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Extent Of Cost Growths And Delays In Construction Programs Of The Department Of Defense B-759896

**UNITED STATES
GENERAL ACCOUNTING OFFICE**

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JUNE 14, 1973



UNITED STATES GENERAL ACCOUNTING OFFICE

WASHINGTON, D.C. 20548

LOGISTICS AND COMMUNICATIONS
DIVISION

B-159896

The Honorable
The Secretary of Defense 5

Dear Mr. Secretary:

We have reviewed the extent of cost growths and delays
in construction programs of the Department of Defense.
cl-4 Since the House and Senate Committees on Appropriations and < 300
Armed Services in various hearings have expressed specific < 500
interest in these areas, we are sending copies of this
report to the Chairmen of these Committees.

Copies are also being sent to the Chairmen of the
CS House and Senate Committees on Government Operations; the 41500
Director, Office of Management and Budget; and the Secre-
taries of the Army, Navy, and Air Force.

We will be pleased to discuss with you or your
representatives any matters contained in this report.

Sincerely yours,

A handwritten signature in cursive script that reads "J. K. Fasick".

Director,
Logistics and
Communications Division

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ABBREVIATIONS

AFB Air Force Base
DOD Department of Defense
GAO General Accounting Office

D I G E S T

WHY THE REVIEW WAS MADE

Because of congressional interest in the way that the Department of Defense (DOD) carries out its construction programs, GAO studied the implementation of the fiscal year 1970 military construction program by the Army, the Navy, and the Air Force. GAO's purpose was to provide the interested committees of the Congress with an overview of the executive branch actions with respect to the congressional authorizations and appropriations. Particular attention was given to cost growth, changes in scope, and delays in completion of projects.

GAO compared project cost estimates as of June 30, 1971, with congressionally authorized amounts to determine the extent of project cost overruns and underruns.

To obtain information on cost growths after contract award and delays in contract completion, GAO reviewed selected major construction contracts as of August 31, 1972. These contracts had been awarded during the period July 1969 through December 1970 and many of them were related to projects authorized in the 1970 military construction program.

FINDINGS AND CONCLUSIONS

The Congress authorized \$872 million for 804 Army, Navy, and Air Force fiscal year 1970 military

construction projects. The status of awarded projects as of June 30, 1971, was:

--Overall, current working estimates of \$524 million for the 585 awarded projects showed a net underrun of \$44 million, or 7.8 percent,¹ as compared to the related authorizations. (See p. 5.)

--343 of these projects, for which the Congress had authorized \$379 million, had current working estimates which were less than 15 percent over or under the authorized amounts. (See p. 5.)

--242 of the projects, for which the Congress had authorized \$190 million, had current working estimates which were more than 15 percent over or under the authorized amounts. (See p. 5.)

In tests of 79 of the awarded projects, GAO did not find any major changes in the scope--size and physical characteristics--of the facilities being built compared with the scope the Congress authorized. (See p. 8.)

GAO noted that 105 fiscal year 1970 projects, which the Congress had authorized for \$62 million, had not

¹As of January 1973 the net underrun on all awarded fiscal year 1970 projects was 9.1 percent.

been awarded by September 30, 1971, when the authorizations expired. These included 32 projects for which the Congress had authorized \$16.5 million but had provided no funds. Most of the remainder of the 105 projects were canceled because of changes in the requirements. (See pp. 4 and 8.)

In reviewing 33 major construction contracts for the extent of cost growths and of delays, GAO found that these contracts, which had been awarded in 1969 or 1970 at a total amount of \$410 million, had increased 5.9 percent by August 31, 1972.

The chief reasons given for the increases were correction of design deficiencies, latent and unforeseen conditions, and user-requested changes. Also, the contracts showed average delays in estimated completion dates of about 8 months.

In addition, the delays were caused by abnormal periods of inclement weather, labor strikes, and shortages of skilled labor. In many instances the causes were unknown and unforeseeable at the time of contract award. (See pp. 10 to 12.)

RECOMMENDATIONS OR SUGGESTIONS

This report contains no recommendations or suggestions.

AGENCY ACTIONS

The Office of the Secretary of

Defense felt that the GAO review was insufficient in scope and depth to provide a meaningful evaluation of DOD's execution of the fiscal year 1970 military construction program. The GAO study was not intended to be a qualitative evaluation of DOD's administration of the program. GAO believes that the data in the report provides the interested congressional committees and the Secretary of Defense with a meaningful overview of DOD's management of military construction authorizations and appropriations.

The Office of the Secretary of Defense observed also that the fiscal year 1970 program had been affected by factors not mentioned in the report, such as the 1970 Presidential construction deferral, temporary suspension of the Davis-Bacon Act, and rampant inflation of construction costs.

GAO agrees that the above factors could have had an impact on DOD's 1970 military construction program. The report also cites other factors--such as changes in requirements and labor shortages--reported to GAO by various DOD officials as impacting on the military construction program. Since the review was intended to provide an overview, GAO did not attempt to include all factors which could have impacted on the program, nor did GAO evaluate the relative importance or validity of them. (See p. 13.)

CHAPTER 1

IMPLEMENTATION OF FISCAL YEAR 1970

MILITARY CONSTRUCTION PROGRAM

The military construction programs are submitted yearly by the military departments to the Congress for approval and for appropriation of funds.¹ The House and Senate Committees on Armed Services prepare the legislation which authorizes construction in stated amounts for stated purposes at specified military installations. The legislation for family housing does not state dollar amounts by location but authorizes construction of a stated number of housing units at specified installations, and the dollar amounts are controlled by statutory unit price limitations.

The Committees on Appropriations of both Houses of the Congress prepare legislation which appropriates the moneys to carry out the authorized construction. The funds appropriated are made available to each military department until expended. In determining the amounts to be appropriated, the Congress considers such factors as balances remaining unobligated from previous years' appropriations and the probability that certain authorized projects may not need funding in the fiscal year under consideration.

For both the authorization act and the appropriation act, the Committees may approve, reject, or revise the proposed construction and the proposed dollar amount of any individual project. Upon final enactment of these laws, the nature of construction and the amounts approved for each project, including any limitations or restrictions which may have been placed thereon in the Committees' reports, become the basis for the military construction programs to be implemented by the military departments for that year.

The Military Construction Authorization Act for fiscal year 1970 (Public Law 91-142, Dec. 5, 1969) authorized construction projects as follows:

¹ This discussion covers construction projects under the military construction appropriations. As indicated in chapter 2, certain DOD construction projects are authorized under other appropriations. (See p. 10.)

| | <u>Number of installations</u> | <u>Number of projects</u> | <u>Authorized amount</u> |
|-----------|------------------------------------|-------------------------------|------------------------------|
| Army | 77 | 164 | \$290,700,000 |
| Navy | 99 | 183 | 311,800,000 |
| Air Force | <u>106</u> | <u>457</u> | <u>269,000,000</u> |
| Total | <u>282</u> | <u>804</u> | <u>\$871,500,000</u> |

The authorization acts generally provide that the projects be awarded or otherwise obligated not later than 15 months after the end of the applicable fiscal year. While the acts allow for individual project and total installation cost increases within stated restrictions, such increases must be absorbed by decreases so that the authorized department total is not exceeded. Thus an installation or department may reduce the scope of projects or cancel them in order to provide for cost increases in other projects.

We reviewed the implementation of the fiscal year 1970 military construction programs of the Army, Navy, and Air Force, relating amounts authorized to current working estimates. We also reviewed in greater detail 79 individual fiscal year 1970 projects at 14 selected military installations for compliance with congressionally authorized costs and scopes (size and physical characteristics).

As shown in exhibit A (see p. 15), the military departments had awarded construction contracts for 585 of the 804 authorized fiscal year 1970 projects as of June 30, 1971. An additional 114 projects were awarded or otherwise obligated from July 1, 1971, to September 30, 1971. The remaining 105 projects which the Congress had authorized at a total cost of \$62.3 million were not awarded and their authorizations expired on September 30, 1971.

COST OVERRUNS AND UNDERRUNS

Prior to advertising for construction of a project, an engineering cost estimate is prepared which encompasses the estimated construction cost and the construction agency's supervision and administration charges. The estimate is updated by the Government engineers as contracts are let and the construction work progresses. Such estimates are called current working estimates.

BEST DOCUMENT AVAILABLE

The current working estimates for the 585 awarded projects as of June 30, 1971, amounted to \$524.3 million. (See exhibit B, p. 16, which shows that the current working estimates of the Army and the Air Force included a provision for contingencies, but that the Navy did not include such a provision.) Therefore, compared to the total authorization of \$568.8 million, the 585 projects showed a net underrun of \$44.5 million, or 7.8 percent.¹ The extent of the overruns (current working estimates of more than the amounts authorized) and underruns (current working estimates of less than the amounts authorized) is shown in exhibit C (see p. 17) and summarized as follows.

| | <u>Projects awarded as of June 30, 1971</u> | | | Variance of estimates from authorizations | |
|--------------------------------|---|---------------------------|----------------------------------|---|----------------|
| | <u>Number</u> | <u>Authorized amounts</u> | <u>Current working estimates</u> | <u>Amount</u> | <u>Percent</u> |
| | -----000 omitted----- | | | | |
| Overruns: | | | | | |
| Increases over 25 percent | 31 | \$ 22,158 | \$ 31,848 | \$ 9,690 | 43.7 |
| Increases 15 to 25 percent | 45 | 15,617 | 18,798 | 3,181 | 20.4 |
| Increases less than 15 percent | 155 | 150,444 | 159,722 | 9,278 | 6.2 |
| Total overruns | <u>331</u> | <u>\$188,219</u> | <u>\$210,368</u> | <u>\$22,149</u> | 11.8 |
| Underruns: | | | | | |
| Decreases over 25 percent | 99 | \$ 83,670 | \$ 45,472 | \$38,198 | 45.7 |
| Decreases 15 to 25 percent | 67 | 68,457 | 55,341 | 13,116 | 19.2 |
| Decreases less than 15 percent | 188 | 228,422 | 213,133 | 15,289 | 6.7 |
| Total underruns | <u>354</u> | <u>\$380,549</u> | <u>\$313,946</u> | <u>\$66,603</u> | 17.5 |
| Total awarded projects | <u>585</u> | <u>\$568,768</u> | <u>\$524,314</u> | | |

The above analysis and exhibit C show that:

- 343 projects for which the Congress had authorized \$378.9 million had current working estimates within 15 percent over or under the amounts authorized.
- 242 projects for which the Congress had authorized \$189.9 million had current working estimates more than 15 percent over or under the amounts authorized. The variations were greater than 25 percent in 130 of these projects.

¹ As of January 1973 the current working estimates for all awarded fiscal year 1970 projects totaled \$733 million, amounting to a net underrun of 9.1 percent compared to related authorizations.

To find the reasons for the cost variations, we reviewed in more detail the status of 79 projects at 14 military installations. Of these projects, current working estimates for 41 showed underruns and current working estimates for 38 showed overruns. For those projects with variations of more than 25 percent between the current working estimates and the amounts authorized--10 underruns and 5 overruns--the contracting personnel advised us that the variations resulted primarily from imprecise preliminary designs and cost estimates supporting the requests for congressional authorizations.

One relatively large cost overrun was a control tower project at Eglin Air Force Base, Florida, for which \$73,000 was authorized and for which the current working estimate as of June 30, 1971, was \$202,000, an overrun of 177 percent. The overrun was caused by inadequate design criteria, inadequate cost estimating, delays in getting the project under contract, and rapidly rising construction costs in the area.

The basic scope of this project was not changed--a standard Air Force control cab atop an existing operations building was authorized and built--but the extent of the work required was much greater than that anticipated by Eglin Air Force Base personnel. Adequate provisions had not been made for electrical hookup of the new tower to existing facilities and for structural modifications of the existing operations building.

Examples of large cost underruns are:

1. A controlled humidity warehouse at the Naval Construction Battalion Center, Gulfport, Mississippi, was authorized in the amount of \$3,381,000 at the Navy's estimated unit cost of \$15 per square foot. The project was constructed at a cost of approximately \$1,867,000, or about \$9 per square foot. Personnel of the Naval Facilities Engineering Command informed us that the cost estimates apparently were too high at the time that the urgent justification for the project was prepared immediately after hurricane Camille.
2. A road project at Travis Air Force Base, California, was reduced 32 percent from \$339,000 to

\$230,000 because of changed requirements. Most of the reduction came from deleting a patrol road no longer required because a security area had been eliminated.

3. A sheet metal shop project at Mare Island Naval Shipyard, San Francisco Bay, California, was reduced 30 percent from \$3,306,000 to \$2,320,000. Naval Facilities Engineering Command personnel informed us that the underrun of \$986,000 resulted because: (a) the plans and specifications were free of discrepancies and inconsistencies which freed the bids of the usual contingencies for such discrepancies and (b) about \$212,600 was saved by using redesigned equipment and system integration.
4. A maintenance instruction facility at Fort Rucker, Alabama, was reduced 26 percent from \$3,636,000 to \$2,706,000. The underrun of \$930,000 was attributed to reductions of about 1 percent in the size of the primary building and about 47 percent in the size of the associated parking area for aircraft and vehicles.

Our analysis of cost underruns and overruns shows that relatively large variations occur frequently between the preliminary estimates and the final costs. The preliminary estimates, which usually are prepared far in advance of the construction, generally are not based on detailed designs which are necessary for actual construction. While this results in some lack of precision, it lessens the risk of wasting engineering and design effort on projects that are not approved by the Congress.

SCOPE CHANGES

In the submission of military construction programs for approval by the House and Senate Committees on Armed Services and Appropriations, each individual project is supported by a military construction line item data sheet which states the justification, the estimated cost, and a description (scope) of the project including the size and physical characteristics of the facility.

In our review of 79 selected projects, we compared the description of the proposed project on the data sheets with the contract specifications. We noted that in several instances changes in the configuration or design of the project from those authorized were made in the final engineering plans. In some cases, when the total cost estimate made for the final design was significantly greater than the preliminary estimate made for initial program definition and preparation of the line item data sheets, supporting items which would not alter the purpose or function of the facility were deleted when the contract was awarded. (See scope reductions in the examples of cost underruns 2 and 4 on pages 6 and 7.)

However, we did not find any major changes made in the scope of the basic facilities. For those projects where we found some scope changes, agency officials indicated that the projects when finished could be expected to be complete and usable facilities that would satisfy requirements.

CANCELED PROJECTS

The projects authorized by the 1970 Military Construction Authorization Act had to be awarded or otherwise obligated by September 30, 1971. As of that date, 105 of the 804 authorized projects had not been obligated. The reasons for cancellation are summarized in exhibit D. (See p. 18.)

Of the 105 projects, 32 authorized for \$16.5 million were not implemented because Congress did not appropriate funds for them. For 56 other projects authorized for \$34.6 million, activity realignments, mission changes, or base closures eliminated the need for them. These projects are listed in exhibit E. (See p. 19.) An example of this situation occurred at Fairchild Air Force Base, Washington, where 17 projects amounting to \$5,236,000 had been authorized, but, as a result of a change in mission at the base, 14 of the authorized projects in the amount of \$4,317,000 were canceled.

As shown in exhibit D, other projects of the 105 were canceled for various administrative reasons. For example, the 1970 military construction program at Kelly Air Force Base, Texas, authorized 11 projects in the total amount of \$5,347,000. However contracts awarded for only 9 of the

11 projects used all the authorized funds. The remaining two projects, one for a hydrant fueling system and the other for a jet fuel storage facility, which had been authorized in the amounts of \$378,000 and \$232,000, respectively, were deleted. The shortage of funds resulted from a substantial cost overrun on a higher priority project for alteration of an aircraft painting facility. The base engineer informed us that the two deleted projects would be combined into one project and resubmitted to the Congress in the Air Force's military construction request for fiscal year 1974.

CHAPTER 2

DOD CONSTRUCTION CONTRACT ACTIONS OVER \$5 MILLION

To learn the extent of cost growths and construction delays after contract award, we examined all¹ construction contract actions (awards or modifications) over \$5 million and related construction projects of the Army, Navy, and Air Force, for the period July 1969 through December 1970. Many of these projects had been authorized in the 1970 military construction program. During that 18-month period DOD awarded 15,804 construction contract actions worth over \$10,000 with a total value of over \$2.2 billion. Included in these were 33 actions with individual award values in excess of \$5 million.

Exhibit F (see p. 20) summarizes our findings on these contracts which were awarded at a total of \$410 million and had increased to \$434 million, or about 5.9 percent, by August 31, 1972. Most of the contracts showed delays in estimated completion dates, the average delay being about 8 months.

COST INCREASES

Funds for constructing defense projects are approved by the Congress under the military construction appropriations, which include military family housing as a separate title, and under various other appropriations, such as procurement and research and development. For the 33 contracts listed in exhibit F, the information on cost growth is summarized below by type of funding.

¹Except that under this review we did not examine the cost-type contract under which most of the military construction in Vietnam was being done.

| <u>Type of funding</u> | <u>Number of contracts</u> | <u>Amount</u> | | <u>Percent increase</u> |
|-------------------------|----------------------------|----------------------|----------------------------|-------------------------|
| | | <u>At award date</u> | <u>As of Aug. 31, 1972</u> | |
| (000 omitted) | | | | |
| Military construction | ^a 19 | \$305,265 | \$319,866 | 4.8 |
| Procurement | 8 | 70,933 | 78,150 | 10.2 |
| Military family housing | 5 | 27,945 | 30,153 | 7.9 |
| Other | <u>1</u> | <u>5,635</u> | <u>5,900</u> | 4.7 |
| Total | <u>33</u> | <u>\$409,778</u> | <u>\$434,069</u> | 5.9 |

^aOn two of these contracts, some procurement funds were used in addition to the military construction funds.

The major reasons given for the increases in the contracts were (1) correction of design deficiencies, (2) latent and unforeseen conditions, and (3) user-requested changes.

The largest military construction contract was for construction of SAFEGUARD anti-ballistic missile facilities at Grand Forks, North Dakota. This contract was the subject of a separate GAO report to the Secretary of Defense (B-164250, Feb. 27, 1973).

The eight contracts financed with procurement funds and having relatively large cost growths were for construction of ammunition production facilities. We submitted to the Joint Economic Committee a report on these projects entitled "Cost Growths and Delays in Construction of TNT Lines at the Newport and Joliet Army Ammunition Plants" (B-173432, Mar. 20, 1973).

CONTRACT COMPLETION DATE EXTENSIONS

A construction contract usually specifies a starting date and a completion date. For adequate reason the contracting officer may extend the completion date specified at the time of award.

As of August 31, 1972, 17 of the 33 contracts reviewed had been completed. One contract for construction of a 300-unit family housing project at Nellis Air Force Base, Nevada, was completed 118 days ahead of schedule. For the remaining 16 completed contracts the scheduled completion dates had been extended by the contracting officers from 3 to 577

days, the average being 7 months. For the 16 contracts which were still active on August 31, 1972, the estimated completion dates had been extended by the contracting officers as of that date from 67 to 546 days, the average being about 11 months. The average extension for all 33 contracts was about 8 months.

Reasons given for extending contract completion dates were redesign because of user requirements and mission changes, abnormal periods of inclement weather, labor strikes, and shortages of skilled labor. In many instances the causes were unknown and unforeseeable at the time of contract award.

CHAPTER 3

AGENCY COMMENTS

AND GAO EVALUATION

The Deputy Assistant Secretary of Defense (Installations and Housing) reviewed a draft of this report. He stated that our review was insufficient in scope and depth to provide a meaningful basis for evaluating DOD's execution of the fiscal year 1970 military construction program. He stated also that the fiscal year 1970 program had been affected by factors not mentioned in the report, such as the 1970 Presidential construction deferral, temporary suspension of the Davis-Bacon Act, and rampant inflation of construction costs.

We agree that these factors could have had an impact on DOD's 1970 military construction program. We also cited other factors--such as changes in requirements and labor shortages--reported to us by various DOD officials as impacting on the military construction program. Since our review was intended to provide an overview, we have not included all factors which could have impacted on the program, nor did we evaluate the relative importance or validity of these factors. We do believe, however, that the scope and depth of our review was sufficient to produce a meaningful picture of DOD's actions with respect to congressional authorizations and appropriations for military construction.

CHRONOLOGY OF CONTRACT AWARDS FOR FISCAL YEAR 1970

MILITARY CONSTRUCTION PROJECTS

| | Number of projects | | | |
|---|--------------------|-------------|------------------|--------------|
| | <u>Army</u> | <u>Navy</u> | <u>Air Force</u> | <u>Total</u> |
| Awarded as of June 30, 1971 | 117 | 133 | 335 | 585 |
| Awarded July 1 through September 30, 1971, or otherwise obligated | <u>27</u> | <u>34</u> | <u>53</u> | <u>114</u> |
| Total awarded or other- wise obligated as of September 30, 1971 | <u>144</u> | <u>167</u> | <u>388</u> | <u>699</u> |
| Canceled (See exhibit D.) | <u>20</u> | <u>16</u> | <u>69</u> | <u>105</u> |
| Total authorized | <u>164</u> | <u>183</u> | <u>457</u> | <u>804</u> |

EXHIBIT B

STATUS OF THE FISCAL YEAR 1970
MILITARY CONSTRUCTION PROGRAM AS OF
JUNE 30, 1971

| | Number of projects authorized | Total amounts authorized (000 omitted) | Projects awarded as of June 30, 1971 | | | |
|-----------|-------------------------------------|--|--------------------------------------|--|---------------------------------|-----------------|
| | | | Number | Amounts authorized (000 omitted) | Current working estimates | Net underrun |
| Army | 164 | \$290,700 | 117 | \$177,879 | 176,460 | \$ 1,419 |
| Navy | 183 | 311,800 | 133 | 218,434 | 183,957 | 34,477 |
| Air Force | <u>457</u> | <u>269,000</u> | <u>335</u> | <u>172,455</u> | <u>163,897</u> | <u>8,558</u> |
| Total | <u>804</u> | <u>\$871,500</u> | <u>585</u> | <u>\$568,768</u> | <u>524,314</u> | <u>\$44,454</u> |

Notes:

1. Unlike the Army and the Air Force, the Navy does not include a provision for contingencies in its current working estimates of construction projects. The Navy estimated that the amount required for contingencies on the 133 projects would be \$9.3 million. Adding this amount to the current working estimates, the net underrun on the Navy projects would be about \$25.1 million.

2. The current working estimates of the Air Force were as of September 1, 1971.

VARIATIONS BETWEEN THE AMOUNTS
 AUTHORIZED AND THE CURRENT WORKING ESTIMATES
 AS OF JUNE 30, 1971, FOR FISCAL YEAR 1970
 MILITARY CONSTRUCTION PROJECTS

| <u>Percent of variation</u> | <u>Number of projects</u> | <u>Amount authorized</u> | <u>Current work- ing estimate June 30, 1971 (note a)</u> | <u>Variance from amount authorized under or over(-)</u> |
|----------------------------------|-----------------------------------|------------------------------|--|---|
| | | (000 omitted) | | |
| ARMY: | | | | |
| Less than 15% | 75 | \$131,109 | \$127,855 | \$ 3,254 |
| 15 to 25% | 22 | 16,974 | 15,234 | 1,740 |
| More than 25% | <u>20</u> | <u>29,796</u> | <u>33,371</u> | <u>- 3,575</u> |
| Total | <u>117</u> | <u>177,879</u> | <u>176,460</u> | <u>1,419</u> |
| NAVY: | | | | |
| Less than 15% | 75 | 129,098 | 125,676 | 3,422 |
| 15 to 25% | 29 | 40,129 | 33,855 | 6,274 |
| More than 25% | <u>29</u> | <u>49,207</u> | <u>24,426</u> | <u>24,781</u> |
| Total | <u>133</u> | <u>218,434</u> | <u>183,957</u> | <u>34,477</u> |
| AIR FORCE: | | | | |
| Less than 15% | 193 | 118,659 | 119,324 | -665 |
| 15 to 25% | 61 | 26,971 | 25,050 | 1,921 |
| More than 25% | <u>81</u> | <u>26,825</u> | <u>19,523</u> | <u>7,302</u> |
| Total | <u>335</u> | <u>172,455</u> | <u>163,897</u> | <u>8,558</u> |
| ALL MILITARY DEPARTMENTS: | | | | |
| Less than 15% | 343 | 378,866 | 372,855 | 6,011 |
| 15 to 25% | 112 | 84,074 | 74,139 | 9,935 |
| More than 25% | <u>130</u> | <u>105,828</u> | <u>77,320</u> | <u>28,508</u> |
| Total | <u>585</u> | <u>\$568,768</u> | <u>\$524,314</u> | <u>\$44,454</u> |

^aSee notes on exhibit B.

EXHIBIT D

REASONS FOR CANCELLATION OR EXPIRATION OF
FISCAL YEAR 1970 MILITARY CONSTRUCTION PROJECTS

| <u>Reason</u> | <u>Number of projects</u> | | | |
|---|---------------------------|-------------|------------------|--------------|
| | <u>Army</u> | <u>Navy</u> | <u>Air Force</u> | <u>Total</u> |
| Authorized but not funded | 6 | 2 | 24 | 32 |
| Requirements changed, e.g., activity realignment, mission change, base closure (see exhibit E) | 8 | 11 | 37 | 56 |
| Existing facilities reevaluated and used | - | - | 4 | 4 |
| Authorized amounts re- quired for overrun on higher priority proj- ects | 1 | - | 3 | 4 |
| Initial estimates too low, to be resubmitted for amended authoriza- tions | 1 | 3 | - | 4 |
| Initial estimates too low, reprograming not justified | 2 | - | - | 2 |
| Miscellaneous | <u>2</u> | <u>-</u> | <u>1</u> | <u>3</u> |
| Total | <u>20</u> | <u>16</u> | <u>69</u> | <u>105</u> |

FISCAL YEAR 1970 MILITARY CONSTRUCTION PROJECTS
 CANCELED BECAUSE OF CHANGE IN REQUIREMENTS
 (ACTIVITY REALIGNMENT, MISSION CHANGE, OR BASE CLOSURE)

| <u>Installation</u> | <u>Project</u> | Authorized amount (000 omitted) |
|--|--------------------------------------|---------------------------------------|
| ARMY: | | |
| Granite City Army Depot, Ill. | Incinerator | \$ 237 |
| Fort Holabird, Md. | Building alterations | 489 |
| Military Ocean Terminal, Kings Bay, Ga. | Sewage disposal facility | 177 |
| Fort Story, Va. | Winch farm | 430 |
| Sunny Point Army Terminal, N.C. | Barge-loading ramp | 393 |
| Vint Hill Farms, Va. | Storm drainage | 136 |
| Fort Wingate Army Depot, N. Mex. | Fence and demolition facility | 217 |
| Location 204 | Relocation of facilities | <u>1,763</u> |
| Total | <u>8 projects</u> | <u>3,842</u> |
| NAVY: | | |
| Naval Shipyard, Boston, Mass. | Public works facility | 7,682 |
| Naval Air Engineering Center, Philadelphia, Pa. | Electric power to laboratory | 222 |
| Naval Facility, Eleuthera, Bahamas | Desalinization plant | 141 |
| Naval Communications Station, Norfolk, Va. | Low frequency broadcast system | 1,400 |
| Naval Communications Station, San Juan, P.R. | Voice communications switch facility | 87 |
| Naval Air Station, Cecil Field, Fla. | Ordnance transshipment apron | 125 |
| Naval Station, Key West, Fla. | Barracks | 2,130 |
| Naval Ship Research and Development Laboratory, Panama City, Fla. | Waterfront crane | 455 |
| Naval Air Station, Saufley Field, Fla. | Aircraft operation building | 211 |
| Naval Air Station, Alameda, Calif. | Reclaim seaplane-berthing area | 1,060 |
| Naval Air Station, Cubi Point, Philippines | Multiplate magazine | <u>836</u> |
| Total | <u>11 projects</u> | <u>14,349</u> |
| AIR FORCE: | | |
| Kingsley Field, Oreg. | Approach lighting | 303 |
| Volk Field, Wis. | Ready crew facility | 208 |
| Brooks Air Force Base (AFB), Tex. | Research Lab | 736 |
| Eastern Test Range, Cocoa Beach, Fla. | Duct facility | 43 |
| Hamilton AFB, Calif. | Medical composite hospital | 4,000 |
| Do. | Women Air Force dormitory | 606 |
| Do. | Land purchase | 41 |
| Eglin AFB, Fla. | Dining hall | 282 |
| Los Angeles AFB, Calif. | Data computation center facility | 618 |
| Davis-Monthan AFB, Ariz. | Aircraft maintenance dock | 227 |
| Fairchild AFB, Wash. | Power check pad | 119 |
| Do. | Operational apron | 75 |
| Do. | Mobile equipment pad | 51 |
| Do. | Photographic laboratory | 658 |
| Do. | Squadron operations facility | 627 |
| Do. | Flight training facility | 138 |
| Do. | Field training facility | 247 |
| Do. | Field maintenance hangar | 175 |
| Do. | Aircraft corrosion control facility | 55 |
| Do. | Fuel system maintenance dock | 146 |
| Do. | Test stand | 38 |
| Do. | Avionics shop | 173 |
| Do. | Headquarters wing | 96 |
| Do. | Dormitory | 1,719 |
| Forbes AFB, Kans. | Communications shop | 250 |
| Mountain Home AFB, Idaho | Dining hall | 414 |
| Dauphin Island Air Force Station, Ala. | Dormitory | 71 |
| Elmendorf AFB, Alaska | Power generator | 960 |
| Kimpo Air Base, Korea | Aircraft maintenance shop | 66 |
| Misawa AFB, Japan | Dormitory | 1,388 |
| Do. | Road | 196 |
| Sembach Air Base, Germany | Approach lighting | 135 |
| Howard AFB, C.Z. | Power check pad and test stand | 297 |
| Do. | Fuel pump station | 171 |
| Do. | Maintenance dock | 576 |
| Special facilities | Special operations | 381 |
| Incirlik Air Base, Turkey | Weapons shelter | <u>109</u> |
| Total | <u>37 projects</u> | <u>16,395</u> |
| Total | <u>56 projects</u> | <u>\$34,586</u> |

EXHIBIT F

COST INCREASES AND COMPLETION DATE EXTENSIONS
FOR 33 DEPARTMENT OF DEFENSE CONSTRUCTION CONTRACTS
OVER \$5 MILLION AS OF AUGUST 31, 1972

| Project | Contract amount | | Percentage of increase or decrease(-) | Completion date | | Number of months contract extended |
|---|------------------------|---------------------|---------------------------------------|--------------------------------------|--|------------------------------------|
| | At award | As of Aug. 31, 1972 | | Original estimated date per contract | Actual or estimated date as of Aug. 31, 1972 | |
| (000 omitted) | | | | | | |
| Military construction funding: | | | | | | |
| Safeguard facility, Grand Forks, N. Dak. | ^a \$137,859 | \$143,552 | ^b 4.1 | Nov. 1972 | June 1973 | 7 |
| Cadet activities center, West Point, N.Y. | 22,340 | 22,773 | 1.9 | June 1973 | Mar. 1974 | 9 |
| General hospital, Beaumont, Tex. | 15,862 | 16,901 | 6.5 | June 1972 | June 1973 | 12 |
| Barracks, West Point, N.Y. | 15,830 | 15,794 | -.2 | July 1971 | Mar. 1972 | 8 |
| 500 bed hospital, Charleston, S.C. | 14,801 | 15,973 | 7.9 | May 1972 | Dec. 1972 | 7 |
| Library and educational center, Annapolis, Md. | 8,863 | 9,667 | 9.1 | Aug. 1972 | Oct. 1972 | 2 |
| Barracks, Ft. Jackson, S.C. | 8,783 | 9,199 | 4.7 | Apr. 1972 | June 1972 | 2 |
| Recruit training and housing facility, Lackland AFB, Tex. | 7,933 | 7,965 | .4 | Jan. 1972 | Jan. 1972 | - |
| Administration and classroom building, Brooke Army Medical Center, Tex. | 7,924 | 9,054 | 14.3 | Apr. 1972 | Nov. 1972 | 7 |
| 120 bed hospital and barracks, Naval Air Station, P.R. | 7,265 | 8,076 | 11.2 | Apr. 1972 | Dec. 1972 | 8 |
| Recruit barracks, Orlando, Fla. | 7,077 | 7,668 | 8.3 | Mar. 1972 | Mar. 1972 | - |
| Enlisted men barracks, Ft. Huachuca, Ariz. | 6,970 | 7,283 | 4.5 | June 1972 | July 1972 | 1 |
| Sewer project, Oahu, Hawaii | 6,943 | 6,516 | -6.1 | Jan. 1972 | Oct. 1972 | 9 |
| Medical biological laboratory, Ft. Detrick, Md. | 6,594 | 6,911 | 4.8 | Aug. 1971 | Jan. 1972 | 5 |
| Aircraft surface treatment shop, Naval Air Station, San Diego, Calif. | 6,372 | 7,049 | 10.6 | Dec. 1970 | Apr. 1972 | 16 |
| Hospital, Memphis, Tenn. | 6,136 | 6,661 | 8.5 | Aug. 1971 | Mar. 1972 | 7 |
| ASA Location 300, Germany | ^a 6,007 | 6,703 | 11.6 | Apr. 1971 | Aug. 1972 | 16 |
| Omega Navigation Station, La Moore, N. Dak. | 5,993 | 6,159 | 2.8 | Sept. 1971 | Dec. 1972 | 15 |
| Field maintenance shop, Ft. Carson, Colo. | 5,713 | 5,962 | 4.3 | July 1971 | June 1972 | 11 |
| Total | 305,265 | 319,866 | 4.8 | | | |
| Procurement funding: | | | | | | |
| TNT plant, Joliet, Ill. | 20,928 | 23,461 | 12.1 | Jan. 1972 | Jan. 1973 | 12 |
| TNT lines, Newport, Ind. | 9,340 | 12,803 | 37.1 | June 1971 | Sept. 1972 | 15 |
| Nitric acid unit, Chattanooga, Tenn. | 7,864 | 7,891 | .3 | Jan. 1972 | Aug. 1972 | 7 |
| Nitric acid unit, Joliet, Ill. | 7,766 | 7,781 | .2 | Jan. 1972 | June 1973 | 17 |
| Acid recovery unit, Joliet, Ill. | 7,365 | 7,468 | 1.4 | Jan. 1972 | June 1973 | 17 |
| Acid area, TNT Plant, Newport, Ind. | 6,298 | 7,315 | 16.1 | Feb. 1971 | Aug. 1972 | 18 |
| Acid recovery unit, Radford, Va. | 6,102 | 6,128 | .4 | Jan. 1972 | Dec. 1972 | 11 |
| Acid recovery unit, Chattanooga, Tenn. | 5,270 | 5,303 | .6 | Jan. 1972 | Oct. 1972 | 9 |
| Total | 70,933 | 78,150 | 10.2 | | | |
| Military family housing funding: | | | | | | |
| 600 family housing units, Philippines | 6,948 | 8,536 | 22.8 | Aug. 1972 | Jan. 1973 | 5 |
| 300 family housing units, Nellis AFB, Nev. | 5,364 | 5,509 | 2.7 | Jan. 1972 | Sept. 1971 | -4 |
| 300 family housing units, Davis-Monthan AFB, Ariz. | 5,362 | 5,402 | .7 | Nov. 1971 | Apr. 1972 | 5 |
| 300 family housing units, Eglin AFB, Fla. | 5,196 | 5,196 | - | Dec. 1971 | Dec. 1971 | - |
| 340 family housing units, Ft. Benning, Ga. | 5,075 | 5,510 | 8.6 | Oct. 1971 | Feb. 1972 | 4 |
| Total | 27,945 | 30,153 | 7.9 | | | |
| Other funding: | | | | | | |
| Broadcasting network, Vietnam | 5,635 | 5,900 | 4.7 | Apr. 1971 | Oct. 1971 | 6 |
| Total | \$409,778 | \$434,069 | 5.9 | | | |

^aOn these two contracts some procurement funds were used in addition to the military construction funds.

^bA large number of change orders under this contract are still to be settled; contractor claims under unnegotiated change orders amounted to \$112 million as of April 1973. The Army, on the other hand, believes that these change orders will be settled at substantially less than the amounts claimed by the contractor.

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