



UNITED STATES GENERAL ACCOUNTING OFFICE  
 REGIONAL OFFICE  
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 VIRGINIA BEACH, VIRGINIA 23455

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May 27, 1977

Rear Admiral C. C. Heid, Commander  
 Atlantic Division  
 Naval Facilities Engineering Command  
 Norfolk Naval Base  
 Norfolk, Virginia 23511

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Dear Admiral Heid:

We have completed an examination of a project to remodel an enlisted men's dining facility at the Norfolk Naval Base, Norfolk, Virginia, as requested by members of the Congress. Our purpose was to assess the validity of alleged irregularities and inadequacies in the management of the project; more specifically, construction contract N62470-73-C-1223. We reviewed contract files, obtained costs, and interviewed management officials associated with the project.

To a limited extent, our examination substantiated the allegation in that the Atlantic Division, Naval Facilities Engineering Command did not always attempt to determine responsibilities for design errors and deficiencies and did not adequately document the basis for all change orders to the remodeling contract.

BACKGROUND

Almost \$2 million can be associated with remodeling the dining facility, as shown in the following table.

<u>Item</u>	<u>Item cost</u>	<u>Total cost</u>
Design contract	\$ 15,175.00	
Net change orders	<u>45,575.00</u>	\$ 60,750.00
Construction contract	\$1,408,000.00	
Net change orders	<u>154,489.00</u>	1,562,489.00
Government furnished equipment		239,106.72
Dining facility portion of roofing contract for three buildings	\$ 96,892.00	
Net change orders for dining facility	<u>895.00</u>	97,787.00
Estimated cost for the Navy to modify exhaust system for dishwashers		<u>13,400.00</u>
Project cost		<u>\$1,973,532.72</u>

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The Atlantic Division awarded the design contract to an architect-engineer firm on January 26, 1973. The contract, for \$15,175, required preparation of preliminary drawings and specifications. Options were exercised to have the architect-engineer prepare final drawings and specifications, check the construction contractor's shop drawings, and prepare "as built" drawings. These options and a change order to revise the plans increased the total design contract to \$60,750.

On May 6, 1974, the Atlantic Division competitively awarded a contract for \$1,408,000 to remodel the dining facility. The contract called for (1) removing existing finishes and equipment, (2) providing new finishes and equipment, (3) relocating existing equipment to establish a temporary dining facility in one-half of the building, and (4) doing incidental related work. The original contract completion date was August 14, 1975. Change orders increased the contract by \$154,489 to \$1,562,489 and extended the completion date to July 31, 1976.

On July 16, 1975, the Atlantic Division awarded a \$158,680 roofing contract for three naval station buildings of which \$96,892 was to replace the roof on the building containing the dining facility. A change order increased the cost to \$97,787.

The Public Works Center is modifying the exhaust system for dishwashers, installed during the remodeling, to eliminate condensate leaks. The Navy will spend an estimated \$13,400 to correct this problem.

RESPONSIBILITY FOR DESIGN  
ERRORS AND OMISSIONS NOT  
ALWAYS DETERMINED

Armed Services Procurement Regulations, paragraph 7-607.2, states that an architect-engineer shall be held liable for design errors or deficiencies resulting from negligent performance. The design contract contained this provision. Also, paragraph 18-118 requires the contracting officer to determine the extent to which the architect-engineer may be reasonably responsible for modifications to construction projects resulting from design errors or deficiencies and whether the architect-engineer should be assessed for the error. The Atlantic Division determined the responsibility for and collected from the architect-engineer most of the cost to reinstall heaters which were removed by the construction contractor because of a design error. However, the Atlantic Division did not determine responsibility for the following design errors and deficiencies totaling more than \$31,000:

- The architect-engineer cited electric dishwashers in its equipment specifications but designed the building renovation to accommodate steam dishwashers. The dishwashers were delivered as specified, but had to be converted from electric

to steam. Costs associated with this conversion were \$14,198. The Atlantic Division initiated action to make the required determination when we pointed out this discrepancy.

--The exhaust system for two dishwashers, one near each end of the remodeled dining facility, was designed and installed to exit steam through a single centrally located vent in the roof. Ducts connecting the dishwashers to the roof vent leaked condensate. Without making a determination of responsibility for the problem, the Atlantic Division requested the Public Works Center to modify the system to provide individual exhausts directly above each dishwasher. At the time of our examination, the Public Works Center was making the modification at an estimated cost of \$13,400.

Atlantic Division officials differed in their opinions as to the responsibility for this error. The Resident Officer in Charge of Construction concluded the leaks were primarily the fault of design. Other officials felt there was no evidence of unprofessional performance by the architect-engineer and said they did not plan to take any action to recover any of the additional cost associated with this change.

--The architect-engineer did not specify hardware for eight doors to be installed during the remodeling and omitted providing for relocating a telephone service box which was in a partition to be demolished. The Atlantic Division did not determine responsibility for either deficiency, but issued two change orders totaling \$3,968 to correct the deficiencies.

We recommend that the Atlantic Division determine the extent to which the architect-engineer is liable for the above design errors and omissions and, where appropriate, recover the additional costs from them.

BASIS FOR CHANGE ORDERS  
NOT ADEQUATELY DOCUMENTED

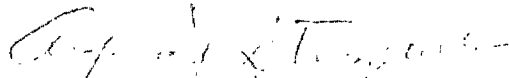
Atlantic Division Staff Instruction 4330.16A requires that contract change orders be documented in such detail that a reviewer who possesses no knowledge of the transaction can reconstruct the situation, arrive at pertinent and independent conclusions, and understand the basis for the change order. However, change order numbers 12, 19, 20, and 22, totaling about \$73,000, did not have sufficient documentation in the contract files to explain the basis for the change. Work done under the change orders included such things as installing floor drains, raising walk-in refrigerator floors, filling spaces between kitchen fixtures, caulking joints, providing electrical connections, painting and adding wall coverings.

We believe the basis for all change orders should be fully documented, as required by the Atlantic Division instruction, to show why the work is needed and who determined the need. We recommend that the Atlantic Division assure that all change orders are adequately documented for this contract.

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We would like to be advised of any action you take regarding our observations. We appreciate the courtesies your staff extended to us during our work.

Sincerely,



Alfonso J. Strazzullo  
Regional Manager