specifications to one manufacturer by submitting a "completely logical" justification. However, the regulation did not identify specific FAR requirements that must be met to justify restrictive specifications.

The District Commander told us that customers such as SPACECOM frequently encourage the District to satisfy procurement preferences that may not always be consistent with FAR requirements. However, he said that while maintaining customer relations is important to the District, FAR requirements must also be met.

Competition Waiver Procedure Did Not Identify Noncompliance

The North Pacific Division's review of the competition waiver request for this contract did not reveal the noncompliance with FAR. District and Division officials relied on Corps Engineering Regulation 1110-345-100 to justify using restrictive specifications. According to this regulation, the Division is required to review justifications for specifying a material, system, or process to the exclusion of other sources, leading to a decision to restrict competition. Division engineers must authorize or disapprove such competition waiver requests by determining that a completely logical justification exists for the specification and reporting to Corps Headquarters all facts regarding the authorization of a competition waiver.

In a one-page waiver request, the chief of the Alaska District's engineering division sought authorization from the North Pacific Division to require GE equipment on the contract. The request stated that the electrical equipment was manufactured by GE

> ". . . specifically for retrofit on the machines of the type at Clear . . . . Substitution or fabrication of these components might be possible but could not be allowed without extensive study of the impacts on reliability. Attempts at substitution could result in an actual decrease in reliability. . . ."

The North Pacific Division's review of the waiver request did not identify inconsistencies with FAR requirements. For example, the Division's

supervisory electrical engineer told us his review included reading the waiver request, developing an understanding of the equipment and requirements at Clear AFS by reviewing the design analysis (which reflected using GE equipment), and checking the cost estimate to see if it was reasonable. He also spoke with the District project manager to clarify the language in the waiver request. He concluded that use of GE equipment was logical and that considering other manufacturers' exciters was not warranted. The Division's engineering chief and the procurement analyst involved in the waiver review process told us they assumed that the District had conducted market research to identify other manufacturers, as required by FAR.

The wording of Engineering Regulation 1110-345-100 may have contributed to problems with the review because it does not prescribe Division review procedures. A "completely logical" justification for restricting specifications to one manufacturer would include some assurance that appropriate steps were taken to identify and evaluate alternative manufacturers, as required by FAR 11.004. The waiver request did not disclose that market research was not done and that the District was aware of other manufacturers' products. The District's request indicated that non-GE equipment could not be allowed without extensive study and could result in decreased reliability of the Clear AFS power plant. However, according to the project manager, the District had not determined whether non-GE equipment required any more study than the GE equipment or whether reliability would be affected by using non-GE equipment.

The Division procurement analyst and supervisory electrical engineer said that they assumed the project was in compliance with FAR because the engineering regulation required only a logical justification and did not discuss other FAR requirements that must be met. However, they also said that if the waiver request had disclosed all pertinent facts, the Division would not have approved the waiver until appropriate justification was provided. They agreed that the Division needed to strengthen its review of waiver requests to ensure that any use of restrictive specifications is properly justified.

Although Engineering Regulation 1110-345-100 required the Division to report to Corps Headquarters when it authorized use of restrictive specifications, Division engineering and procurement officials told us that no report was filed for the Clear AFS contract. Those officials who reviewed the waiver told us that not submitting the report was an oversight.

Competition Advocate Did Not Review Use of Restrictive Specifications

The Alaska District competition advocate did not review the District's practice of using restrictive specifications on certain competitive construction contracts. FAR 6.5 states that competition advocates are responsible for promoting full and open competition and challenging barriers to competition, including unnecessarily restrictive specifications.

Competition advocates are designated by the head of their agencies and are responsible for reviewing contract actions and reporting (1) opportunities and actions taken to achieve full and open competition in their agency and (2) any condition or action that has the effect of unnecessarily restricting competition.

We found no evidence that the Alaska District competition advocate reviewed the proposed Clear AFS contract or any other competitive contract having restrictive specifications. The District's Deputy Commander, who was the competition advocate during the presolicitation phase of the Clear AFS contract, told us that he could not recall whether he reviewed the Clear AFS contract or other contracts of this type. However, during our review, we could find no records or reports indicating that the competition advocate had reviewed this type of contract. Further, District officials told us that they did not believe the competition advocate reviewed any competitive contracts having restrictive specifications.

Management Control Weaknesses Reflected Common Practices

Although our work focused on the Clear AFS contract, we conducted limited testing to determine if the management weaknesses and practices identified also extended to other contracts managed by the Corps' Alaska District and the North Pacific Division. We confirmed that the management control weaknesses reflected common practices.

- The District's Contracting Division Chief said that District contracting officers and contracting staff did not closely monitor contracts during the presolicitation phase to ensure that all FAR requirements are met; instead, they relied on engineering personnel to provide the balance between the goals of the project and procurement regulations. However, he agreed that the project managers generally were not as knowledgeable of FAR requirements as contracting personnel and probably needed closer oversight than had been provided. Such oversight might have assured compliance at key decision points during the presolicitation phase.

- The Division's waiver review procedure did not assess District actions to identify alternative manufacturers or otherwise ensure that FAR requirements related to use of restrictive specifications were met.
- The competition advocate did not review any of the District's competitively awarded contracts having restrictive specifications.

The presence of these control weaknesses suggests the possibility that similar problems exist on other contracts with restrictive specifications. District and Division officials advised us that the District's use of restrictive specifications occurred about once or twice a year; we identified four such contracts issued since fiscal year 1985.[4] The District may also submit a request for restrictive specifications for a fire alarm system at Elmendorf Air Force Base, Alaska, according to the project management branch chief. We were unable to verify whether any other waivers had been submitted or planned since fiscal year 1985 because District and Division officials told us they did not maintain separate competition waiver files.

We did not evaluate these contracts in detail, as we did the Clear AFS contract. We did, however, discuss three of the contracts with District and Division officials[5] and determined that the control weaknesses present on the Clear AFS contract existed on these contracts. According to these officials, the control weaknesses reflected common practices. In addition, we examined fiscal year 1989 District and Division Financial Integrity Act assessments[6] of internal control procedures and practices and found that these control weaknesses were not identified during the Corps' annual assessment.

Conclusions

Full and open competition is the government's best assurance of receiving a fair and reasonable price in the marketplace. Therefore, agencies must avoid restrictive specifications that tend to reduce competition. However, the Corps' Alaska District did not properly justify restricting specifications to one manufacturer for electrical equipment

[4]These were the purchase of generator engines at Cape Lisburne, diesel engines at Shemya Air Force Base, backup relays for electrical circuit breakers at Shemya Air Force Base, and a fire alarm system at King Salmon Airport, all in Alaska.

[5]For the Cape Lisburne project, we were unable to speak with the project manager and contracting officer, and District officials could not locate the official contract files.

[6]The Federal Managers' Financial Integrity Act of 1982 (P.L. 97-255) requires agency heads to report annually on whether the agency's system of internal accounting and administration control meets the act's requirements. If a material weakness is found, the report must describe the weakness and a plan and schedule for correcting it.

needed to upgrade the Clear AFS power plant. As a result, the District may have increased the government's costs by over $600,000, or 18 percent of the $3.3 million contract.

Three key management controls—oversight by the contracting officer, the waiver review procedure for restrictive specifications, and contract reviews by the competition advocate—were not effective internal controls for this contract action. Because of the added risk to the government when specifications are restricted to one manufacturer, the Corps needs to strengthen these controls and clarify its regulation on the use of restrictive specifications.

Alaska District Actions

In our final meeting with Alaska District officials, the District Commander affirmed that the management control weaknesses we identified at the District would be corrected. Subsequently, on July 2, 1990, the Commander established a District policy requiring that requests to use restrictive specifications for competitive contracts must

- comply with Engineering Regulation 1110-345-100;
- have joint concurrence by the project manager, contracting specialists, District counsel, and competition advocate that restrictive specifications are warranted;
- indicate that market research and analysis were performed in accordance with FAR 10.004 and 11.004 and were reviewed by the competition advocate; and
- be signed by the District Engineer.

We believe that full implementation of this policy will strengthen the District's contracting practices.

Recommendations

We are making no recommendations regarding the Alaska District because the District Commander's internal policy, issued on July 2, 1990, addresses the District's management weaknesses discussed in this report. However, we are making recommendations to clarify a pertinent agency regulation and improve Division oversight of the use of restrictive specifications.

We recommend that the Secretary of the Army direct the Chief, Corps of Engineers, to ensure that

- Engineering Regulation 1110-345-100 is revised to clarify the specific conditions that, as required by FAR 10.004 and 11.004, must exist to justify restricting specifications to a single manufacturer;
- the North Pacific Division's waiver review procedure for restrictive specifications is based on a revised engineering regulation that reflects pertinent FAR requirements, as recommended above; and
- the North Pacific Division includes the three management control weaknesses identified in this report in the Division's next Financial Integrity Act report to assure that corrective action will be taken.

Agency Comments

As arranged with your office, we did not obtain written agency comments on this report. However, agency officials gave us oral comments. They concurred with our conclusions and recommendations and told us that the corrective actions we are recommending would be implemented. In addition, agency officials said they plan to evaluate other Corps divisions and districts to determine if the problems identified in our report exist in other units.

Scope and Methodology

We examined FAR requirements, Army and Air Force regulations, and Army, Air Force, and Corps policies and procedures that provide guidance for developing and awarding construction contracts.

We performed the majority of our work at the U.S. Army Corps of Engineers' Alaska District, Anchorage, Alaska. We reviewed records pertaining to the Clear AFS contract and interviewed District officials, including the District Commander, contracting officer, project manager, resident engineer, field engineer, and competition advocate.

We also identified four other contracts managed by the Alaska District since fiscal year 1985 in which restrictive specifications were used. We discussed these contracts and waiver procedures with engineering and contracting personnel at the Alaska District and the North Pacific Division, Portland, Oregon.

At Clear AFS, we toured the power plant, examined files, and interviewed the Commander, the power plant superintendent, the site civil engineer, and representatives of Clear AFS's operations and maintenance contractor.

We interviewed Air Force officials at SPACECOM, located at Peterson Air Force Base, Colorado, to document SPACECOM's role in the Clear AFS construction contract. We also examined SPACECOM's project management files pertaining to this contract.

We interviewed officials from all eight companies that submitted bids for the construction contract. We also contacted Bechtel North American Power Corporation in San Francisco, California, to discuss design contract requirements and Bechtel's role in developing design specifications for the contract. Finally, we contacted GE officials and requested specific information concerning GE's involvement in the contract.

We conducted our review from January 1990 to June 1990 in accordance with generally accepted government auditing standards.

We will send copies of this report to the Secretaries of Defense, Air Force, and Army; the Chief, U.S. Army Corps of Engineers; the Director, Office of Management and Budget; and other interested parties. Copies will also be made available to others upon request.

GAO staff members who made major contributions to this report were Henry L. Hinton, Associate Director, and Fred Dziadek, Assistant Director, Army Issues; Seattle Regional Office staff William R. Swick, Evaluator-in-Charge; Thomas C. Perry, Site Senior; and Robert J. Bresky, Staff Member. Please contact me at (202) 275-4141 if you or your staff have any questions concerning this report.

Sincerely yours,

Richard Davis

Richard Davis
Director, Army Issues

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