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3.38.05

Contract Awarded To Blackhawk Heating And Plumbing Co., Inc., To Install Air-Conditioning In The VA Hospital, Fort Hamilton, Brooklyn, New York B-161994

Veterans Administration

BY THE COMPTROLLER GENERAL OF THE UNITED STATES

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090577

JUNE 29, 1973



COMPTROLLER GENERAL OF THE UNITED STATES  
WASHINGTON, D.C. 20548

B-161994

*a/r*

The Honorable John M. Murphy  
House of Representatives

Dear Mr. Murphy:

As you requested on June 30, 1972, and as your office subsequently agreed, we obtained information about the contract awarded to Blackhawk Heating and Plumbing Co., Inc., *P. 2157* to install air-conditioning in the Veterans Administration (VA) *103* Hospital at Fort Hamilton, Brooklyn, New York. We also inquired into how well the air-conditioning was operating during the summer of 1972.

VA awarded the \$4,888,000 contract on September 29, 1966, with the proviso that construction be completed within 1,000 calendar days from October 18, 1966, the date the contractor received VA's notice to proceed. The original contract price increased by (1) \$669,782 for VA-approved change orders and (2) \$3,099,000 as settlement for the contractor's claims and appeals against the Government. This raised the total cost as of December 31, 1972, to \$8,656,782.

A VA official informed us that a superintendent and several workers arrived at the hospital on January 4, 1967, and work on the construction hoist (outside elevators for men and materials) was started on January 16, 1967. By July 23, 1971, VA had accepted six air-handling units from Blackhawk. Work was completed on December 20, 1971, 889 days after the originally established completion date of July 14, 1969.

In certain areas of the hospital, the air-conditioning was not operating at optimum efficiency in the summer of 1972.

The following problems delayed construction, increased the cost, and affected the operation of the air-conditioning.

PROBLEMS DURING CONSTRUCTION

Existing conditions conflicted with contract drawings and specifications, additional requirements were determined after the contract was awarded, and there were delays in turning over sections of the hospital for installing the air-conditioning.

For example, after the contract was awarded and before the air-conditioning was installed, VA and Blackhawk disagreed on the number of construction hoists to be erected. VA contended that Blackhawk was required to erect two, and Blackhawk contended that it had to erect only one. On December 28, 1966, VA notified Blackhawk to proceed with one hoist. Blackhawk ordered the hoist in January 1967 and completed construction in April 1967. In April 1967 Blackhawk requested a time extension due to delays beyond its control in erecting the hoist. VA and Blackhawk exchanged correspondence regarding the requested extension between April 1967 and December 1968. In December 1968 the VA contracting officer rejected the request for a 159-day time extension. Blackhawk immediately appealed the decision to the VA Contract Appeals Board. The appeal case was still pending when VA and Blackhawk settled all outstanding claims in the amount of \$3,099,000 on November 21, 1972. Included in this settlement was reimbursement for delays incurred as a result of the disagreement concerning the hoist.

The following table shows the original contract amount, the additional days awarded for construction, the increased costs not anticipated when the contract was awarded, and VA's settlement of the contractor's claims and appeals against the Government.

<u>Cost category</u>	<u>Days awarded</u>	<u>Increase or decrease(-) in cost</u>
Original contract amount	1,000	\$4,888,000
Change orders, by cause:		
Existing conditions conflicted with contract drawings and specifications	268	502,784
Additional requirements deter- mined after award of contract	21	46,708
Objections raised and requests made by hospital personnel	-	162,483
Credits and other items	1	-42,193
Labor strikes	74	-
VA delays in turning over sections of the hospital for installing the air-conditioning	53	-
Inclement weather	4	-
Settlement of all claims and appeals against the Government for costs associated with additional con- tract days awarded	<u>a468</u>	<u>b3,099,000</u>
Total	<u>1,889</u>	<u>\$8,656,782</u>

<sup>a</sup>In the contract settlement, dated November 21, 1972, VA did not specify the additional contract days awarded to the contractor for the claims. However, on January 24, 1973, VA issued an extension for 468 days.

<sup>b</sup>This amount, subject to VA audit, could be decreased.

#### EFFECTIVENESS OF AIR-CONDITIONING

The air-conditioning is designed to cool or heat, depending upon the season. It provides fresh air to the rooms by 14 primary air-handling units throughout the hospital. (See app. I.) These units precondition incoming fresh air by raising or lowering the temperature and circulate the air through ducts to the

individual room induction units on or near the ceiling in each room. These units use a combination of forced and natural air circulation principles. (See app. II.)

Each unit has one or more coils in which chilled water is circulated during warm seasons and hot water is circulated during cold seasons. Pipes, connected to a main supply line, carry the water to and from the coils. A thermostatically controlled valve regulates the amount of water which passes through the coils. The thermostat is below the coil where it senses the temperature of circulating room air before the air passes across the coil. A condensate drain pan below the coil collects water which may drip off the coil during summer operation. The drain pan connects by tubing to a main drainpipe above the central corridor.

In summer the temperature of the preconditioned fresh air entering the induction unit ranges from 50° to 60° F. A VA engineer informed us that this cool air accounts for about 25 percent of the unit's cooling effectiveness. Room air circulating across the chilled water coils provides the remaining 75 percent.

The air-conditioning was not operating at optimum efficiency during the summer of 1972.

- One of the 14 primary air-handling units (AC-3), which was to serve the animal research room in the basement, was deleted from the original contract. In the fall of 1971, VA issued a proceed order which canceled the unit from the contract because VA believed it would take the contractor 6 more months to install the unit. A VA official informed us that in September 1972 VA entered into a contract with another contractor to install the unit for \$94,350. VA estimates that the unit should be operational about June 10, 1973.
- Although a primary air-handling unit, AC-5, serving surgery areas on the fourth floor was installed and operable, it was not operating until February 18, 1973. Remodeling being done by the hospital had prevented proper air balancing of the AC-5 unit with two other primary air units serving surgical areas on the same floor.

- A primary air-handling unit, AC-7, serving radiography rooms and laboratories did not function from August 3 through October 17, 1972, due to a burned-out relay switch.
- Water leaked from about 250 of the 1,550 individual room induction units, according to a VA official. Improperly pitched drain tubes primarily caused the drain pans to overflow and drip. When the leaks were reported, hospital engineers stopped the flow of the chilled water through the induction units. This reduced the cooling capacity of the units by about 75 percent. On February 13, 1973, Blackhawk informed VA that it had inspected and repaired all the leaking units except those in 24 rooms which were not its responsibility. A VA official stated VA is inspecting the repaired units and plans to repair the units for which it is responsible. He said all units would be repaired by the start of the 1973 cooling season.
- Water coils for 14 induction units were not receiving water due to faulty valves or thermostats, and therefore the units could supply only 25 percent of their cooling capacity. A VA official informed us that these problems would be corrected before the 1973 cooling season began.
- About 75 of the thermostats in the induction units were faulty and, according to a hospital official, had to be replaced by Blackhawk. Faulty thermostats can cause the room to be either too hot or too cold. A hospital official said this problem appears corrected.

We interviewed head nurses or their assistants in 11 wards on 6 floors. Six nurses stated that their patients generally complained that their rooms were too hot during the past summer; three nurses stated that their patients complained that their rooms were too cold; two nurses stated that their patients considered their room temperatures comfortable. All 11 nurses said their wards had problems with dripping units. The nurses

said that, in every case of a dripping unit, patient safety was given top priority. The hospital director said no one had slipped on wet floors.

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As you requested during our September 28, 1972, meeting we are including, as appendix III, a list of all contracts VA has had with Blackhawk during the past 10 years.

With your consent we submitted our report to VA and Blackhawk for review and comment. (See apps. IV and V.) The report has been revised to include their comments.

We trust that the above information will serve your purpose. We do not plan to distribute this report further unless you agree or publicly announce its contents.

Sincerely yours,



Comptroller General  
of the United States

## APPENDIX I

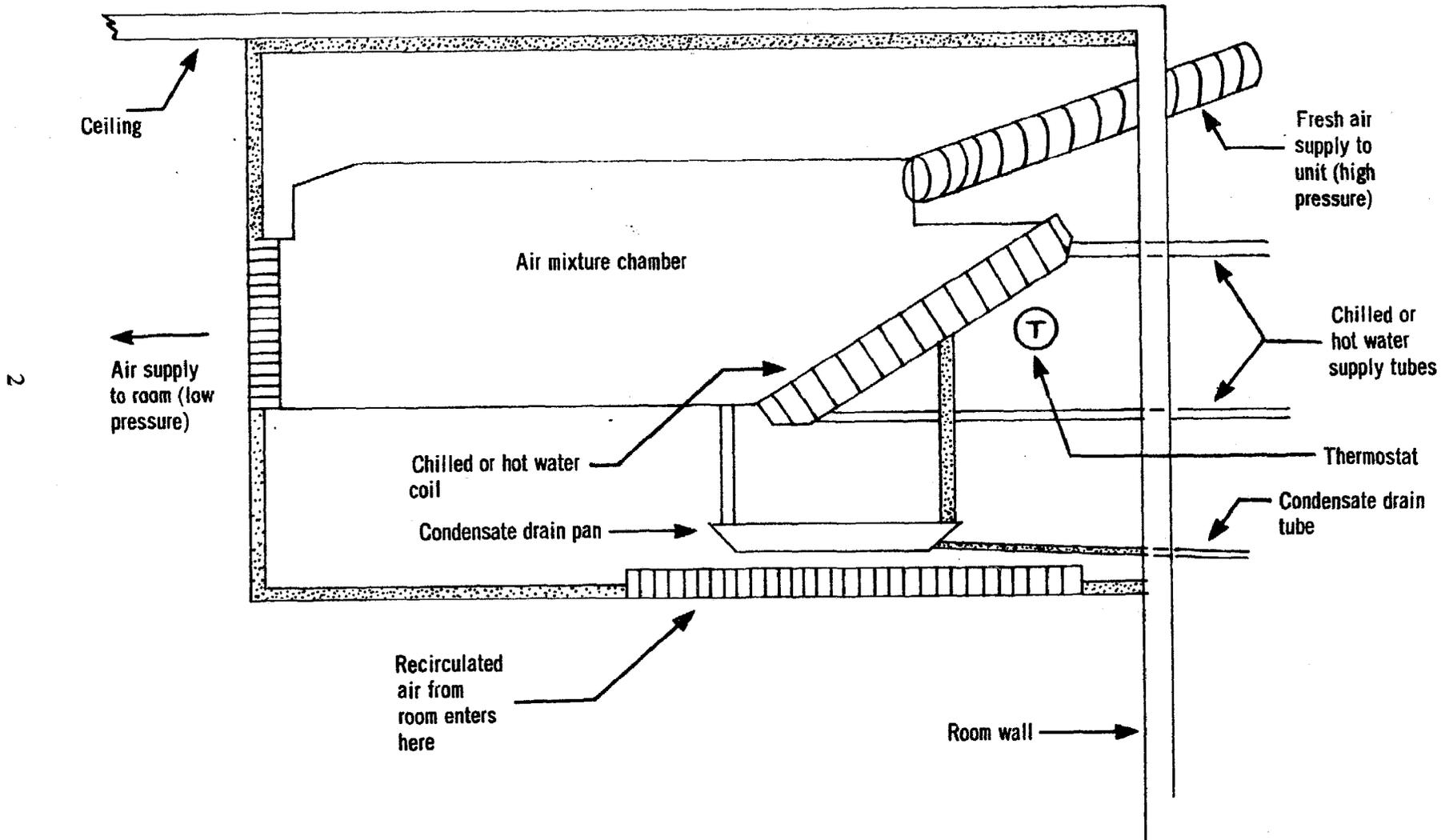
## RELATIVE AIR OUTPUT AND AREAS

## SERVED BY AIR-HANDLING UNITS

<u>Unit number</u>	<u>Floors affected</u>	<u>Areas affected</u>	<u>Output (note a)</u>
AC- 1	Ground floor north	Admissions, administrative offices, emergency, medical-surgical examination rooms	9,815
2	Basement	Medical illustration, morgue, sterile supply	7,575
3	" north	Animal rooms	9,385
4	2d floor "	Laboratories and therapy rooms	14,260
5	4th " "	Surgery support areas	8,000
6	do.	do.	7,240
7	3d " "	Radiography rooms and laboratories	17,930
8	1st " "	Dental and administrative offices	12,320
9	4th " "	Operating rooms	7,655
10	3d through 16th floors south	Patient wards	32,120
11	do.	do.	31,135
12	2d through 16th floors south	do.	31,875
13	do.	do.	25,885
14	1st floor south	Administrative offices	4,000

<sup>a</sup>Cubic feet per minute.

**SIDE CUTAWAY VIEW  
AIR INDUCTION UNIT**



VA CONTRACTS ON WHICH BLACKHAWK WAS  
PRIMARY CONTRACTOR FOR THE PAST 10 YEARS (note a)

<u>Hospital</u>	<u>Project</u>	<u>Award price</u>	<u>Net changes</u>	<u>Total contract price as of Dec. 31, 1972</u>	<u>Acknowledgement of VA's notice to proceed</u>	<u>Date construction completed</u>	<u>Original contract days</u>	<u>Additional days granted as of Dec. 31, 1972</u>
Brooklyn, New York	Air-conditioning	\$ 4,888,000	\$3,768,782	\$ 8,656,782	Oct. 18, 1966	Dec. 20, 1971	1,000	b421
Hines, Illinois (note d)	1200-bed hospital and alterations	20,862,000	7,058,221	27,920,221	Apr. 6, 1966	June 8, 1970	800	724
New York, New York	Air-conditioning	3,796,500	4,413,189	8,209,689	Jan. 28, 1965	<sup>c</sup> Oct. 1, 1968	700	396
Northport, New York (note d)	480-bed hospital and modernization	16,289,000	1,633,675	<sup>e</sup> 17,922,675	July 20, 1967	June 1, 1972	850	368
Pittsburgh, Pennsylvania (note f)	Air-conditioning	2,291,800	2,163,805	4,455,605	Mar. 11, 1964	Dec. 19, 1967	400	619

<sup>a</sup> Information was obtained from VA officials and latest available VA Office of Construction reports.

<sup>b</sup> On January 24, 1973, VA issued an extension for an additional 468 days.

<sup>c</sup> Contract was terminated on this date.

<sup>d</sup> This project was a joint venture with the Donovan Construction Company.

<sup>e</sup> VA said the contractor had eight appeal cases filed with the VA Contract Appeals Board. The total contract price could be substantially increased as a result of the Board's decision on the appeals.

<sup>f</sup> This project was a joint venture with Klefstad Engineering Co., Inc.

BEST DOCUMENT AVAILABLE



VETERANS ADMINISTRATION  
OFFICE OF THE ADMINISTRATOR OF VETERANS AFFAIRS  
WASHINGTON, D.C. 20420

APRIL 26 1973

• Mr. Frank M. Mikus  
Assistant Director, Manpower  
and Welfare Division  
U. S. General Accounting Office  
Room 137, Lafayette Building  
811 Vermont Avenue, N. W.  
Washington, D. C. 20420

Dear Mr. Mikus:

We have reviewed your revised draft report entitled "Information on Contract Awarded to Blackhawk Heating and Plumbing Co., Inc., to Install Air Conditioning Equipment in the VA Hospital, Fort Hamilton, Brooklyn, New York, (B-161994)." We have also had an opportunity to discuss the draft with your staff representatives. As a result of the discussion, your representative made several changes in the draft report.

Our position concerning the draft report is as stated in the revised draft, which states that the notice to proceed was received by the contractor on October 18, 1966; that a superintendent and several workers arrived at the hospital on January 4, 1967; that work on the construction hoist was started on January 16, 1967; and, that by July 23, 1971, VA had accepted six air handling units, including those which served primarily patient areas.

We do not agree with page 2, paragraph 2, which states:

"...After the award of the contract and prior to the start of the installation of the air conditioning system, a disagreement arose between the VA and the Contractor regarding the number of construction hoists to be erected. VA contended that the Contractor was required to erect two construction hoists while the Contractor contended

Mr. Frank M. Mikus  
Assistant Director, Manpower  
and Welfare Division  
U. S. General Accounting Office

that he was required to erect only one hoist. On December 28, 1966, VA agreed with the contractor that only one hoist was required. The contractor ordered the hoist in January 1967 and construction of the hoist was completed in April 1967."

It would appear that GAO thinks that the VA is responsible for all delays experienced in connection with the outside hoist. We do not agree. It should be noted in the report that the VA Contracting Officer rejected the Contractor's time extension request of 159 calendar days. At the time of settlement on the Contractor's consolidated claim of \$7.6 million, the matter of the hoist time delay was pending before the VA Contract Appeal Board as Case Number 896.

Thank you for the opportunity to review this draft, and if you have any questions concerning our comments, my staff will be available.

Sincerely,



FRED B. RHODES  
Deputy Administrator

GAO note: Language was revised. See page 2 of report.

Telephone Area Code 305 - 276-5266

## **BLACKHAWK HEATING & PLUMBING CO., INC.**

ENGINEERS - CONTRACTORS

616 EAST ATLANTIC AVENUE  
DELRAY BEACH, FLORIDA 33444

May 4, 1973

U. S. General Accounting Office  
Room 137-Lafayette Bldg.  
811 Vermont Ave N.W.  
Washington, D.C. 20548

Attn: Mr. Frank M. Mikus, Assistant Director

Dear Mr. Mikus:

Reference is made to your letter of March 28, 1973 regarding this company's contract for construction and installation of a new air conditioning system and related work at the V.A. Hospital, 800 Poly Place, Brooklyn, New York. We have reviewed the draft comments prepared by your office in relation to this contract and offer the following additional comments in substantiation thereof.

As we understand, the purpose of your memorandum is directed toward two areas of consideration, i.e.:

1. Details of performance of the contract by this company
2. Evaluation of how well the system has been performing

At the outset you recognize, of course, that the responsibility of this firm under the contract was to install the work as shown on the drawings and specifications prepared by the government's architect/engineer. Accordingly evaluation of the satisfactory operation of the system involves areas of responsibility outside the scope of our contractual undertaking in that it also requires an evaluation of the architect/engineer's underlying design which, we as a contractor are obligated to follow.

In view of the foregoing, we will address our comments primarily to the area of our performance on the contract. Initially it must be recognized that the Notice to proceed was issued on 10/18/66. Due to a dispute regarding the hoist requirements called for by the contract, we were unable to obtain, install and commence operation of the contractually required hoist on the project until May 1, 1967. In the intervening period, progress of the work was placed at a virtual standstill inasmuch as all men, materials and equipment were required by contract to enter the building from a single hoist to be installed by the contractor in the

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solaria areas. Presumably other considerations introduced by the hospital director after award of the contract suggested that an alternate replacement of the hoist facilities should be implemented. This position would have required the installation of two rather than one hoist and would have located such hoists at opposite ends of the building. Since the government and the contractor were in disagreement that such requirement could be introduced into the contract without the normal expedient of a change order being issued, and since the contractor's interpretation of the contract requirements was unquestionably correct in this instance, the ensuing delay, evaluated by the contractor as approximating 159 calendar days, was clearly of the government's responsibility. Reimbursement for this delay and other considerations to be discussed at greater length hereinafter constitute a portion of the considerations included in the overall settlement reached between the contractor and the Veterans Administration.

In addition to the foregoing, the final settlement also involved consideration of contractor claims as follows:

- a. a delay of approximately 360 days related to a government initiated modification to the contractually specified phasing schedule.
- b. consideration of a number of "time to be determined later" change items outstanding on the date of substantial completion of the contract by December 20, 1971.
- c. approximately 15 Central Office Change Orders also involving "time to be determined later" considerations which were issued subsequent to date of initial completion.

In each of the foregoing instances, performance of the work having been extensively protracted by actions of the government, the contractor was contractually entitled to reimbursement for all increased costs occasioned as a consequence of government initiated changes and delays. In this respect, it must be recognized that where the government during the term of construction compensated the contractor in the amount of \$502,784 for existing conditions conflicting with government authorized contract documents, such compensation involved only initially undisputed direct costs of labor, materials, equipment, etc., utilized in the change and the contractually specified allowances of overhead and profit. These payments, did not however, include any considerations for other direct costs later recognized by the Veterans Administration or for indirect cost increases directly flowing from and attendant to the changes in question and related to the delays, suspension and interruptions of the work,

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extensive field and home office overheads, loss of productivity, escalations of labor and material costs, impact and other items similar in nature necessarily encountered with and/or incident to the implementation of any major design revisions. Thus it must be recognized that these sums were reimbursed to the contractor in its final settlement agreement with the Veterans Administration.

With respect to the effectiveness of the air conditioning system installed, under this contract, reference is made to approximately 250 areas where room induction units developed water leakage, subsequent to installation on the contract. It was generally accepted that these leaks developed as a consequence of improperly pitched drain lines. It is standard to install such drain lines with a pitch of 1/8 inch per foot. This standard was recognized in the contract documents, however, due to the absence of available working space in which to develop the required incline, it was necessary, with government knowledge and authorization, to install the work in a manner more closely approximating a level installation. These incipient design difficulties were further aggravated by the fact that government modifications of the initially contemplated design in a number of areas, extended by two or three times the required length of drain line runs to vertical risers. In many instances it was impossible to ascertain whether or not, the introduction of these additional considerations would preclude proper drainage of the system until the system was operationally run and condensate accumulations were sufficient to present effective evidence of an inherent problem. As soon as system leaks were reported to this contractor we attempted to undertake such remedial action as was required to correct basic deficiencies. This action did not constitute an admission on our part of any deficiencies in our workmanship and/or materials. Rather it constituted our best effort to remedy the existing situation without a further determination of ultimate responsibility. Nonetheless in approximately 70 locations, we have advised the Veterans Administration that such conditions precluded adequate field correction of the problem and further design type solution will be required to rectify questionable operation.

With respect to the operation of air handling Unit AC-7, it is noted in your report to have been non-functioning from August 3, 1972 through October 17, 1972. Additional comment is also warranted in the difficulty encountered, as you have reported, related to a burned out relay switch. We regret the delay in replacing this item of equipment, however, a careful review and evaluation of the facts indicates that such delay was unavoidable. When the burned out relay was first reported to us, we promptly contacted the supplier and requested immediate shipment of a replacement part to the Resident Engineer at the jobsite. Through an inadvertent error of the factory, the wrong part was forwarded. Upon discovering the error, we immediately advised the manufacturer of our difficulty and a replacement was shipped. Through mishandling in the hospital mailroom, this

U.S. General Accounting Office - Mr. Frank Mikus  
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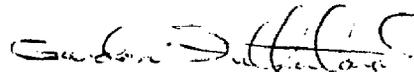
May 4, 1973

replacement part, although received, was temporarily mislaid. Accordingly, a third part was ordered and delivered. Upon receipt of the third part, an attempt was made to install same, only to determine that modifications in the manufacturer's equipment since the original installation in 1967, required the further introduction of an adaptor plate into the equipment. It was not until receipt of the adaptor plate that the equipment in question could be rendered operable.

In the last paragraph of your draft, it is noted that by enclosure 3 your office will furnish a list of all contracts between this company and the Veterans Administration over the past ten years. We wish to make you aware of additional information related to footnote 4 appearing on that enclosure. By virtue of a decision rendered May 31, 1972, by the Veterans Administration Contract Appeals Board in Docket 664 et al, it has been determined that the completion of this contract was excusably delayed through February 9, 1969 as a consequence of government caused and other delays not within the province of the contractor which prevented earlier completion of the work. Accordingly the contract time extension of 377 calendar days was granted by the Board in this appeal, and therefore your schedule should reflect this decision.

Very truly yours,

BLACKHAWK HEATING & PLUMBING CO., INC.



Gordon Sutherland  
Vice President

GS: rd

GAO note: These comments relate to information shown in  
app. III, footnote C.